



2021

ANSTEEL GROUP CORPORATION LIMITED
Sustainability Report

About the Report

Dear readers,

Welcome to read the 15th Ansteel Group Corporation Limited Sustainability Report. Based on feedback information and suggestions from various channels, the report elaborates on social responsibility concepts, practices and performance of Ansteel in business operation, products and services, environmental protection, staff support and community development.

Reporting Period

The report discloses information dated between January 1, 2021 and December 31, 2021. Part of the report may refer to previous years as needed.

Report 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 preparation process

- 1 Materials collection**
 - Collect background information
 - Collect internal materials
- 2 Compilation of the main content**
 - Confirm the outline
 - Compile the main content
- 3 Feedback collection**
 - Collect feedback from internal and external stakeholders
- 4 Design**
 - Confirm the design style
 - Design
 - Proofread the report
- 5 Translation**
 - Translate the report
- 6 Review and approval**
 - External review
 - Internal review
 - Final draft
 - Report release

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.

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>.

Contact Information

Economic Development Research Institute, Ansteel Group Corporation Limited
 Add: No. 60 Eryijiu Road, Tiedong District, Anshan City, Liaoning Province, China
 Zip Code: 114009
 Contact: Yang Tong
 Tel.: 0412-6721369
 Fax: 0412-6721369

Contents

4
CSR Message

6
About Us

9
Corporate Governance

11
CSR Management

14
Feature One
Great Party Building Spirit Leads High-quality Development

18
Feature Two
A New Blueprint Pictures Rural Vitalization

24
Feature Three
Ansteel and BenSteel Join Hands for a New Chapter

28
Feature Four
A Green Ansteel Contributes to China's '30-60' Decarbonization Goal

32
Wisdom in Innovation, Quality, and Efficiency
New Ideas for Technology
New Thinking for Management
New Models for Reform and Innovation

44
Contributions to Regional Development
Empowering Local Companies
Driving Urban Prosperity
Expanding Global Business
Strengthening International Exchanges and Cooperation

52
Visions for a Better Ecology and Environment
Green Management
Green Operations
Green Mines and Factories

62
Commitments in CSR Ecology
Life and Safety First
Best Quality and Services
Reputation Always Comes First for an Honest Supplier
Mutual Benefit for Win-Win Cooperation

74
Responsibility for Well-being
Cultivating Vigorous Ansteel Staff
Caring for Employees' Well-being
Providing Volunteer Services
Fighting the COVID-19

87 Outlook 2022
88 Key Indicator Performance Form
89 CSR Honors

90 Expert Opinion
91 Content Index
92 Feedback Form

CSR Message

The year 2021 marked an extraordinary year in the development history of Ansteel. It was also a remarkable year in the course of reform and development of Ansteel. Guided by Xi Jinping's Thought on Socialism with Chinese Characteristics for a New Era, Ansteel worked with dedication to implement the guiding principles of the 19th CPC National Congress and all plenary sessions of the 19th CPC Central Committee and firmly put the decisions and plans of the CPC Central Committee and the State Council into effects to actively fulfill the responsibilities of central SOEs while adhering to our mission of supporting national strategies, safeguarding economic and social security, and guaranteeing people's livelihoods. Grounding our effort in the new development stage, Ansteel had applied the new development philosophy in full, in the right way, and in all fields of endeavor, making concrete actions to boost the safe, sustainable, and high-quality development of society and economy with efficiency and fairness. We had made three major historic breakthroughs: first, Ansteel was rated A for the first time in the performance assessment of central SOE heads by the SASAC in 2021; second, the reorganization of BenSteel into Ansteel has successfully completed with completion of debt-to-equity swap and mixed-ownership reform; third, our business has registered the best performance, with revenues and profits exceeding RMB 300 billion and RMB 30 billion respectively for the first time, kicking off a good start for the 14th Five-Year Plan period, setting a good example in shouldering the responsibilities of a central SOE with dedication.

We have worked to grow stronger, better, and larger with unswerving commitment, giving full play of the strategic supportive role of the state-owned sector of the economy. Resolutely implementing the strategic deployment to "strengthen, expand, and increase the returns on state capital and enhance the strength, quality, and size of SOEs" by President Xi Jinping and CPC Central Committee, we have formulated the "7531" strategic goal (70 million tons of crude steel, over 50 million tons of iron concentrate, RMB 300 billion of revenue, over RMB 10 billion of total profits) and the "Dual-Core" strategy of steel and mining during the 14th Five-Year Plan period, forming the concept of new Ansteel featured by high-quality development (Leading Ansteel, Brand Ansteel, Innovative Ansteel, Digital Ansteel, Green Ansteel and Shared Ansteel), thus accelerating the high-quality development of Ansteel to build a world-class steel producer and a world-class mining resources development enterprise. After the reorganization as well as the completion of the debt-to-equity swap and mixed-ownership reform, the crude steel production capacity of Ansteel has reached 63 million tons, ranking second in China and third in the world. Ansteel has achieved the best ever profit for the past decade through deepening the six-step comprehensive reform of reorganization to speed up the integration and reform process. Focusing on improving the capacity to guarantee the supply of primary products and systematically planning the development of iron ore resources, we ramp up efforts to advance the "implementing, reserving and planning" projects to ensure the security of industry chain and supply chain of the steel industry of China. The production volume of iron ore concentrate recorded the best performance and kept the No. 1 in China, with the mining sector contributing nearly 50% to the overall performance of Ansteel.



Tan Chengxu

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

We are determined to win the battle of key core technologies development, and keep strengthening national strategic force of technology. Following President Xi Jinping's important remarks on scientific and technological innovation, we have vigorously implemented the innovation-driven development strategy to serve the national strategy. We have ramped up investments in science and technology to accelerate the improvement in technological innovation capabilities. We have blazed the trail and shouldered the responsibilities to promote self-reliance on advanced technology. The intensity of our R&D investment reached 3.87%, and the total amount registered a year-on-year increase of 41.6%. We undertook 34 national R&D projects and achieved domestic manufacturing of materials in many fields, breaking foreign technological monopoly. A number of key products, such as AG728 steel for ultra-thick and ultra-wide high-strength reactor containment shells, X70 grade deep-sea high-strain pipeline steel, 500MPa grade non-coating weather-resistant bridge steel, the first of its kind in the world, have been launched. The prototype of steel rails under the extreme service conditions of the Sichuan-Tibet Railway has been successfully developed. A batch of high-quality steel products have been widely used in the construction of engineering projects such as the Beijing 2022 Winter Olympics and the China-Laos Railway, supporting a strong country with steel backbone. Anshan Iron and Steel Group and Pangang ranked 3rd and 4th respectively in the Chinese Steel Enterprise Innovation (Patent) Index. The digital Ansteel transformation has been fully launched, with 20% of the goals for digital and smart transformation of the main production lines has been completed, and 28 applications have been included in pilot demonstrations by the SASAC, the Ministry of Industry and Information Technology, and the China Iron and Steel Association.

We steadily carried out the three-year action plan for SOE reform, making every effort to create a fine model for the SOE reform. Following President Xi Jinping's major addresses about SOE reform, we have implemented the three-year action plan for SOE reform. Regarding reform as a crucial move to realize the



Dai Zhihao

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

high-quality development of Ansteel, we have taken "improved efficiency, employees' sense of gain, and sustainable development of enterprise" as an important benchmark to check the effectiveness of reform. Adhering to the development path of "reform + market", 76% of the total tasks set in the three-year action plan for SOE reform has been accomplished, exceeding the 70% target required by the SASAC. Focusing on the deepening of the three reforms, the percentage of managers removed and transferred from posts due to incompetence was higher than the average of SOEs, and the labor productivity of all employees achieved a year-on-year increase of 44.3%. The market-oriented reform of "authorization + common interests" has been widely promoted and deepened. As a result, the vitality and benefits have been significantly improved, and the new momentum of high-quality development has been continuously stimulated. The reform of Ansteel was highly recognized by officials of the State Council, the SASAC, the Liaoning Provincial Party Committee, and the Provincial Government. We were invited three times to share our practices to other central SOEs.

We play a leading role in applying the green development philosophy, striving to lead the iron and steel industry to realize the carbon peak and carbon neutrality goals. Following President Xi Jinping's thought on ecological conservation, we adhere to green manufacturing and low carbon development to promote the overall green transition of Ansteel, leading the high-quality development of iron and steel industry with green, low-carbon and sustainability. We have issued Ansteel's Declaration on Carbon Peak and Carbon Neutrality, "Low-carbon Metallurgy Route", and actively develop cutting-edge and leading technologies such as hydrogen metallurgy technology. We have increased investment in environmental protection and completed more than 200 ultra-low emission upgrading projects, continuously reducing pollutant emissions. Accelerating the implementation of the three-year plan for ecological restoration of mines, we have completed more than 300 hectares of the greened and reclaimed land, and continue to maintain our leading position in mine greening and reclamation among industry peers in China.

We stay committed to the people-centered development philosophy, keeping enhancing employees' sense of gain, happiness and security. Following President Xi Jinping's important remarks on the people-centered development philosophy and upholding the philosophy of shared development, we work together with employees and continue to meet the employees' aspirations for a better life. We take the "Serving the People with Concrete Actions" campaign as an essential topic for our Party history education. The Ansteel leadership takes the leading roles to deliver ten practical services for people's livelihood, and over 2,800 practical services and good deeds at the primary level for people's livelihood have been accomplished, such as raising the allowance standard for employees' health examination, purchasing critical illness commercial insurances for employees, increasing the amount of Golden Autumn educational subsidies for children of employees with family difficulties, and improving front-line employees' working and living conditions. Taking the employees' income growth as the most important practical work for people's livelihood, we highlight the strong correlation between salaries and performance, and the income of on-the-job employees has increased by more than 10%, which significantly enhanced employees' sense of gain. In the random survey conducted by the Fourth Steering Group for Party History Education in Central SOEs, the proportion of "good" results in the overall evaluation of both Ansteel's Party History Education and "Serving the People with Concrete Actions" campaign has reached 100%, realizing the harmonious development of Ansteel, employees and society.

We actively fulfill the social responsibilities of central SOEs, demonstrating the responsibility of a central SOE on social welfare. In 2021, Ansteel's paired assistance was evaluated as "good" by the Central Rural Work Task Force. To consolidate the poverty alleviation outcomes and carry forward the poverty alleviation spirit, we insisted on "not cutting efforts in four aspects". We channeled RMB 42.05 million as assistance funds, a year-on-year increase of 9.5%, appointed 51 officials to support rural areas, and contributed RMB 53.83 million to sourcing rural products. All these main indicators have reached or exceeded that of last year, providing strong support for a good start of rural vitalization. In the critical moment when extremely heavy rainfall hit Henan Province and caused severe floods in many places, Ansteel stepped forward and urgently made a donation of RMB 10 million to Henan Charity General Federation for fully assisting disaster-stricken people to overcome difficulties and relief from disaster, demonstrating the responsibility of a central SOE through practical results.

The year 2022 marks the convening of the 20th CPC National Congress. It is also a critical year for Ansteel to implement our planning during the 14th Five-Year Plan period and speed up the construction of a new Ansteel. Following the guidance of Xi Jinping's Thought on Socialism with Chinese Characteristics for a New Era, Ansteel will thoroughly implement President Xi Jinping's important remarks on SOE reforms and Party building and uphold overall Party leadership to better serve a new pattern of development and move faster to build a brand new Ansteel featured by high-quality development. We will keep improving our core competitiveness and capability of innovations, strengthen our capabilities of control, influence and risk resistance, and make solid efforts to fulfill responsibilities as a central SOE to achieve the comprehensive coordinated and sustainable development of Ansteel with society and environment, setting the stage for a successful 20th CPC National Congress with these excellent results.



About Us

Company Profile

As a large state-owned enterprise directly under the central government, Ansteel Group Corporation 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". 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. Ansteel is headquartered in Anshan City, Liaoning Province and has formed an international development pattern across different regions with multiple bases.

Ranking 217th in the Fortune Global 500 list, Ansteel has nine distinctive production bases in northeast, southwest, southeast, and southern China. The Company has the production capacity of 53 million tons of iron, 63 million tons of steel, 40,000 tons of vanadium products and 500,000 tons of titanium products, and has rich iron ore, vanadium and titanium resources in Liaoning and Sichuan, China and in Carrara, Australia. As one of the iron & steel enterprises in China boasting the richest resources, we have 32 subsidiaries and organizations overseas and more than 500 domestic and foreign customers and partners. The products of Ansteel are sold to more than 70 countries and regions.

In the new era, Ansteel staff remains true to our original aspiration of "remembering the responsibility of the eldest son of the Republic and dedicating ourselves to serving the country", and commit ourselves to the mission of "producing better material, creating more wonderful life". We follow and strengthen the overall Party leadership, and 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 Co., Ltd.

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.

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.

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

A series of titanium products include titanium concentrate, high titanium bearing slag, titanium dioxide, sponge titanium, and other titanium products



Corporate Culture

Vision

To be an iron and steel group corporation with the most international influence

Mission

Producing better material, Creating more wonderful life

Core values

Innovation, Practicality, Striving, Devotion

Cultural inheritance

The spirit of "Ansteel Constitution", the glorious tradition of Ansteel

Management philosophy

Staff first, market orientation, continuous reform, legal compliance, refinedness and rigidity, highly efficient execution

Behavioral rules

Compliance, Devotion, Goodness, Civilization

Corporate image

A leading, global renowned brand

Figures in 2021



Economic

- Operating revenue: RMB **383.457** billion
- Total profit: RMB **17.463** billion
- Import of iron ore: **30.9617** million tons
- Export of steel: **3.2782** million tons



Social

- Science and technology input: about RMB **14.8** billion
- Coverage of employee training: **100%**
- Assistance funds: RMB **42.05** million
- Donation to Henan for flood control, disaster relief and post-disaster reconstruction: RMB **10** million
- **5,039** young volunteers organized **949** volunteer activities

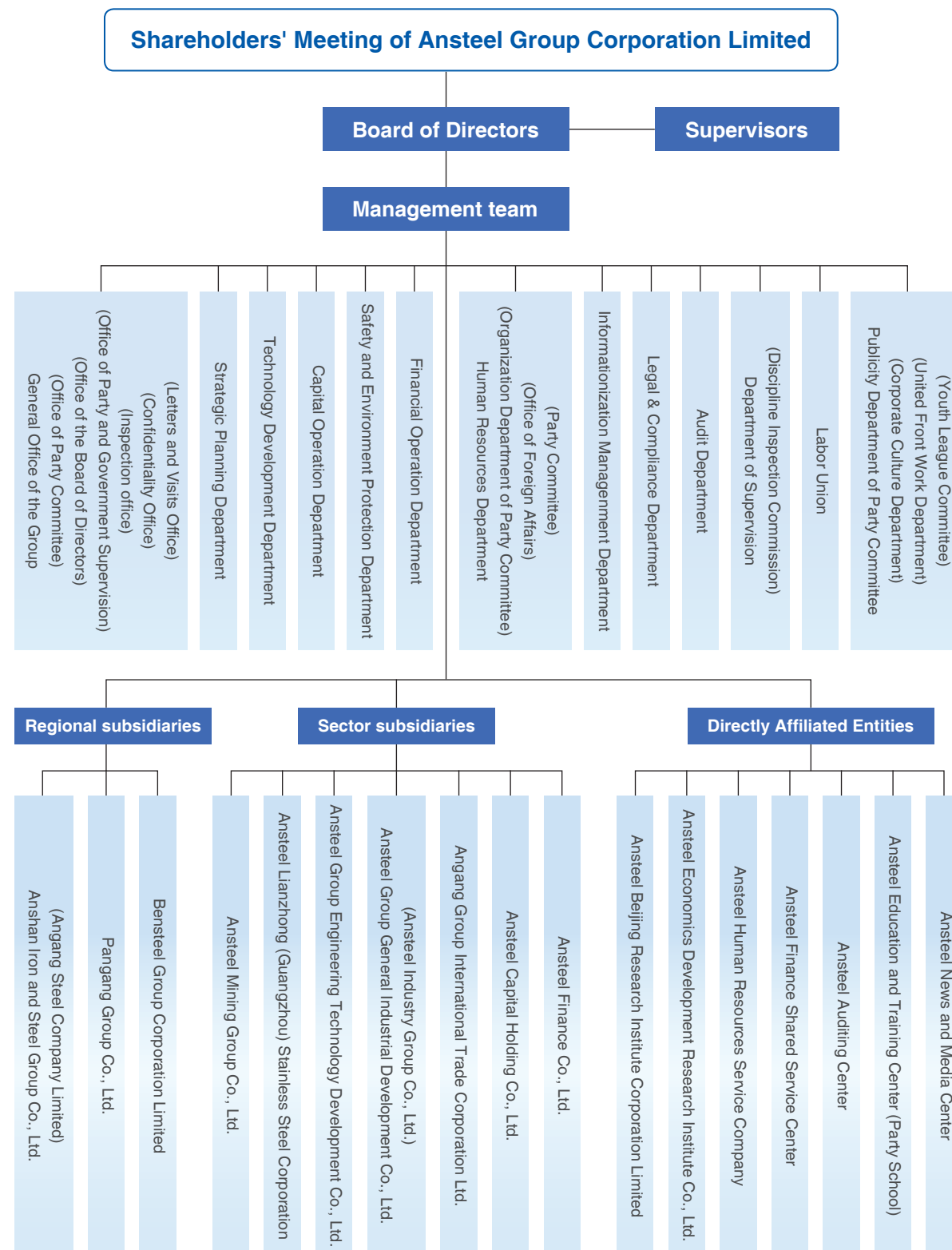


Environmental

- Year-on-year decrease of comprehensive energy consumption per ton of steel: **2.2%**
- Year-on-year decrease of comprehensive energy consumption per RMB 10,000 of output value (comparable price): **0.17%**
- Year-on-year decrease of SO₂ emissions: **9.29%**
- Year-on-year decrease of emission of COD: **7.53%**
- More than **300** hectares of green land reclaimed

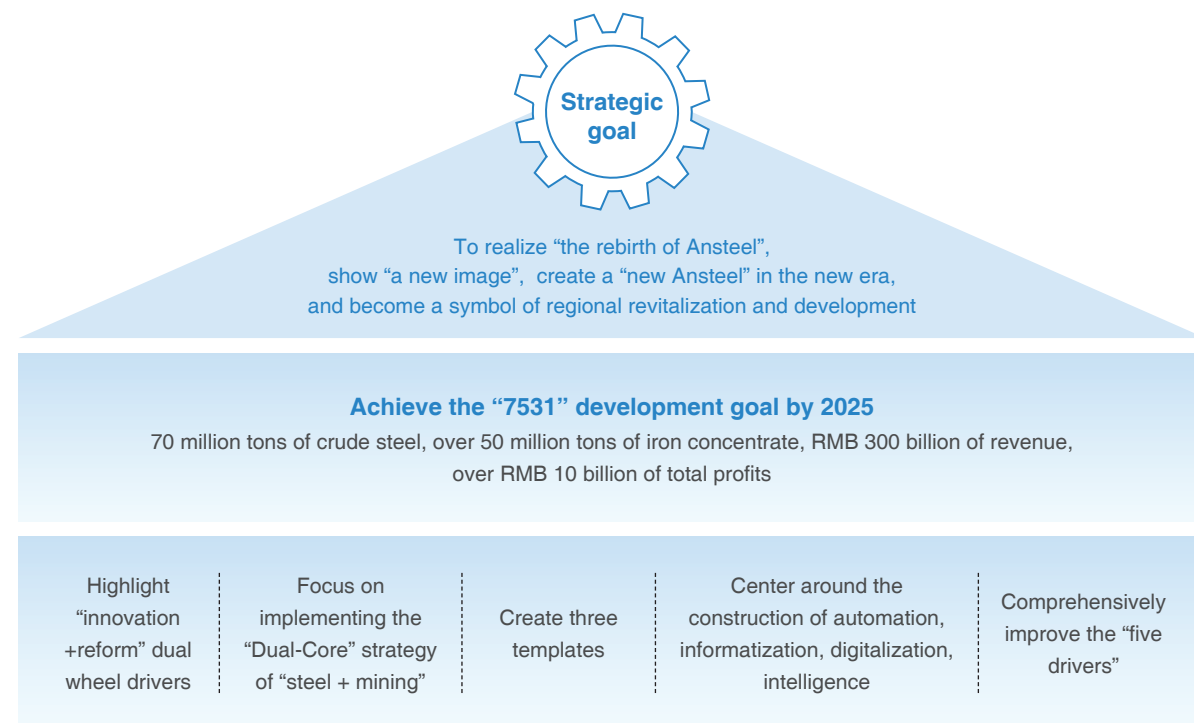
Corporate Governance

Organizational Structure



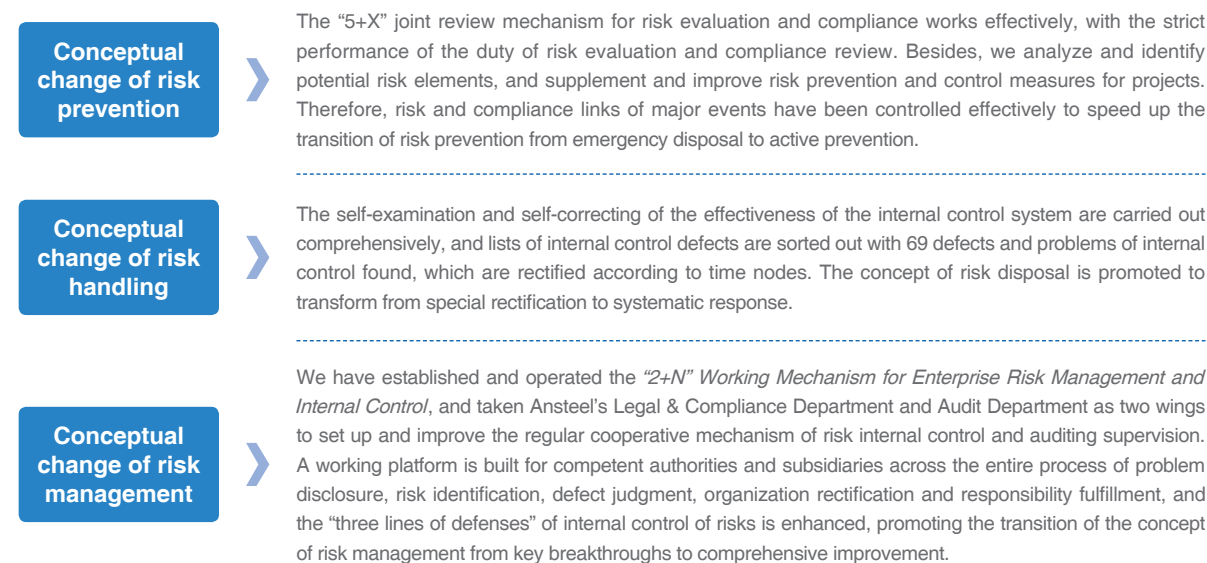
Development Strategy

With a focus on the requirements of implementing national strategies and improving the core corporate competitiveness, Ansteel highlights the strategic leadership, builds a strategic analysis tool of the “five drivers” model in line with the characteristics of Ansteel, and completes the preparation of the Ansteel planning during the 14th Five-Year Plan period with high quality. Centering on the “7531” goal, we implement the “Dual-Core” strategy, and strive to create a “new Ansteel” based on high-quality development, and improve our ability of sustainable development.



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.



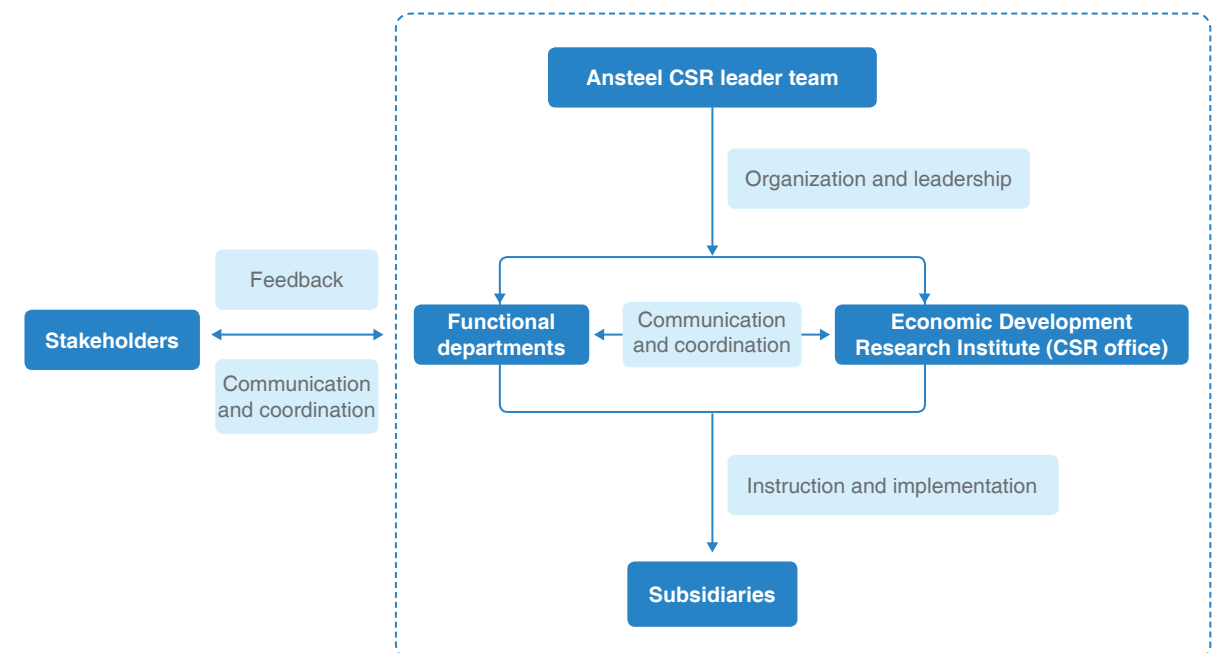
CSR Management

Ansteel continues to strengthen its social responsibility management, and promotes the integration of social responsibility into all aspects of production, operations, and decision-making. At the same time, the Company actively responds to the demands of stakeholders, and commits to establishing harmonious relations with them, so as to create high-value and high-quality social responsibility practices.

CSR Management System

Ansteel shoulders and practices the mission of “producing better material and creating more wonderful life”, and deepens it in the corporate strategy and daily operation, to build an index system with strategic management, business performance, technological innovation, resource environment, employee protection and social development as the core, and set up a management mechanism integrating system, process, operation and assessment. We have carried out social responsibility research for many consecutive years in terms of the development trend of social responsibility, benchmarking of international advanced steel enterprises, analysis of the advantages and disadvantages of Ansteel's CSR performance, opportunities and challenges, as well as Ansteel's CSR strategic research and future planning, and prepared the *Ansteel Social Responsibility Work Assessment Report*. This report comprehensively analyzes the Company's CSR management, laying the foundation and pointing out the direction for the improvement of our CSR management system. At the same time, 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, BenSteel and other subsidiaries, and improve the CSR reporting system and management system.

We have strengthened the CSR and sustainability organization system and management functions, established and improved the CSR organization work system, in which the CSR Steering Group of Ansteel consisting of the Board, senior leadership, etc., is responsible for the decision-making and supervision, the functional departments and the CSR office take charge of the management and coordination, and our subsidiaries implement all plans. 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 are integrated into the primary-level and routine practices.



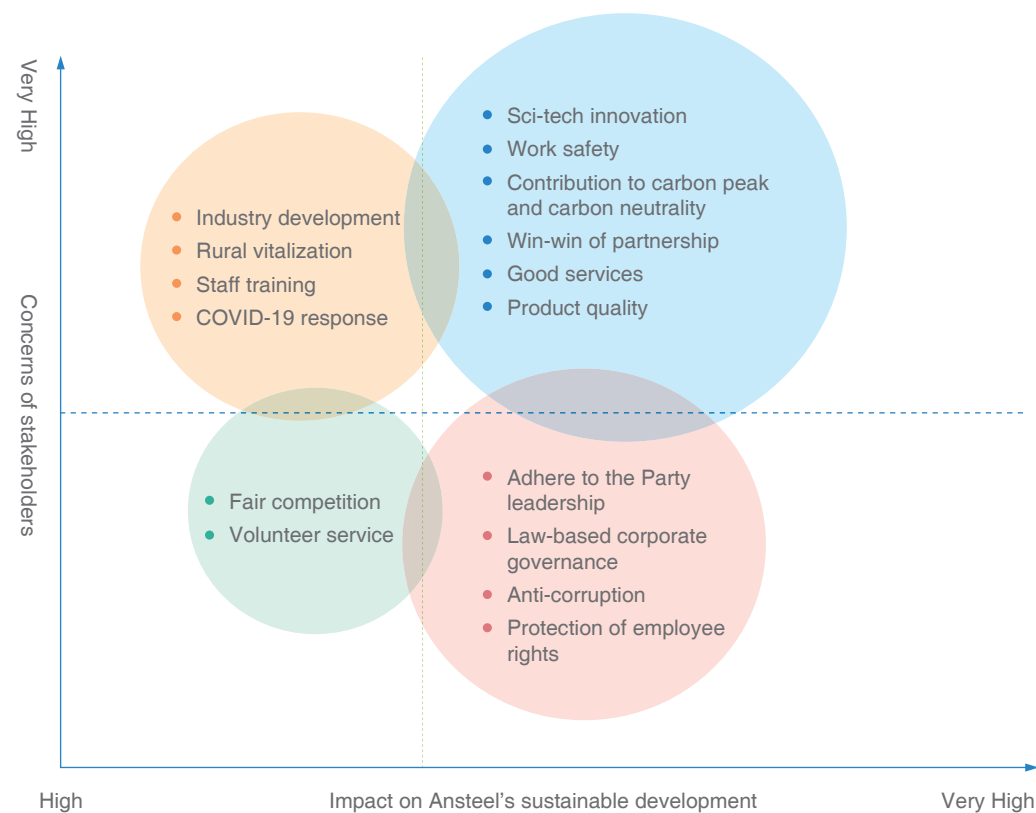
Organizational structure of social responsibility and sustainable development

Materiality Analysis

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 identified and prioritized topics from the two dimensions of "Impact on Ansteel's sustainable development" and "Concerns of stakeholders", and determined the material CSR topics of the Company in 2021.



Materiality analysis process



Analysis of materiality matrix

Stakeholder Engagement

We actively identify the government, partners, employees, communities and other stakeholders, and improve multi-level communication channels through the "Sustainable Development" column on our official website, CSR report, *Ansteel Daily* and other ways. Through effective communication, we have better understood and responded to the expectations and demands of stakeholders, enhanced mutual understanding and trust, working to create values.

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

Feature One

Great Party Building Spirit Leads High-quality Development



The year 2021 marks the centenary of the Communist Party of China (CPC). In the Party's political endeavor, Ansteel's work is guided by Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era. With a profound understanding of the significance of "Two Confirms", we strengthen "Four Awarenesses", "Four-sphere Confidence", and "Two Upholds". We also tap into our CPC resources and legacy to draw strength from Party history and activate the engine so that our political and organizational efforts can be translated into competitiveness for high-quality development.

Strengthening Theoretical Guidance

To enhance political ideology, Ansteel prioritizes the Party history education and put the Company's CPC legacy in the context of Party development. By reviewing the past, we renew our original mission and make the Party history education more practical, which strongly supports Ansteel's high-quality development.

01 Political guidance

Adhering to the Party's leadership, we have analyzed and implemented the decisions made at the Sixth Plenary Session of the 19th CPC Central Committee by making them the first topic of the Standing Committee of the Party Committee and the primary topic of the central theory learning group of the Party Committee to boost morale, gather strength, and improve our judgment, understanding, and execution in political efforts.

02 Party history education

Under the theme of "carrying forward the great spirit of Party building and passing the CPC legacy of Ansteel", we have organized Party members and officials to learn the important speeches made by General Secretary Xi Jinping and the Party's century-old history. Workshops of the central theory learning group of the Party Committee, reading classes, special lectures delivered by experts and scholars, and publicity activities have been held to enable our employees to get inspiration from Party history.

03 Ansteel's CPC legacy

Based on the theme of "the Party flag leads Ansteel", we have launched events such as "the stories of models", "footprints in development" and "hundred brands" to tell the touching stories of Ansteel role models and our achievements in the past seven decades. By doing so, we leverage our CPC legacy and galvanize our employees to be committed to our Company, the Party, and the state.

04 Immersive learning

An in-depth analysis of our CPC resources helps shape a "6+6+6" system, through which Party members and officials are invited to visit CPC's old bases such as the Ansteel Museum to make the Party history education more effective.



Scan the QR code

Tan Chengxu, Party Secretary and Chairman of Ansteel, shows up at the *Tokens of a Century* program of the CCTV financial channel, in which he tells the story behind the two historic items of Ansteel—the first heavy rail of the New China and the "Ansteel Constitution".



Consolidating Organizational Foundation

Primary-level Party organizations and members serve as the Party's governance foundation and source of strength. In line with the Party's organizational policy in the new era, Ansteel strengthens our teams of officials and primary-level Party organizations, improves their skills, and ensures that our officials are loyal and uncorrupted. These efforts strongly guarantee the high-quality development of Ansteel. In the 2021 annual performance assessment of the heads of central SOEs by SASAC, Ansteel was rated A for the first time.

Responsibility for Party building

We have implemented the responsibility of managing the Party, given full play to the role of assessments, revised the evaluation methods for Party building of directly affiliated Party committees, and ensured that Party organization secretaries perform their duties through strict work performance assessments.

Better performance of primary-level Party organizations

For five consecutive years, Ansteel has held the "two excellent and one outstanding" commendation ceremony, in which 37 outstanding CPC members, Party affairs managers, and primary-level Party organizations are recognized. We continue to improve Party branches and deepen the three major projects of "strengthening the foundation", "promotion and upgrading" and "demonstration of leading players". The Party committee of Angang Steel Company Limited Main Steelmaking Plant has received the title of "National Advanced Primary-level Party Organization".

Empowerment by Party building

A series of activities such as "the Party flag flies high on the front line" and "the Party flag leads Ansteel" have been promoted. As one of the eight enterprises designated by the Organization Department of the Central Committee of the CPC, we have been among the first to present the commemorative medal "Glorious Five Decades as a CPC Member" to senior Party members. We continue to advance CPC member projects, CPC member responsibilities, and CPC member leading posts. A total of 100 group-level Party member projects have been recognized, creating revenues of RMB 187 million.

The training of Party members

We have shaped a rotating and on-the-job training system for roughly 10,000 primary-level Party organization secretaries, Party officials, and Party members in a targeted, multidimensional, and customized manner. The book *Ansteel Primary-level Party Building Innovation Cases* has been compiled and released in the Party Building Reading Publishing House to ensure that the education of Party members achieves practical results.

We select outstanding officials from primary-level organizations based on political standards and their work performance and advance the training of young officials, leading professionals, and potential academicians. We also remove promotion barriers, implement the contract-based management of professional managers and a mechanism for fault tolerance and error correction, and motivate most employees to work harder.



The Party committee of Angang Steel Company Limited Main Steelmaking Plant receives the title of "National Advanced Primary-level Party Organization" from Beijing

Exercising Full and Strict Governance over the Party

Ansteel exercises full and strict governance over the Party and strengthens political supervision, Party conduct, and clean governance, which gathers strong momentum to build a new Ansteel.

Supervision

We carry out the "clean governance action", address formalism and bureaucracy, strengthen the supervision of key projects such as the "Dual-Core" strategy and the reform of the three systems, and embed discipline inspection and supervision into production, operation, reform, and development.

Strict standards

Following strict standards, we investigate violations of discipline and law in project construction, procurement and sales, equipment management, production, and operation, and ensure that the full and strict governance over the Party goes deep.

 Feature Two

A New Blueprint Pictures Rural Vitalization



In 2021, Ansteel implemented speeches made by General Secretary Xi Jinping on the celebration of the centenary of the CPC, consolidation of poverty alleviation outcomes, and continuous efforts to promote rural vitalization. Guided by the requirements of “not cutting efforts in four aspects” by the National Rural Revitalization Administration and the SASAC, we safeguard what has been achieved in the poverty alleviation model with Ansteel characteristics and ensure that poverty reduction smoothly transitions to rural vitalization to deliver our missions.

In 2021, Ansteel

- Channeled RMB **42.05** million as assistance funds.
- Appointed **51** officials to support rural areas.
- Contributed RMB **53.83** million to sourcing rural products.
- Ansteel’s paired assistance was evaluated as **“good”** by the Central Rural Work Task Force.
- Two Ansteel cases of “Characteristic Industries Helping Poverty Alleviation” and “Exploring the Road to End Poverty in the Plateau Area” were listed in the **“Outstanding Cases of Poverty Alleviation by SOEs”** supervised by China Enterprise Reform and Development Society.



Ansteel's task force in Tashkurgan Tajik Autonomous County, Xinjiang wins the title of "Advanced Collective in Xinjiang Uygur Autonomous Region for Poverty Alleviation"

Strengthening Design from the Top for a Moderately Prosperous Society

Regarding the consolidation of poverty alleviation achievements and the continuous promotion of rural vitalization as the political priority, Ansteel have formulated assistance plans 2021 and throughout the 14th Five-Year Plan period, improved our leadership and responsibility implementation, and maintained the overall stability of our assistance policies for smooth transition.

Organizational leadership

Establishing a paired assistance task force headed by Party Secretary and President of Ansteel with clear responsibilities, strong leadership, and effective execution.

System formulation

Formulating the *Ansteel Group Corporation Limited on the Consolidation of Poverty Alleviation Achievements and Transitioning to Rural Vitalization* and putting forward the “12345” assistance plan during the 14th Five-Year Plan period of Ansteel to ensure rural vitalization goes effective.

Responsibility implementation

Issuing the *Ansteel Group Corporation Limited Paired Assistance Priorities 2021*, making 45 assessment items measuring assistance projects, clarifying the person in charge, and following progress on a monthly and quarterly basis to ensure that our plan is advanced as scheduled.



On September 25, 2021, Tan Chengxu, Party Secretary and Chairman of Ansteel, visited Huajiashan Village, Panzhou City, Guizhou Province

Sending Elite Officials to Support the New Mission of Rural Vitalization

Based on the principle of "sending the best people to where they are needed", the appointment of an official for rural vitalization follows high standards with considerate services to them. They serve, build, and lead the development of rural areas.

The work of Ansteel's appointed personnel has been fully recognized by local governments. In 2021, Liu Xiang, Sun Lanfeng, and Li Haishan were awarded the 2020 Liaoning Province Outstanding Individuals for Paired Assistance, Niu Sichuan and Du Chuan received similar titles from the Sichuan Province, while Jiang Yongliang was recognized for his poverty reduction work in Guizhou Province.



Selecting the best officials

- Given local situations, 51 outstanding officials that are loyal, practical, versatile, and equipped with management and technical expertise are selected, with enhanced evaluation and supervision of their daily work to ensure that they are fully engaged.
- Since the Tashkurgan Tajik Autonomous County in Xinjiang has its unique reality, a large number of employees of high caliber are sent to help the area. Relevant work rules are set out to support local development.



Caring for officials

- We implement the *Administrative Measures for Officials Involved in Paired Assistance of Ansteel Group Corporation Limited (Trial)*, which guarantees the benefits of such employees and covers them in accidental death and dismemberment insurance. They are also provided with annual medical examinations and living and communication subsidies to support their life.
- The appointed official is trained and visited regularly.

Exploring an Assistance Model that Modernizes and Spruces Up Villages

Against the new backdrop of consolidating the achievements of poverty alleviation and pursuing rural vitalization, Ansteel has explored a new model of paired assistance, in which five major fields are vitalized while people's actual needs are well understood and their difficulties resolved. The model removes prominent issues emerging in rural assistance, making Ansteel's contribution to modern and beautiful villages.

Vitalization in Five Aspects to Unveil a New Chapter

Rural vitalization encapsulates five aspects including industry, talent, culture, environment, and organization. To achieve vitalization in these five areas, Ansteel continues to play a leading role by formulating sound policies, ramping up financial input and human resources, and engaging the wider public to drive the development of rural areas.

Industrial Development

Following industrialization logic, in counties under paired assistance, Ansteel fosters locally unique industries by shoring up, enhancing, or extending the industrial chain to stimulate economic growth.

In 2021,

- Ansteel donated RMB **22.386** million, or **81.7%** of the total funds invested, to support rural industrial growth.
- Industries assisted by Ansteel created **340** job opportunities.



Rosa roxburghii Tratt effervescent tablet plant in Panzhou

Tashkurgan Tajik Autonomous County yak brand

Developing the industrial chain model of "farming + yak breeding + yak meat processing + brand cultivation" in Tashkurgan Tajik Autonomous County to help it lengthen the industrial chain and speed up development

Large-scale fruit and vegetable poverty alleviation demonstration farm

Building a large-scale fruit and vegetable poverty alleviation demonstration farm where cash crops such as burgundy mushroom, scallions, and yellow ginger are planted to help farmers increase their income in Qujiazhuang Village of Guizhou Province

Integrated industrial chain of rosa roxburghii Tratt in Panzhou

Investing RMB 8.34 million in Panzhou City of Guizhou Province to set up the first large-scale production line in China that integrates the production of rosa roxburghii fruit juice concentrate, refined powder, and effervescent tablets. The production line processes an average of 7,200 tons of stock solution per year, offering 100 job opportunities and benefiting more than 100,000 fruit growers

Talent Training

Ansteel helps rural people increase confidence in their own ability, sees that they can access necessary education, and offers training for highly needed skills to stimulate the growth engine. In Tashkurgan Tajik Autonomous County, seeing local management and technical shortcomings, we have brought 14 new training courses in three major categories of health, basic management, and technology, covering 1,059 people. In Panzhou, drawing on the resources of affiliated mechanical and electrical colleges and other educational platforms, we continue to offer vocational training for a total of 1,340 people including kindergarten teachers and welders to improve the skills and knowledge of locals who will in turn empower rural vitalization.

In 2021, we trained **2,399** primary-level officials, rural vitalization champions, and technical professionals.

Cultural Development

Culture underpins rural vitalization. Viewing culture as an empowering force, Ansteel has carried out diverse cultural activities, contributing to the great rejuvenation of the Chinese nation and the Chinese dream.



Ecological Protection

Ecological protection is one of the priorities of rural vitalization. Sticking to green development, Ansteel improves the natural environment, living environment, and infrastructure in rural areas to create beautiful and comfortable communities for farmers.



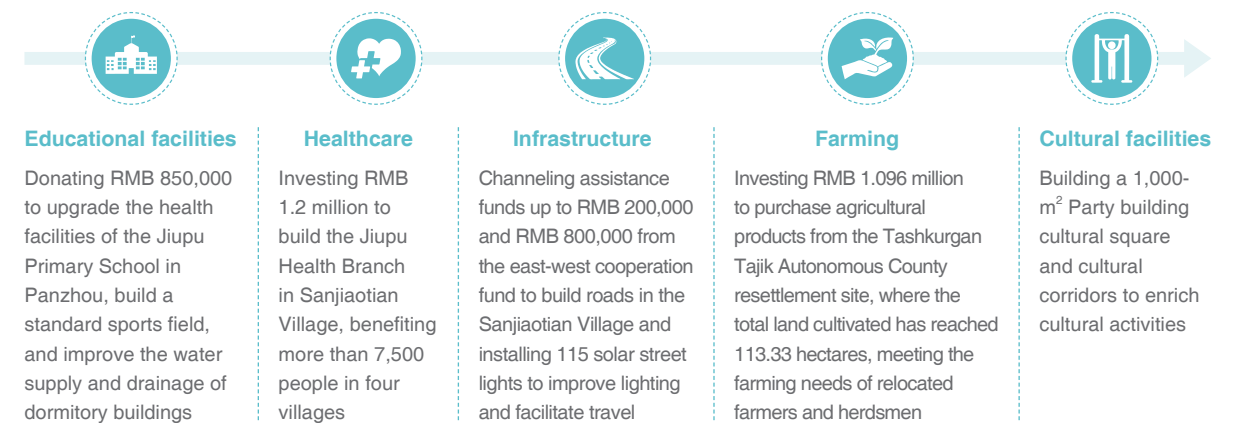
Organizational Improvement

Organizational improvement serves as the “first project” in rural vitalization. Ansteel supports the establishment of Party branches in the areas under paired assistance and conducts exchanges to enable rural organizations to thrive.

In 2021, Ansteel established the links among five Party branches. They held regular exchanges and promoted communication between the Company and the villages we assist. The Party Committee of the Safety and Environmental Protection Department of Pangang Vanadium Company and Huajiashan Village jointly built new Party member centers and Party building squares and shared activities. Angang Steel Company Limited’s cold rolling Party branch donated six sets of teaching aids and 1,100 exercise books to the primary school in Tashkurgan Tajik Autonomous County on International Children’s Day.

No Worries, Better Life

With ongoing efforts to consolidate poverty alleviation achievements including meeting the basic needs of food and clothing and guaranteeing compulsory education, basic medical care and housing, Ansteel has shored up local weaknesses in compulsory education, basic medical care, and basic needs to improve the living environment of villagers and their sense of happiness.



Case

A Sense of Responsibility for Mission Impossible

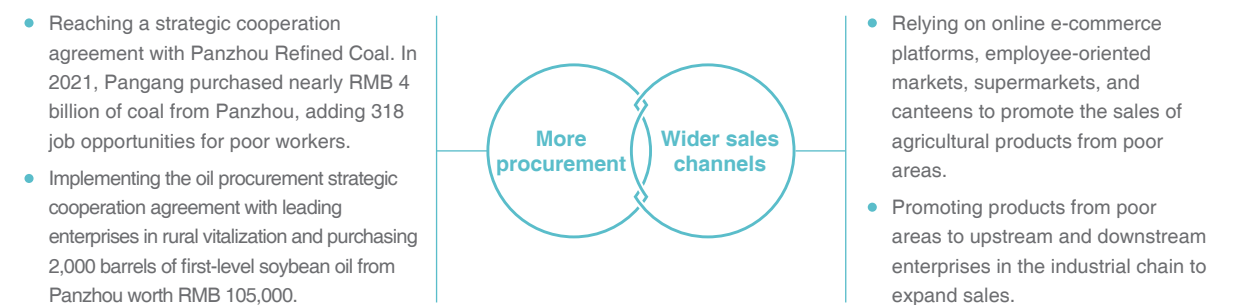
The Wakhan Corridor, of high altitude and low temperature, is perennially capped with snow with few visitors. In July 2021, the Ansteel’s team in Tashkurgan Tajik Autonomous County was tasked with the daunting job of building a border road in the Corridor. Against the odds of extreme coldness, stark temperature difference, a tight schedule, and a lack of oxygen, our officials succeeded in building a 25-kilometer border highway at a high altitude of 4,600-5,300 meters in a permafrost area, highlighting the spirit of our outstanding professionals in the new era.



Ansteel Xinjiang official analyze the situation on site at an altitude of 4900 meters

Consumption Oriented, Sales Expanded

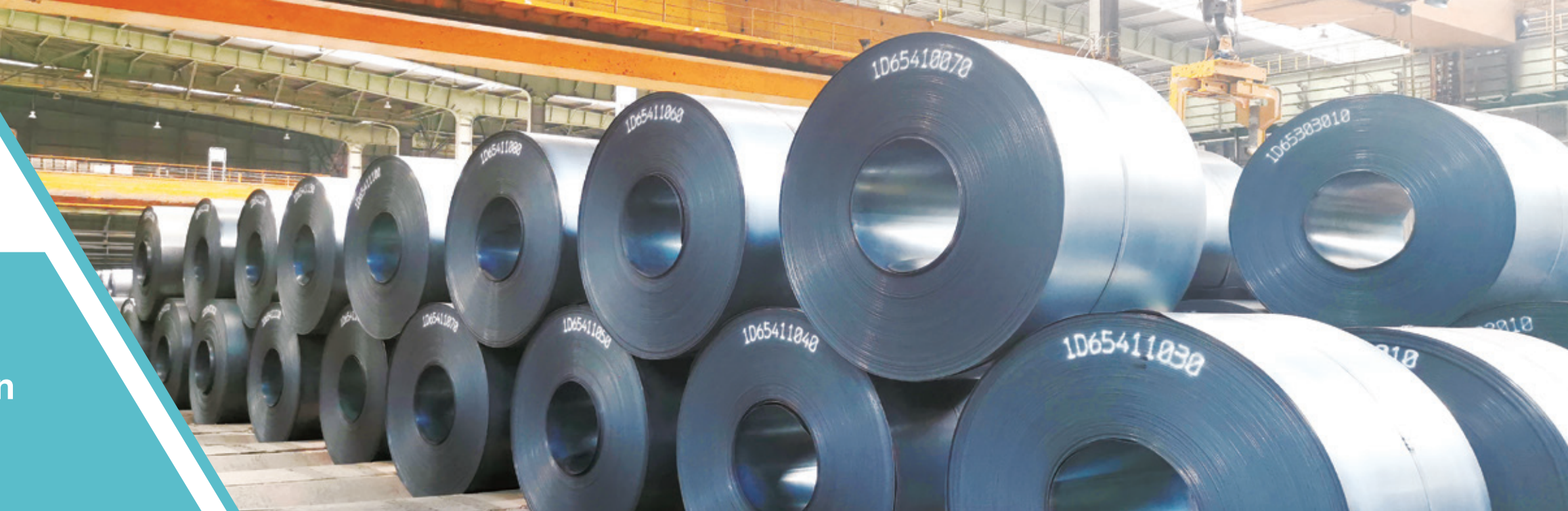
In 2021, Ansteel regarded consumption-oriented assistance as a priority in paired assistance. Through targeted procurement and a market-oriented production and sales platform, we have encouraged employees to buy products from the area that we assist to increase farmers’ income. In 2021, Ansteel purchased agricultural products worth RMB 39.79 million from designated counties and goods worth RMB 53.83 million from state-designated poor counties.





Feature Three

Ansteel and BenSteel Join Hands for a New Chapter



The reorganization of Bensteel Group into Ansteel is a major step in response to the important instructions made by General Secretary Xi Jinping on the full revitalization of northeast China, the rebirth of Ansteel, and the reform and development of state-owned assets and SOEs. It is of great significance for promoting the healthy development of China's steel industry, fully revitalizing Northeast China for the high-quality development of Liaoning, and making SOEs better and stronger as a pillar of China's economy. The main production bases of Ansteel and BenSteel in Liaoning are adjacent and endowed with rich resources, but our production lines and products share many similarities, making us long-time competitors of each other. This reduces the efficiency of state-owned asset allocation and reduces our competitiveness.

After the reorganization, Ansteel has integrated the core business of both companies and unleashed the potential of cooperation to achieve a leap in not just business volumes, but also efficiency and profits. This will give rise to a new steel production pattern dominated by two giants, Baowu in the south and Ansteel in the north. Such a landscape is conducive to orderly competition and coordination, structural adjustment and optimization at a higher level, and a healthy trend of multiple strong players competing in the steel industry.

Shaping New Competitiveness Through Reorganization

Process

- On June 16, Ansteel and the SASAC of Liaoning Provincial Government submitted to the SASAC of the State Council the *Request on the Reorganization of BenSteel by Ansteel*.
- On August 18, Ansteel received the approval of the SASAC of the State Council.
- On August 20, the reorganization conference was held in Anshan, where Ansteel and SASAC of Liaoning Provincial Government signed the *Agreement between SASAC of Liaoning Provincial Government and the Ansteel Group Corporation Limited on the Free Transfer of State-owned Equity of Bensteel Group Co., Ltd.*
- On August 24, the reorganization transition task force was sent to BenSteel to kick start the integration and reform process.
- On October 15, Ansteel Bensteel Group Co., Ltd. was unveiled, marking the end of the 135 transition jobs, and the two companies entered the stage of substantive integration.

Figures

After the reorganization, Ansteel, ranking **second** in China and **third** in the world, will become the largest steel "aircraft carrier" in northern China, making China's steel industry more influential in the international market.

Total assets:
RMB **491.976** billion

Crude steel production:
55.6533 million tons

Revenues:
RMB **383.457** billion

Business:
in more than **70** countries and regions

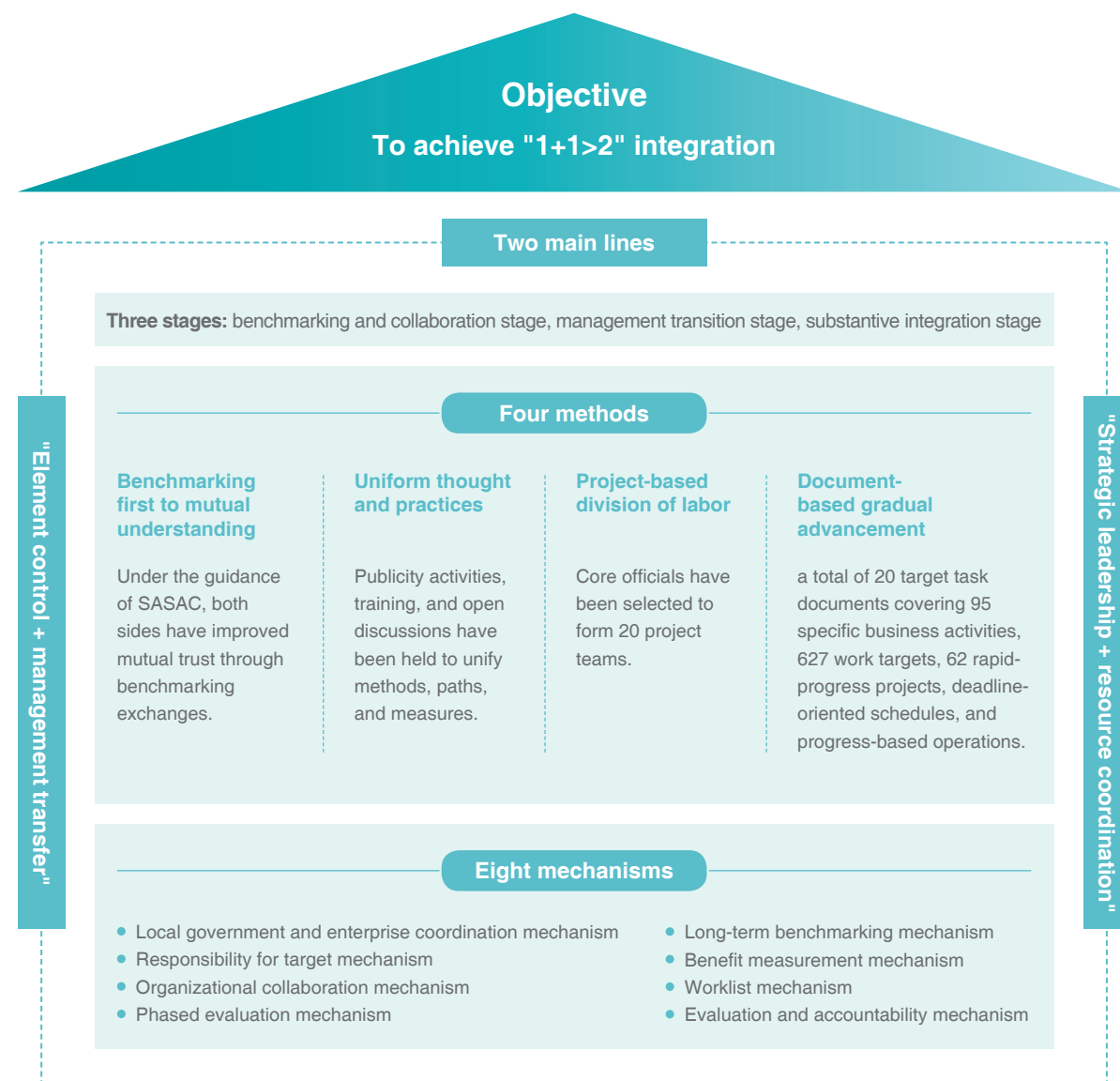
Valid patents: **10,055**



Achieving Win-win Results from In-depth Integration

On August 24, 2021, the reorganization transition task force was sent to Bensteel. Based on the "1+2" integration plan formulated in the early stage, focusing on "high-level planning, high-standard design, high-efficiency beginning, and high-quality endeavor", Ansteel and BenSteel set up 20 project teams to deal with tasks at each stage of integration and seize the window of opportunity in the transition period, creating favorable conditions for substantive integration. The two large-scale steel companies with a history of 100 years are integrated within only 56 days, with all tasks of the transition period completed.

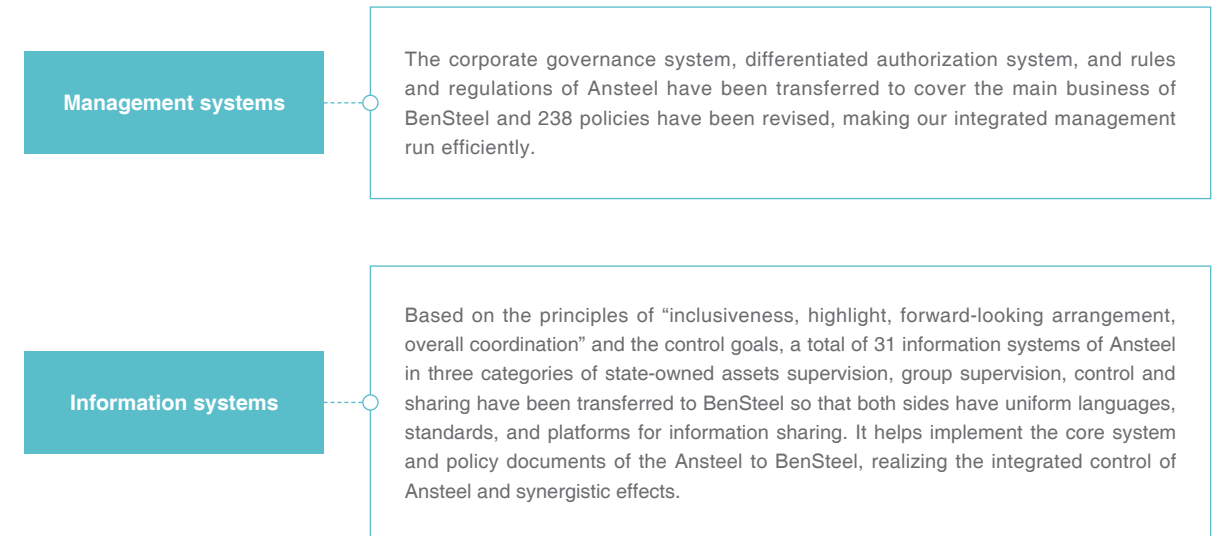
In order to unleash the potential from reorganization and achieve a leap in business, Ansteel has taken the two main lines of "element control + management transfer" and "strategic leadership + resource coordination" and integrated management and operation. Integration plans for the first month, 100 days, six months, first year, two years, and three years have been formulated, setting an example of the reorganization of SOEs in the steel industry.



As of November 15, 2021, the integration had achieved the effects of "1+1>2". Ansteel has demonstrated remarkable performance for the first month of reorganization at an amazing speed, with 143 work targets completed as planned.

Integrated Management

Aiming at management integration, Ansteel has worked on "element control + management transfer".



Integrated Operation

With the goal of operational integration, Ansteel has worked on "strategic leadership + resource coordination". The mechanism of coordinating the core business of Ansteel and BenSteel has been gradually established to promote intensive and efficient development.



 Feature Four

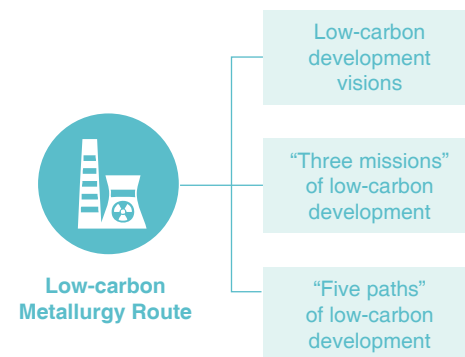
A Green Ansteel Contributes to China's '30-60' Decarbonization Goal



In 2021, Ansteel regarded carbon peak and carbon neutrality, major strategic decisions made by the Party Central Committee and the State Council, as priorities in serving the new development philosophy and the new development paradigm, contributing Ansteel's wisdom to our common beautiful home of a green planet.

Designing a Roadmap as a Responsible SOE

In response to China's '30•60' Decarbonization Goal, Ansteel shoulders responsibilities by formulating the *Declaration on Carbon Peak and Carbon Neutrality*, "Ansteel Low-carbon Metallurgy Route", and Carbon Peak and Carbon Reduction Action Plan, putting forward low-carbon development goals, visions, missions, and paths, and designing a framework from the top. All these efforts demonstrate the responsibility of a central SOE on green development.



Pursuing the 30-60 Goal with Scientific Approaches





The *Carbon Peak and Carbon Neutrality Work Plan* made by Ansteel clarifies the organizational structure, principles, priorities, requirements, and a specific plan for 2021. The Work Plan is efficiently implemented through coordinated efforts and phased and layered measures.

- We have established a work mechanism on carbon peak and carbon neutrality, where the responsibilities of various functional groups are specified and requirements for communication, coordination, meetings, reports, and evaluations are clarified.
- We have built a group think tank and fully tapped into the enthusiasm, creativity, and expertise of experts.
- We have exchanged carbon asset management practices with leading consulting institutions in the industry and completed the clearance of carbon emission quotas in the first performance cycle of the national carbon emissions trading market from 2019 to 2020 for Pangang and Ansteel Mining Group Co., Ltd.

In 2021, in Ansteel,

- Comprehensive energy consumption per ton of steel decreased by **2.2%** year on year.
- Comprehensive energy consumption per RMB **10,000** of output value (comparable price) decreased by 0.17% year-on-year.

Energy Management

 <p>Building the Platforms</p> <p>Developing and adopting energy-saving information platforms and improving energy management systems supported by information technology.</p>	 <p>Monitoring of indexes</p> <p>Strengthening the monitoring of energy indexes and taking effective measures in the organization, iron-steel ratio, fuel ratio, and hot steel rate to improve energy efficiency.</p>
 <p>Assessing process energy use</p> <p>Learning advanced energy-saving technology and management experience from third-party institutions, assessing process energy use of subsidiaries, and putting forward suggestions for improving energy efficiency.</p>	 <p>Energy-saving monitoring</p> <p>Exploring energy-saving management, creating new energy-saving monitoring models, combining regular supervision and special supervision, and urging all subsidiaries to improve energy efficiency.</p>

Energy-saving Technological Upgrading

We gave green light to more energy-saving projects, with more than 70 such projects worth over RMB 800 million in 2021. They include the 100MW waste-heat-to-power project of the Pangang Vanadium Branch, the Pangang Group Mining energy intelligent control system, the upgrading of the Bayuquan air compressor station, and the optimization of the chemical technology steam system.

Actions Against "Energy- And Pollution-Intensive" Projects

We have established a task force addressing "energy- and pollution-intensive" projects, appointed its members, and clarified their objectives and responsibilities. We have also made clear the definition of such projects, their submission, and energy assessments. Energy consumption in coking, ironmaking, steelmaking, and other processes is measured against national, local, and industry standards. We have also enhanced energy consumption scrutiny on projects in the pipeline, under construction, or not yet launched, making energy assessment a necessary condition for new projects.

Case

Digitalizing the centralized energy control platform to go smart

Ansteel Energy Control Center and Ansteel Information jointly designed the centralized energy control platform for the Ansteel headquarters and an energy management analysis system. By the end of 2021, the centralized energy control hall had been completed. The operations of various stations have been gradually transferred into the centralized energy control platform, which can realize the integrated management of energy operation, management, and analysis, balance energy use intelligently, and maximize the value of energy.

Case

Angang Steel Company Limited Main Coking Plant saves energy and reduces emissions

Coking companies must shoulder the fundamental responsibility of green and low-carbon development. Angang Steel Company Limited Main Coking Plant has urged coking branches nationwide to take the lead in applying coke oven automatic heating to significantly reduce the amount of gas needed and innovating coke processing to decrease coke loss rate and save energy, blazing a trail of energy conservation and low-carbon development. Between 2020 and 2021, 51,500 tons of coal equivalent were saved or replaced, cutting carbon emissions by about 35,000 tons and carbon dioxide emissions by about 128,000 tons. These efforts have contributed to Ansteel's goal of achieving a carbon emission peak by 2025 and a 30% reduction from the peak in 2035.

Case

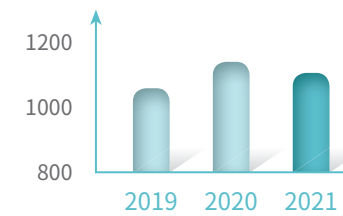
Making steel plants contribute to urban development

To peak carbon dioxide emissions by 2030, BenSteel continues to tap into the potential thermal energy of steel companies to improve thermal efficiency and reduce carbon emissions. No.5 blast furnace slag flushing water waste-to-heat project is executed by the Bensteel Heat Development Company to recover heat from slag flushing water to power urban heating. The project, located on the west side of the newly built No.5 blast furnace, offers heat of 26 MW on average and replaces boiler heating, which can reduce the combustion of standard coal by 11,650 tons and carbon dioxide by 31,105 tons per year.

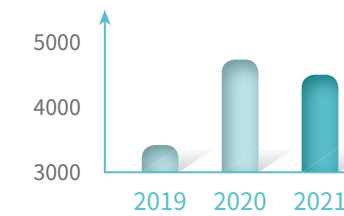


Coal gas storage and distribution station

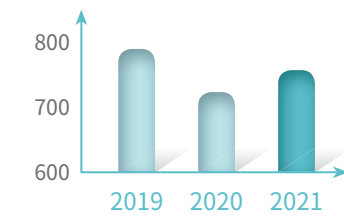
Anshan Iron and Steel Group TRT power generation (GWh)



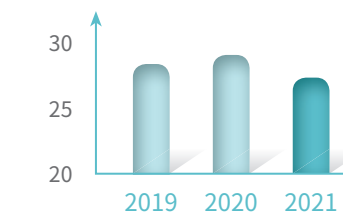
Anshan Iron and Steel Group CCPP power generation (GWh)



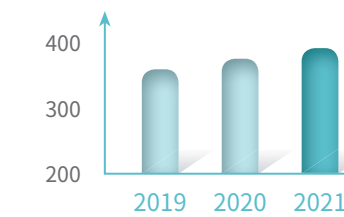
Anshan Iron and Steel Group CDQ power generation (GWh)



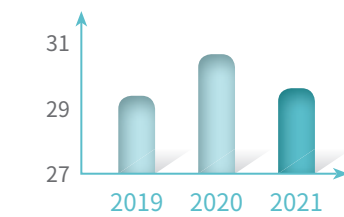
Anshan Iron and Steel Group Waste heat stream recycled (million GJ)



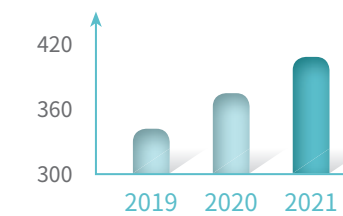
Pangang TRT power generation (GWh)



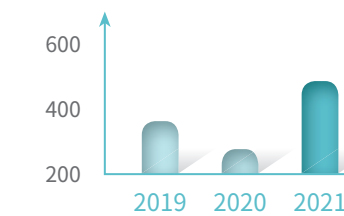
Pangang Waste heat stream recycled (million GJ)



BenSteel TRT power generation (GWh)



BenSteel CDQ power generation (GWh)



Waste energy generation

Clean Energy

Ansteel utilizes plant roofs, mine waste dumps, and tailings ponds for photovoltaic power generation projects. Ansteel Mining Group Co., Ltd. has signed contracts for photovoltaic projects with an installed capacity of 54 MW and another 310 MW is in the pipeline. It is expected that after these projects are put into operation, the annual renewable electricity generated will reach 3.9 MW, equivalent to reducing 48,000 tons of coal equivalent. In 2021, Pangang Xichang generated 18.12 GWh of photovoltaic power.



Photovoltaic power generation

Wisdom in Innovation, Quality, and Efficiency

Following General Secretary Xi Jinping's important remarks on scientific and technological innovation, we deliver our original mission of serving national strategies, seek self-reliance on advanced technology, and pursue high-quality development through innovation. We also put in place new management models, digitalize our business, and work for reform, lending strong support for a new Ansteel.



New Ideas for Technology

Technological innovation powers the high-quality development of China's steel industry and the building of a country with a strong steel sector. With better mechanisms in place, Ansteel fosters a vibrant atmosphere of innovation, diversifies innovation achievements, and strengthens the driving force of innovation.

Improving Innovation Mechanisms

Ansteel continues to improve innovation mechanisms, formulate better policies, and ramp up R&D input. We pursue the synergy of innovation independently and open innovation to foster the driving force of technology for high-quality development. In 2021, around RMB 14.8 billion was invested in R&D.



Putting forward policy measures

- In addition to *Guiding Opinions on Optimizing Science and Technology Management and Enhancing Innovation Capabilities*, we also put forward policy measures in deepening the reform of innovation mechanisms and improving the evaluation system to stimulate innovation.



Increasing R&D input

- Serving national strategies and striving to be a technological champion, we accelerate the breakthrough of several core technologies, build Ansteel into a source of original technology, and increase R&D investment in strategic projects.
- We monitor R&D investment intensity indicators hierarchically. According to the revenues and R&D of each subsidiary, we break down the R&D investment intensity requirements by SASAC to subsidiaries and set up their quarterly and annual assessment indicators.



Gathering innovative synergies

- We have established the "Joint Laboratory for the Development and Application of Metal Materials for High-tech Ships" with Jiangnan Shipyard of CSSC.
- We have signed a strategic cooperation agreement with China Iron & Steel Research Institute Group to leverage synergistic effects, create new cooperation mechanisms, strengthen exchanges among employees, and work for efficient R&D cooperation and high-tech commercialization.
- Angang Steel Company Limited has signed an alliance-building agreement with Shanghai Nuclear Engineering Research and Design Institute Co. Ltd. to build the CAP1400 industrial chain.



Case

Ansteel Steel Research Institute Bensteel Technological Center unveiled

On November 15, 2021, Ansteel Steel Research Institute Bensteel Technological Center, the first unit that links the technology business between Ansteel and Bensteel, was inaugurated. The Center was established in pursuit of the integrated operation mode of "one institute and multiple centers" in Liaoning Province and a collaboration mechanism of "four unification and four sharing". It is conducive to improving the overall R&D efficiency of Ansteel. In 2021, the Center developed 55 new products, 53% higher than previously planned, the best record in history.

Fostering a Vibrant Atmosphere of Innovation

Ansteel offers more innovation incentives, build a team of innovators, and train employees through innovation projects to stimulate the vitality of researchers and engage all employees in innovation.



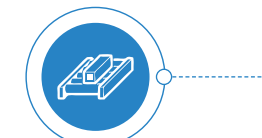
Anshan Iron and Steel Group offers progressive innovation rewards with 10% rewards for projects that generate RMB 50 million and the period of validity extended from two years to five years. Anshan Iron and Steel Group has called for talent to engage in the research of five core technologies for the first time and allowed the leader to set up teams and projects, seek cooperation with external cooperation players, evaluate the performance of team members, and allocate bonuses.

The Vanadium and Titanium (Steel) Research Institute has established multiple career paths for researchers, built a classified assessment and incentive mechanism, and select the most competent team leaders to unleash their innovation potential. The number of researchers with a Ph.D. degree has reached 100 with 45% of projects headed by young researchers. Chengdu Materials Institute was listed in the Reform and Innovation: "Science and Technology Reform Demonstration Action" Case Collection by SASAC.

The Iron and Steel Research Institute explores a unique talent training mechanism of "quantitative targets, qualitative evaluation, dynamic management, and talent reserves", sets up training plans for 41 employees, and designs "one chart and one table" with two tutors for dynamic management.

Diversifying Innovation Outcomes

Putting innovation first, Ansteel shapes a national strategic force of technology with breakthroughs in several core technologies, which boosts innovation momentum and efficiency.



International level

- Ansteel Group Engineering Technology Corporation has made a new breakthrough in the whole life cycle water-saving and pollution reduction technology of the 10-million-ton steel industrial park, reaching the best level in the world.
- The new steel rails under the extreme service conditions of the Sichuan-Tibet Railway, AG728 steel for ultra-thick and ultra-wide high-strength reactor containment shells, X70 grade deep-sea high-strain pipeline steel, 500MPa grade non-coating weather-resistant bridge steel have been launched.
- The four international standards for structural steel series that we helped to revise have been issued by the International Organization for Standardization (ISO).



National key R&D

- The "13th Five-Year Plan" national key R&D projects "high-strength pipeline steel under low temperature and high pressure" and the "polar marine low-temperature steel" led by Anshan Iron and Steel Group passed evaluations.
- Pangang's "13th Five-Year Plan" national key R&D project "in-depth resource utilization and industrialization of high titanium blast furnace slag" passed the mid-term evaluation and was rated as "exemplary".
- The "13th Five-Year Plan" national key R&D project "research on the mechanism of major disasters in metallic and non-metallic mines and prevention and control technology" led by Ansteel Mining Group Co., Ltd. passed the evaluation.
- The national R&D project led by Ansteel Industry Group Fine Aluminum Powder Company passed the evaluation and was rated as "excellent".
- Ansteel Beijing Research Institute Corporation Limited was approved to undertake the national key R&D project "surface engineering technology and application of key components in the field of metallurgy under complex working conditions."
- The Shougang Jingtang Construction Project won the National Quality Engineering Award and Luban Prize.

In 2021

- We revised and published **16** technical standards, including **4** international standards, **10** national standards, and **2** industrial standards
- We won **2** second prizes in the National Science and Technology Progress Award and **16** metallurgical science and technology awards
- Our ranking in the SteelRanking rose from **8th** to **6th**
- Ansteel ranked **5th** in the Global Steel Enterprise Innovation (Patent) Index, and Anshan Iron and Steel Group and Pangang were rated as the most patent-innovative steel enterprises in China

New Thinking for Management

In the face of new market trends and development, Ansteel improves management efficiency, addresses important but difficult issues in corporate management, and integrates new management concepts, mechanisms, and methods into the whole process of production and operation to support high-quality development.

Improving Quality and Efficiency

Ansteel regards the special action of improving quality and efficiency as an important measure to achieve the annual production and operation goals, has established a task force that oversees seven working groups. They reduce costs and increase efficiency, expand market shares, shore up weak links in innovation, and prevent major risks. Special work plans including 20 priorities are formulated and assigned to those in charge for better quality and efficiency.

Our business has registered the best performance, with revenues and profits exceeding RMB **300** billion and RMB **30** billion respectively for the first time, kicking off a good start during the 14th Five-Year Plan period.

Efforts in Costs and Efficiency

Each production unit never misses key links in controlling costs within budget, promotes objective cost management, improves efficiency, and implements cost reduction projects. We carry out special analyses of three types of expenses, strictly control expenditure and budget, and follow strict standards and approval processes in executing projects. Money is not wasted and extravagance is not allowed.

Following systematic approaches, Anshan Iron and Steel Group believes that all costs can be reduced, reinforce the cost reform of timing-responsive procurement, reduces consumption, and improves the technical and economic indicators. To improve business scale and efficiency, Anshan Iron and Steel Group optimizes business processes to release production capacity and improve performance.

Adhering to the concept of “cost first and delicacy management”, Pangang takes into consideration industrial standards and its own reality, lower average fixed costs by increasing output, optimizes technical and economic indicators, and reduces consumption.

Ansteel Mining Group Co., Ltd. takes an unconventional path of increasing production and the intensity of rock stripping to maximize mining space and output at a lower cost.

Budget Control

We have set monthly targets for the debt-to-asset ratio of subsidiaries and evaluate them each quarter. As we mark another milestone in profitability, we continue to reduce the scale of financing. When it comes to perpetual bonds, we have steadily lowered their overall volume, analyzed the structure of such bonds of the whole group worth RMB 28.7 billion, evaluated our solvency, and proposed relevant solutions. We also have strengthened the management of highly indebted subsidiaries, brought second-level subsidiaries under direct control, and set a target of reducing the number of such enterprises by 10% in 2021. Following the requirements by the SASAC of controlling account receivables and stock, we have made it by urging subsidiaries to establish a quota management model.

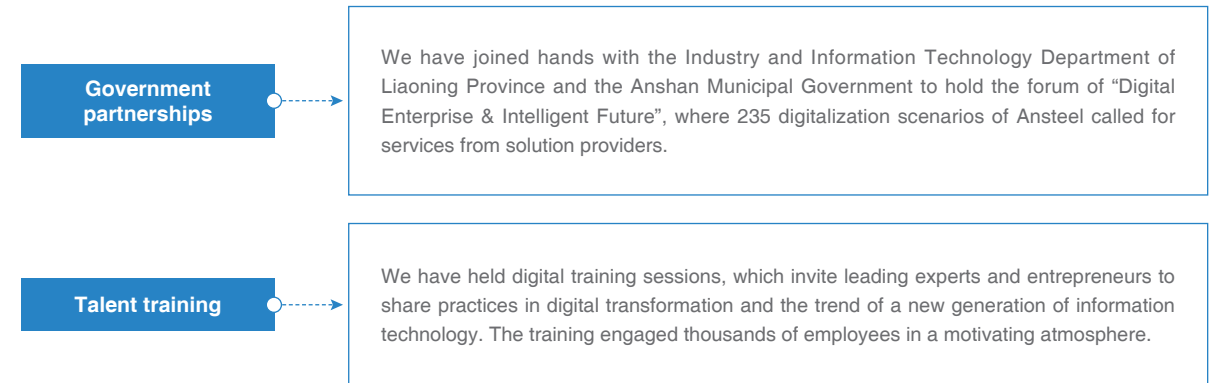


Digitalizing Ansteel

Guided by General Secretary Xi Jinping's important remarks on a country with strong cyber technology, the national big data strategy, and the development of a digital economy, we have fully implemented the decisions of the Party Central Committee and the State Council on accelerating digital development and building a digital China. For this, we have formulated the *Ansteel's IT Development Plan During the 14th Five-Year Plan Period* and *Digital Ansteel Construction Plan* and adopted the principle of "group leadership, subsidiary management, consistent standards, and information sharing" to advance cybersecurity and digitalization of Ansteel.

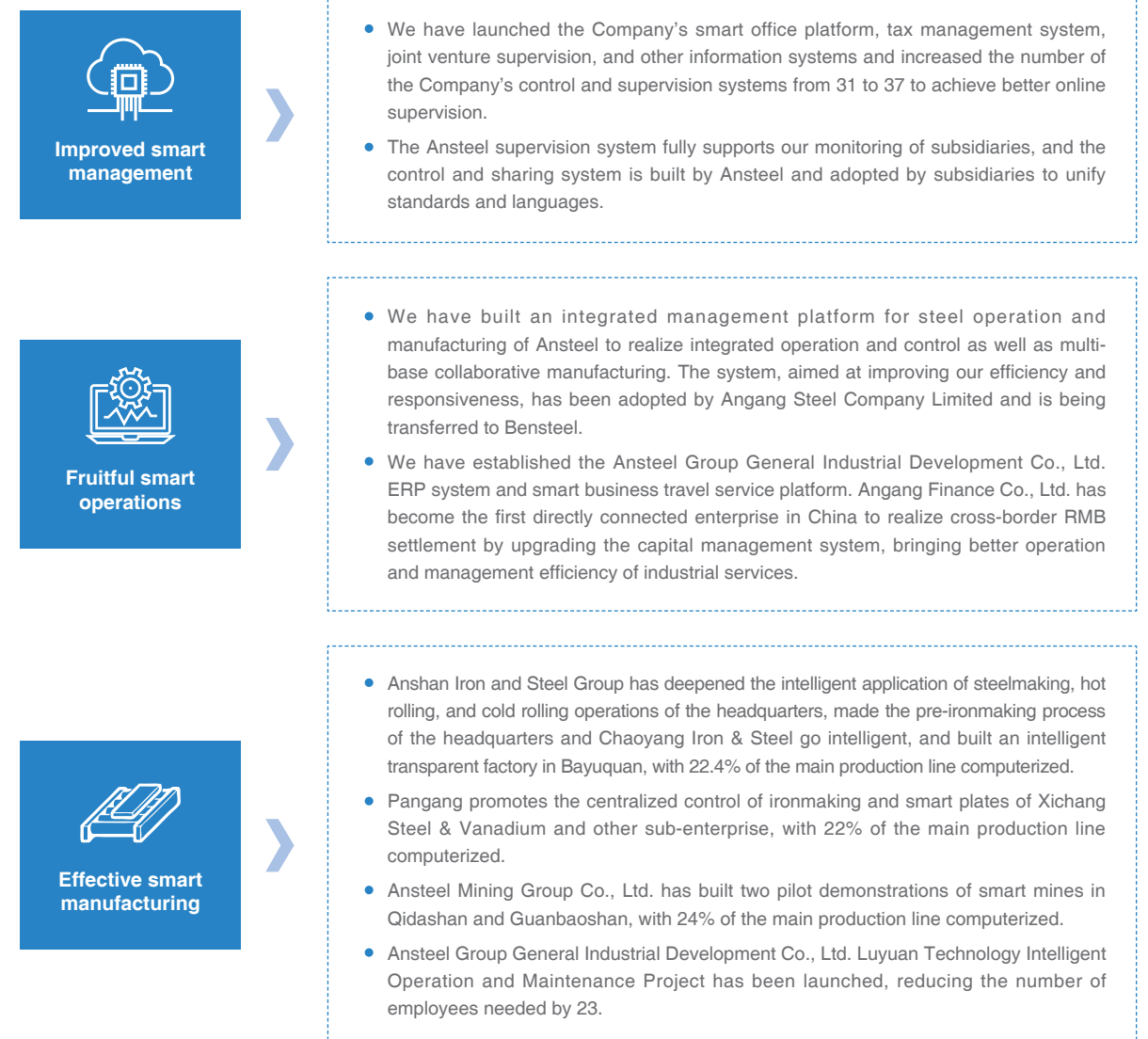
Systematic Approaches to Digitalizing Ansteel

Ansteel has standardized the overall digitalization system with stronger efforts in standard improvement, promotion events, government partnerships, and IT talent training, laying a foundation for a digitalized Ansteel.



Improve the Digitalized Industries

We have advanced digitalization from three aspects of "smart management, operation, and manufacturing", and the achievements of digitalizing Ansteel have been covered multiple times by CCTV News, People's Daily, and other mainstream media. A total of 28 applications such as the steel smart energy control platform, 5G-based machine vision strip steel surface detection, and ET industrial brain have been included in pilot demonstrations by the SASAC, the Ministry of Industry and Information Technology, and the China Iron and Steel Association.



Diverse Digitalization Achievements

Digital companies such as Ansteel Information Industry Co., Ltd. and Smart & Connection have strengthened the research of key technologies and developed safe, independent, and controllable software. In 2021, a total of 24 new patents and 20 software copyrights were granted. We have applied new-generation information technologies such as big data and artificial intelligence to our company scenarios with 64 IT-based, digital, and intelligent solutions that can be sold to customers.

Ansteel Information Industry Co., Ltd. has built the first domestic industrial internet identifier resolution secondary node that is connected to the national identifier resolution system. We have established the "Liaoning Iron and Steel Industry Big Data Center of the National Industrial Internet" with China Academy of Industrial Internet. We have been listed in the first group of digital transformation promotion centers in Liaoning Province. Smart & Connection has obtained the second-level certificate of software service provider delivery ability from the China Software Industry Association.

IT Foundations

We continue to enhance the cybersecurity protection system featuring "management + technology + operation and maintenance" and monitor Internet access by reducing the Internet exit point of five second-level subsidiaries in the Anshan region from five to one. Terminal access is strengthened with assess authorized to 40,000 pieces of terminal equipment, making terminal and network assets more controllable. Cybersecurity is improved, especially on important occasions, and we have registered zero major cybersecurity incidents. We have also upgraded the wide-area network and facilitated the video and data links between Ansteel and Bensteel. Bensteel completed the upgrade of the park network and Ansteel Mining Group Co., Ltd. has become the first mining company in China to realize IPv6 upgrading.

IPR Protection

Given China's intellectual property strategy and our reality, Ansteel has set up an IPR management team, established a patent application and protection system, and instituted a sound patent and IPR protection system. Pangang has established a patent dynamic early warning platform and working mechanism and strengthened the protection of key technologies. Anshan Iron and Steel Group has carried out IPR training for 400 participants.

Sticking to our missions and shouldering our responsibilities

Ansteel's "5G industrial private network + smart steelmaking" launched

In January 2021, the world's first "5G industrial private network + smart steelmaking" independently developed by Ansteel was applied in Angang Steel Company Limited Main Steelmaking Plant Steelmaking Plant. After that, the detection and control of equipment, feeding, and steelmaking terminal were computerized by the cloud brain, which is comparable to skilled workers. "5G industrial private network + smart steelmaking" provides a high-speed, stable, low-cost, and safe cloud computing platform for the construction of smart steelmaking systems and supports the digitalization of Ansteel. On May 17, in the special feature of A New Journey in Today's China on News 30 by CCTV, under the title of 5G Meets "Smart Steelmaking" in This Extraordinary Factory, the news focused on the smart steelmaking of Ansteel and our achievements in digitalization.



5G+ smart steelmaking centralized control hall



Ansteel Chaoyang Iron & Steel Digital Intelligence Center

Improving Management Against World-class Standards

Following the requirements of the SASAC in management improvement against world-class standards, we strengthen framework design from the top and the working mechanism and shore up our weaknesses for concrete results.



New Models for Reform and Innovation

With an emphasis on the three-year action plan for SOE reform, we have established a reform promotion mechanism of “Party committees in charge, task forces, work lists, supervision and evaluation” and implemented the *Ansteel Three-Year Action Plan for Reform*. Reform tasks are delivered to reinvigorate the Company, making us a pioneer of reform.

In 2021

All **49** reform tasks were completed, **83%** of the total tasks set in the three-year action plan for SOE reform, exceeding the **70%** target required by the SASAC.

The reform of Ansteel was highly recognized by officials of the State Council, the SASAC, the Liaoning Provincial Party Committee, and the Provincial Government. We were invited **three** times to share our practices to other central SOEs.

Modernizing Corporate Management

Modern Corporate Governance

Influenced by Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, we have accelerated the building of modern corporate governance with Chinese characteristics, diversified the equity structure of Ansteel and our governance structure, and established three lists of reviews list in advance by the Party committee, decision-making list of the board of directors, and decision-making list of the general manager’s office with clear responsibilities and rules. A total of 103 enterprises have built their boards of directors and ensured that external directors make up the majority, and another 29 enterprises have differentiated the six functions of the board of directors, giving full play to the role of the board of directors in setting strategies, making decisions, and preventing risks.

Market-oriented Operations

A “1+12+2” system is put in place, three reforms are deepened, and a market-oriented operation mechanism is built to improve operational efficiency.



Performance-based appointment

We promote “appointment system, tenure-based appointment and contract-based management”. A total of 314 units have implemented such systems for managers and 75.23% of managers have been appointed through competitive evaluations. Another 10.34% of managers have been removed and transferred from their posts due to their incompetence. Indicator-oriented and contract-based appointments have become the norm in Ansteel.



Efficiency determines employment

Under “double contracts” management, we have improved transparent and competitive recruitments, set up empowerment centers at all levels, and terminated labor contracts due to incompetence. A total of 1,372 people have been removed from their posts, making up 1.2% of market-based exit rate. Labor productivity of all employees has reached RMB 569,000 per person each year, an increase of 44.3% year on year.



Performance decides salary

We strengthen the performance management of all employees and the difference coefficient of floating wages reaches 1.14, a reasonable gap in salaries. We distribute timely incentives and highlight the strong correlation between salaries and performance. More than 83% of employees have seen their income grow by more than 10%. Incentives are diversified, with two listed companies giving employees equities. Eight out of the 11 eligible tech companies offer equities and dividends.



Bensteel deepens three system reform propaganda



Leading examples in reform

In the process of deepening reform, several reform models such as Chaoyang Iron & Steel and Cold Rolling and Color Coating Branch have played a leading role to ensure that corporate reform can go deep.

- With deepened market-oriented reform of “authorization + common interests”, Chaoyang Iron & Steel raked in RMB 1.55 billion in 2021 with a profit margin of 12.59% on sales, 2.5 times higher than the industry average.
- Cold Rolling and Color Coating Branch of Angang Steel Company Limited authorizes independent team-building and bonus distribution by team leaders and implements a proportional cost reduction reward mechanism to unleash the potential of team members. It made a profit of RMB 93 million in 2021, a year-on-year increase of RMB 110 million, reversing the long-time loss since it was put into production in 2003, becoming a model for the reform of the “micro production line”.
- Ansteel Lianzhong (Guangzhou) Stainless Steel Corporation has set the quota for total salaries but delegated the power of wage distribution and recruitment. In 2021, its profits reached RMB 358 million, shaking off its long-time loss.

Deepening Mixed-ownership Reform

Against the *Plan for Deepening Mixed-ownership Reform of SOEs in Northeast China* by the National Development and Reform Commission and the SASAC, Ansteel has formulated the *Plan for Mixed-ownership Reform of Ansteel*, under which a mixed-ownership reform evaluation mechanism is established. We have identified 18 enterprises in the three major fields of materials, mineral resources, and industrial services for mixed-ownership reform. Outstanding private players are welcome to engage in the mixed-ownership reform of BenSteel for a diversified governance system and a flexible market-oriented operation mechanism controlled by state assets. Following “fission + reorganization”, Ansteel Group Engineering Technology Corporation has accelerated the building of a new organization featuring “professionalism supports industries” and established an incentive system that highlights the contribution of profits at the current period and contracts. Its compound growth rates of revenues and profits have reached 32.9% and 31.2% respectively.

Contributions to Regional Development

Ansteel serves the strategy of coordinated regional development, revitalization of Northeast China, and the development of the steel industry, with our business extended to different regions and countries. We pursue high-quality Belt and Road cooperation, upgrade the steel industry with excellent products, and work with partners to build a community with a shared future for mankind toward common prosperity.



Empowering Local Companies

As a champion of the revitalization of Northeast China, Ansteel has brought together the best resources and joined hands with local governments, companies, and financial institutions. In 2021, we signed multiple strategic cooperation framework agreements with the Anshan Municipal Government, Liaoyang Municipal Government, Galanz in Guangdong, SPIC, SINOPEC, CFHI, CITIC Group, Industrial and Commercial Bank of China, and Agricultural Bank of China. We also accelerated the cooperation with local companies and ushered in a new chapter in the revitalization of Northeast China.



Case

Ansteel joins hands with Liaoyang for long-term development

In the context of the revitalization of Northeast China, in November 2021, Ansteel signed a strategic cooperation framework agreement with Liaoyang City for cooperation in more areas. Both sides would tap into our respective advantages for partnerships in resource development, environmental protection, industrial collaboration, product R&D, as well as investment and construction. By doing so, we deepened cooperation with the local government to maintain the integrity and stability of the industrial and supply chains and moved toward intelligent, green, and high-quality development.



Case

Ansteel leads the collaboration between central and local SOEs to revitalize Northeast China

In November 2021, based on the principles of voluntary participation, equality, and mutual benefits, Ansteel contributed to the collaboration between 100 pairs of central and local SOEs, such as Anshan Iron and Steel Group and Anshan Metallurgical Industry Chain Group Co., Ltd., Ansteel Mining Group Co., Ltd. and Liaoning Jigai Construction Engineering Co., Ltd. By giving full play to the strengths of partners, we built a cooperation mechanism in the industrial and supply chains and enabled Ansteel to drive the development of the local economy. Various forms of cooperation with local SOEs were carried out and the industrial and supply chains were facilitated and integrated to improve our complementarity and competitiveness and promote high-quality and coordinated development of Northeast China.



Case

Ansteel joins hands with PipeChina for win-win outcomes

In September 2021, based on the principles of "strategic alliance, complementary advantages, and common development", Ansteel and PipeChina formed a friendly partnership. Both sides, implemented the new development philosophy, served the state and our industries, established a win-win and long-term cooperation mechanism and deepened collaboration in the fields of supply and demand services, cutting-edge technology R&D, and information sharing to ensure national energy security and propel high-quality development in Northeast China.



A meeting between Ansteel and PipeChina

Driving Urban Prosperity

Serving national and urban development, Ansteel has launched the best materials in the industry that break the records of domestic manufacturing and served major construction, energy, and transportation projects to make cities prosperous.



Energy

- Ansteel Iron and Steel Research Institute has developed X70 grade deep-sea high-strain pipeline steel with excellent overall performance, a key material in China's deep-sea oil and gas pipeline construction.
- Pangang has developed advanced shale gas and oil well pipe steel that builds highly strong and resilient oil well casing for shale gas and oilfield exploration and development.
- Angang Steel Company Limited has rolled the world's widest 7Ni steel sheets as thick as 5mm and as wide as 3400mm, marking that the rolling of ultra-thin and ultra-wide steel plates by Ansteel has reached the world's leading level. The material supports the construction of LNG storage tanks and transport ships in China.
- Petrochina Guangdong Petrochemical Company's Integrated Refining Project is the "No. 1 Project" of PetroChina and Guangdong Province. Angang Steel Company Limited has provided 39,700 tons of materials for the project, contributing to the national strategic goal of "carbon peak and carbon neutrality".



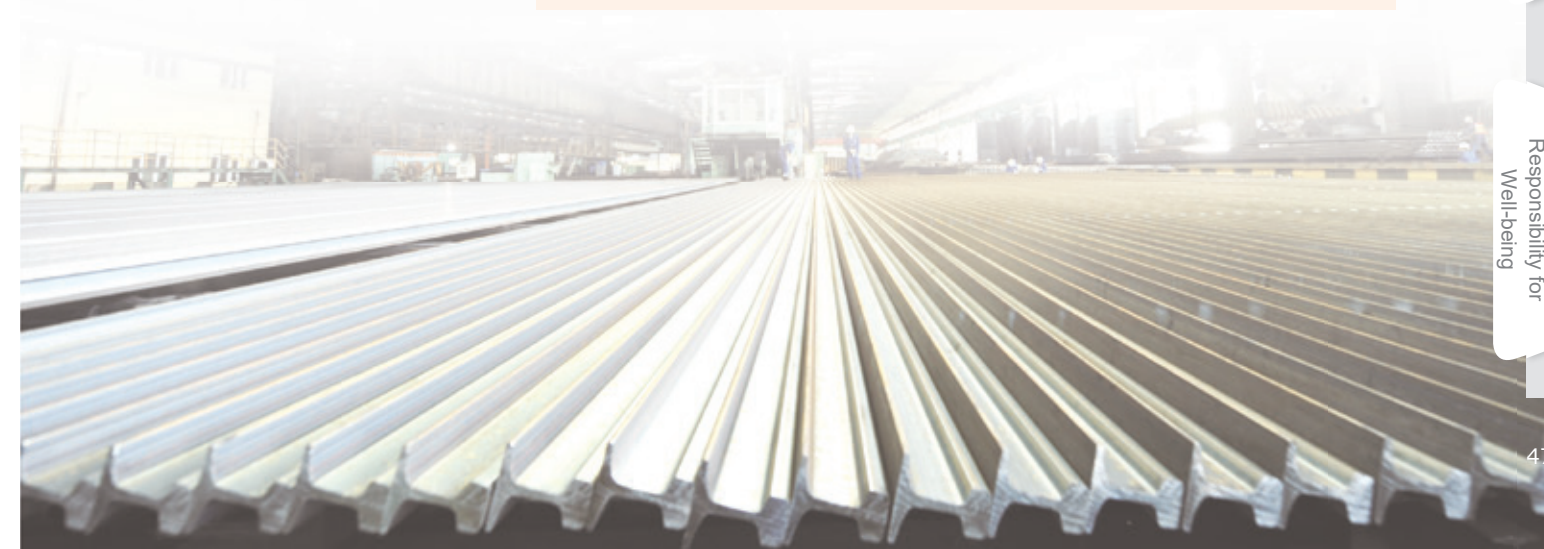
Transportation

- China National Aviation Fuel Group (CNAF) is a large state-owned air transportation supporter and an integrated aviation fuel supplier in China. Ansteel won the bid of CNAF for the first time to provide more than 2,700 tons of medium and thick plates to serve the civil aviation industry.
- Pangang's 2021 certified corrosion-resistant steel S450AW for rail cargo carriers, about 50% better than ordinary steel, has been listed as the preferred steel for upgrading national rail cargo carriers.
- BG650GT, the 3.0 mm × 1800 mm automotive tank steel with a compressive strength of 650Mpa developed by Bensteel, has filled the market gap. It provides customers with lightweight solutions for commercial vehicles, semi-trailers, and other vehicles.



High-end products

- Pangang has manufactured China's first batch of superalloy hot-rolled flat steel that is 10 mm thick and 500 mm wide and will be used in China's aerospace industry.
- We have jointly developed the AG728 steel for high-strength reactor containment with Shanghai Nuclear Engineering Research & Design Institute Co., Ltd., the first such material in the world.





Case

Delin Land Port integrates urban logistics networks

As the largest steel e-commerce and smart supply chain service platform in Northeast China, Delin Land Port reconstructs its platform, brings together finance, warehousing, transportation, settlement, and other business, and improves the accuracy and transparency of cargo management and the sharing of supply chain information, providing accurate service faster for cargo owners and drivers. At the same time, Delin Land Port develops its warehousing and gives full play to its ports and warehouses. Its business has covered 17 provinces and four municipalities directly under the Central Government in northeast, north, east, and south China, effectively expanding its online marketing network and creating an interconnected logistics network. In 2021, the total market logistics volume of railway transportation, shipping, and automobile transportation of Delin Land Port reached 2.849 million tons, a year-on-year increase of 882.41%, and its storage was 6.1371 million tons, an increase of 236.07% year on year, making the Port a hub of supply chains and business.



Case

Steel supports a strong country

To serve national strategies and major projects, Ansteel has developed high-tech materials that are eco-friendlier and smarter and played the leading role of an SOE for major national projects.

- The Han-to-Wei Project is a key project of the South-to-North Water Diversion Project, for which Pangang provides hot-rolled steel pipelines whose diameter is 3448mm and width is 24 mm, with excellent quality and services for the Water Diversion Project.
- The first offshore oilfield shore power demonstration project in China, the Bohai Oilfield Shore Power Project, is critical to helping China fight air pollution and achieve comprehensive environmental governance of Bohai Bay. Ansteel has been allowed to provide 12,755 tons of marine engineering steel for environmental protection.
- The China International Silk Road Center Building Project, a key project of the Xi'an Municipal Government in response to the Belt and Road Initiative at the starting point of the Silk Road, is undertaken by Ansteel, which has adopted high-grade construction steel to build the tallest buildings in Northwest China.
- Ansteel is the exclusive provider of more than 12,800 tons of medium and thick steel plates to support the construction of Dalian Barracuda Bay Stadium in the AFC Asian Cup China 2023. Ansteel's high-grade construction steel has once again supported a key engineering project.



Sticking to our missions and shouldering our responsibilities

Ansteel's steel contributes to the Beijing 2022 Winter Olympic Games



After the Beijing 2008 Summer Olympics, Ansteel once again contributed to the Olympic event in Beijing. Ansteel provided more than 1,000 tons of high-grade construction steel to build the "Flying Snow Dragon" track of the National Sliding Center and unprecedentedly supplied over 6,000 tons of weather-resistant steel to build the competition venues of the National Alpine Skiing Center. Nearly 60,000 tons of Ansteel bridge steel have connected Beijing's urban area and the Winter Olympic Village and made the landmark "five-ring bridge" possible. All these efforts have shown Ansteel's contributions to the fanfare of Beijing 2022.



"Ansteel Intelligent Manufacturing" is showcased in the high-end equipment manufacturing and innovation achievement exhibition of central SOEs

Expanding Global Business

To optimize our global business, we prioritize services for the Belt and Road countries and go out to reach global customers. We also strengthen global infrastructure connectivity and work with international partners for a world of common development. In 2021, Ansteel imported 30.9617 million tons of iron ore and 5.4166 million tons of coal and exported 3.2782 million tons of steel. Ansteel products have been used in more than 30 countries and regions along the Belt and Road.

- We grow the global market share of key products such as heavy rail and vanadium and maintain our position as the largest heavy rail exporter in China, with an annual export of 137,300 tons, or 70% of total exports, a record unmatched by our domestic counterparts. Our exported heavy rail effectively serves several key the Belt and Road projects such as the China-Laos Railway and Tren Maya Railway Project.
- Our market share of vanadium products abroad is about 12.4%, mainly sold in the markets along the Belt and Road, India, the United Arab Emirates, Turkey, Indonesia, and Malaysia.
- We have analyzed the business environment of countries along the Belt and Road and explored ways of sending our production capacity and technology to the world. In 2021, we discussed several the Belt and Road cooperation projects for steel production capacity, laying the foundation for project implementation.



Case

Ansteel supplies construction materials for the whole the China-Russia east-route natural gas pipeline

The China-Russia east-route natural gas pipeline is a landmark project of Sino-Russian energy cooperation. Bearing in mind General Secretary Xi Jinping's instructions to make the pipeline a safe and green pipeline of development and friendship, Ansteel fully supports its construction. In January 2021, Ansteel provided 600,000 tons of X80M pipeline steel for the pipeline. So far, Ansteel, as the main supplier, has offered steel for the whole pipeline, with a total volume of more than 900,000 tons. This is the second time that Ansteel's pipeline steel has been adopted for a national pipeline project, and it is also the largest steel business of a single project undertaken by Ansteel.



Case

Serving international partners in infrastructure construction

The Jakarta-Bandung High-Speed Railway is the first such railway that fully adopts China's systems, elements, and production methods. Based on careful planning, in April 2021, Pangang exported the first batch of steel rails to the track laying base to support its early completion.

Meeting the rigorous requirements on bogie steel and rolling technology for Bahia SkyRail in Brazil, the world's first SkyRail line, Ansteel has become the exclusive supplier that sends Ansteel's bogie steel abroad and helps China's new infrastructure construction go global.

Ansteel's high-quality rail steel has enabled more foreign passengers to feel the comfort and stability brought by Ansteel standards in China, supporting the dream of green transportation in countries along the Belt and Road.

Strengthening International Exchanges and Cooperation

With an open mind, Ansteel continues to carry out international exchanges and deepens cooperation and friendship to share with partners our achievements in building a world-class enterprise. By showing a good image to the world, we make China's steel industry more influential in the global market toward a better future of sustainable development.

In 2021, at the 4th China International Import Expo (CIIE), Anshan Iron and Steel Group, Pangang, and BenSteel signed contracts with eight world-renowned enterprises such as Vale, SMS Holding, Primetals Technology, and Siemens for the first time, showing a new brand image of Ansteel. Around 100 employees participated in the international seminar on the processing of new-generation materials held by the Chinese Society for Metal, the China-Korea Joint Symposium on Advanced Steel Technology, and the China Symposium on Sustainable Steelmaking Technology either online or in-person. In total, we have submitted more than 20 papers and sent five presenters for exchanges to learn and share the world's best practices, concepts, and technologies for win-win development.



Exhibits at CIIE

Visions for a Better Ecology and Environment

Seeing carbon peak and carbon neutrality as an important part of serving the new development philosophy and the new development paradigm, we shoulder the responsibility of a central SOE in peaking carbon emissions first through our wisdom and actions in environmental protection management, clean manufacturing, and green operation for a better and greener planet. We are committed to becoming a "green steel pioneer, a low-carbon technology leader, and a guardian of a better home".



Green Management

Ansteel has improved the environmental protection mechanism and awareness and carried out relevant training to see that green management contributes to sustainable development.

CSR Honors



- The Ministry of Industry and Information Technology awarded Ansteel Group General Industrial Development Co., Ltd. Aluminum Powder Company the title of **"Green Factory" in 2021**.
- Sichuan Province awarded Pangang the title of **Advanced Collective in Energy Conservation During the 13th Five-Year Plan Period**.

Environmental Protection System

Ansteel strengthens the environmental protection mechanism, set up environmental goals and evaluations, controls environmental risks, and implements responsibilities.

Greater investments in environmental protection

In 2021, Anshan Iron and Steel Group invested a total of RMB 2.236 billion in environmental protection. Bensteel used RMB 2.43 billion in the construction and operation of environmental projects. Ansteel Mining Group Co., Ltd.'s environmental protection input reached RMB 208.6 million.

Environmental protection early warning and emergency response mechanism

Anshan Iron and Steel Group has revised the *Radiation Emergency Plan* to standardize the process, measures, and emergency support during radiation accidents. *The Plan for Environmental Emergencies* has been improved and potential accidents or emergencies are identified and monitored with special inspections on the implementation of the emergency plan of each unit. Anshan Iron and Steel Group has conducted comprehensive drills for the emergency scenario of leakage in the sintered desulfurization and denitration sulfuric acid storage tank in the western area of the main iron-making plant to improve the response process and ability.

Environmental compliance control and certification

Bensteel complies with environmental regulations for clean production, controls pollution, develops a circular economy, and improves the environment for a green Bensteel. Bensteel has been certified by the Beijing Grand Honor Certification Co., Ltd. and granted the environmental management system certification. Anshan Iron and Steel Group has established and run the ISO14001 environmental management system, formulated the QEO management manual and environmental management documents, and carried out compliance assessments.

Environmental protection assessments

Ansteel Mining Group Co., Ltd. strengthens environmental assessments, formulates the *Environmental Protection Assessment and Management Measures ([2021] No. 132)*, and implements environmental protection responsibilities by specifying targets and assessment methods.

Environmental Protection Awareness

Ansteel actively carried out environmental protection training to strengthen environmental awareness and improve the ability of environmental responsibility.

- In 2021, Bensteel conducted training in solid waste law and management, the operation of the continuous monitoring system of pollution sources, and environmental protection qualification reviews, which attracted 302 participants. To enhance the environmental awareness of employees, our subsidiaries carried out various training at plants and mines that covered 56,000 employees.
- Anshan Iron and Steel Group invested RMB 600,000 in environmental protection training that benefited 50,000 participants.



Anshan Iron and Steel Group organizes "Green Action" on the World Environment Day 5 June

On the eve of World Environment Day on June 5, 2021, Anshan Iron and Steel Group launched "Green Action", which involved all employees and boosted their awareness and ability of environmental protection. On the China Development. Com and Anshan WeChat account, seven articles showing Anshan Iron and Steel Group is committed to creating beautiful and eco-friendly factories were released. The Department of Safety and Environmental Protection organized the training of all employees, solicited environmental protection cases and suggestions, and classified reasonable suggestions into checklists with rectification measures, the person in charge, and the deadline. All these efforts further improved the environmental awareness and performance of employees.



Bensteel conducts training in solid waste law and management and the operation of the continuous monitoring system of pollution sources

Green Operations

Practicing the concept of “lucid waters and lush mountains are invaluable assets”, Ansteel reduces pollution and energy consumption while improving resource efficiency in the whole process of steel production and corporate operation to see that we are at one with nature in pursuit of green value chains.

Exhaust Emissions Management

Intending to realize ultra-low emissions, Ansteel has tackled exhaust emissions. We have completed more than 30 pollution prevention and control projects such as the Bayuquan coking VOCs treatment and coking and coal blending system unorganized dust control and approved more than another 100 projects worth over RMB 3 billion. We have also upgraded the No. 1 sintering machine and the added gas desulfurization facilities of the Anshan Iron and Steel Group Main Ironmaking Plant. We have achieved the gas desulfurization and denitration of the Bayuquan ironmaking department II series sintering machine and treated VOCs in the coking production of Pangang Group Xichang Steel & Vanadium. Vigorous efforts are paid to advance pollution prevention and control projects and reduce pollutants.

In 2021, Ansteel set clearly the annual ultra-low emission upgrading plan, the deadline, and the investments needed and made the upgrading a key task of departments and part of the evaluation of subsidiaries' efforts to improve quality and efficiency. By the end of 2021, Ansteel had completed more than 200 ultra-low emission upgrading projects, and currently is working on more than 130 such projects. We promoted the Bayuquan Steel Subsidiary of Anshan Iron and Steel Group and Pangang Group Xichang Steel & Vanadium as ultra-low emission upgrading demonstration base and carried out pre-assessment in advance to ensure delivery ahead of the deadline.



Beiyang coking phenol and cyanide containing wastewater odor treatment facilities

In 2021

- Ansteel's sulfur dioxide emissions and chemical oxygen demand emissions decreased by **9.29%** and **7.53%** year on year.

Sticking to our missions and shouldering our responsibilities

Creating an ultra-low emission upgrading demonstration base



In pursuit of clean manufacturing, Pangang has urged Pangang Group Xichang Steel & Vanadium to ensure ultra-low emissions. Setting the deadline in 2022, Pangang Group Xichang Steel & Vanadium has invested RMB 1.7 billion and focused on the ultra-low emission of No. 2 360m² sintered flue gas and new coking gas desulfurization and denitrification devices. Assessments and plans have been made in advance and the whole process including transportation and monitoring has been improved.

Through ultra-low emission upgrading projects, key pollutants have been slashed. For example, particulate matter, sulfur dioxide, and nitrogen oxides have decreased by 13%, 56%, and 43% respectively, a remarkable achievement that makes Pangang Group Xichang Steel & Vanadium an example of low-emission transformation.



Pangang Group Xichang Steel & Vanadium power generation denitration system

Water Resources

In our ongoing sewage treatment projects, we apply new processes and equipment to improve the utilization of reclaimed water and make reasonable and better use of water resources. In 2021, new water consumption per ton of steel fell by 2.73% from last year.



Bensteel steps up sewage treatment

Focusing on pollution reduction from the source, recycling, and systematic management, we build an in-depth desalination and biochemistry system for reclaimed water at the plate sewage treatment plant, Beiying sewage treatment plant, and the Beiying phenol and cyanide containing wastewater station, add the biological fluidized bed treatment device, ozone oxidation in-depth treatment system, reclaimed water system, and improves the standards of coking wastewater. Demineralized water is reused and brine is sent to flush the blast furnace slag to improve the efficiency of water resources. In 2021, the water recycling rate exceeded 98.5%, the water intake per ton of steel was 3.35 cubic meters, and COD emissions stood at 228.11 tons, a decrease of 5%.



Anshan Iron and Steel Group recycles wastewater

Anshan Iron and Steel Group implements five sewage reduction projects, such as the slag water recycling project of the ironmaking general plant and blast furnace gas water seal water collection of the energy control center, and adopts ultrafiltration and reverse osmosis for an in-depth treatment of wastewater first handled by the Beidagou sewage treatment plant and the Xidagou sewage treatment plant for industrial purposes. We increase wastewater recycling while reducing wastewater discharge. In 2021, COD emissions fell by 2.8% year on year.

Water intake per ton of steel produced (2019-2021)

Companies	Unit	2019	2020	2021
Anshan Iron and Steel Group	t / t	3.55	3.54	3.45
Pangang	t / t	3.29	3.31	3.22

Water recycling rate (2019-2022)

Companies	2019	2020	2021
Anshan Iron and Steel Group	98.35%	98.4%	98.43%
Pangang	95%	95.22%	95.25%

Solid Waste

Intending to generate less solid waste or recycle it at the very beginning, we pursue new techniques, systems, and better management to reduce solid waste discharge and environmental risks while improving resource utilization.

We strictly prevent pollution caused by hazardous waste and its radiation in all aspects. First, qualified partners are entrusted to get rid of hazardous waste in compliance with regulations. Second, the temporary storage of hazardous waste in all units is strengthened and standardized. Third, daily inspection of radioactive sources and devices is enhanced and new or decommissioned radioactive sources are dealt with in accordance with national regulations to avoid radiation risks. Fourth, we carry out radiation emergency drills to improve our response and ensure that the disposal of hazardous waste meets requirements to minimize or eliminate subsequent environmental risks.

In 2021

- Anshan Iron and Steel Group used **4.6317** million tons of steel scrap and **100%** of steel scrap was recycled. Its disposal of hazardous waste and use of radioactive sources was **100%** safe.
- Pangang generated **12.45** million tons of industrial solid waste, **95%** of which was recycled. The recycling rate of blast furnace slag, steel slag, and iron-containing sludge was **100%**.
- Bensteel produced **25.3047** million tons of general industrial solid waste, **42.34%** of which was recycled, and **332,500** tons of hazardous waste, **98.16%** of which was handled or reused.



Recycling solid waste

Based on the principle of "reduction, reuse and resource utilization", Ansteel has established a comprehensive system of recycling solid waste such as steel slag and blast furnace slag from production, among factories, and across the whole society to improve resource utilization. In 2021, all blast furnace slag, steel slag, and iron-containing sludge were reused.



Pangang Chongqing Titanium Industry Co. Ltd. titanium gypsum drying line completed and put into operation

In 2021, the Pangang Chongqing Titanium Industry Co. Ltd. titanium gypsum drying line was completed and put into operation, producing 340,000 tons of dried titanium gypsum, which can be used as cement retarding agents, building materials, soil conditioners, highway construction materials, underground filling materials to reduce the amount of waste.

Green Mines and Factories

Ansteel speeds up the implementation of its three-year plan for ecological restoration of mines. By carrying out greening and reclamation and constructing ecological mines and factory areas, natural ecosystems are fully protected. In 2021, Ansteel greened and reclaimed more than 300 hectares of land and its mine greening and reclamation work maintained the leading level in the same industry in China.

Ecological Mines

With a thorough application of Xi Jinping's thoughts on ecological civilization, Ansteel adheres to green development and continuously strengthens the environmental governance in mining sites to construct ecological mines.

- Improving the top-level design of ecological restoration.** Ansteel formulates and implements the *Overall Planning of Eco-friendly Mine Construction of Ansteel* and the *Ecological Restoration and Governance Planning of Mines of Ansteel*. Ansteel specifies overall goals in six aspects, draws up an ecological restoration plan for two shelterbelts and six eco-zones, and has a good top-level design to highly cooperate mine development with surroundings.
- Creating green ecological security barriers.** Ansteel annually invests at least RMB 10 million as greening and reclamation funds, greens main roads and key areas in mining sites, and carries out afforestation activities around factories. An ecological restoration research center is built which has developed greening and reclamation methods such as dust covering agent and wicker baskets solid pit planting method, as well as the plant collaborative ecological restoration technology to create security barriers for ecological restoration.
- Creating a model of green mines.** Ansteel has completed over 3,500 hectares of green and reclaimed land, with the rate of reclamation reaching 86.38% and 16 mines having been awarded the title of National Green Mine. With its overall greening having entered national advanced ranks, Ansteel Mining Group Co., Ltd. has been rated as the National Excellent Enterprise for Ecological Conservation. Dagushan Leisure and Tourism Park, Yanqianshan Green Picking Garden, Qianyu Tailings Ponds Seedlings Nursery and other three ecological parks are awarded the National Demonstration Base to Turn Mines Green. Also, the ecological restoration pilot zone in the Qianyu Tailings pond of Eastern Anshan Sintering Plant is known as an ecological restoration project for mines with the largest ecological restoration area, the most successful method, the most reasonable economy and the most significant effect in China.



The reclamation and greening base of the tailings pond of the Eastern Anshan Sintering Plant of Ansteel Mining Group Co., Ltd.

Green Office

Ansteel practices green office and low-carbon travel. Through symposiums, pre-shift meetings, internal publications, blackboard newspapers, networks and other forms, Ansteel strengthens publicity and education on green office, advocates saving water, electricity and oil, enhances employees' awareness of green office, and encourages employees to strive for green living and development from the details of production and life.

Saving electricity	Saving water	Reducing oil consumption
<p>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.</p>	<p>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.</p>	<p>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.</p>

Ecological Factory Areas

Ansteel bears in mind and integrates living with the concept of ecological and environmental protection and biodiversity protection, beautifies and greens the working environment, and sets up ecological factory areas to strive for a guardian of natural ecology.

Case

Anshan Iron and Steel Group continues to build ecological factory areas

Anshan Iron and Steel Group keeps building ecological factories with a focus on promoting the greening of Central Avenue, Linai Avenue and other scenic spots. The company also improves the greening of the main entrance area and scenic areas such as the main coking plant and the main steelmaking plant and carries out greening and planting of protection forests of the Lingshan stockyard and the Energy Management and Control Center. An ecosystem in factory areas is built to provide a harmonious living environment for species such as goose and sika deer. In 2021, the company planted 16,874 trees, 1,027,664 shrubs, 186,050 vines, 219,930 flowers, 8,000 square meters of lawn and 387,000 square meters of grass seeds. The main factory area of Anshan Iron and Steel Group has a green coverage rate of 40.5% and a green area of 6.8 million square meters.

Commitments in CSR Ecology

Putting life and work safety first, Ansteel is guided by customer demand in the quest of high-quality development. Sticking to integrity and compliance, we work for responsible supply chains and welcome in-depth cooperation with partners in the industry and across the world to build an industrial ecology.



Life and Safety First

Ansteel uphold the people-oriented and life first philosophy, maintain that development should not be achieved at the expense of life and avoid major accidents. We improve the work safety system and the implementation of responsibilities, monitor work safety targets, record safety performance in digital logs, and launch targeted actions to improve work safety in general.

In 2021

- Ansteel's had **0** major work safety accidents and general accidents reduced by **42%** from last year (excluding Bensteel)
- Bensteel had **0** major work safety accidents and accidents dropped by **36.6%** year on year.

Improving Work Safety System

Dedicated to work safety, Ansteel has optimized the work safety management system and put in place the *Headquarters Management Measures for Work Safety Responsibilities* and electronic performance logs. An electronic work safety management system covers the list of work safety responsibilities, the performance list, and records to ensure that work safety is delivered. Special inspections of hazardous chemicals and explosive equipment are carried out with three major sources of danger removed to avoid safety hazards. We have established an accurate incentive mechanism of annual commitments, quarterly assessments, progressive rewards, and timely bonuses to motivate subsidiaries to pursue work safety and improve our efficiency in safety management. In 2021, all major hazards of Ansteel were eliminated.



Case

Anshan Iron and Steel Group builds a smart safety management platform to make safety management better and more efficient

In combination with the development of the industrial Internet, Anshan Iron and Steel Group has built a "smart safety" management architecture and the Anshan Iron and Steel "0123" smart safety management platform. A mobile APP is developed, which tracks the whole process of identifying and removing hazards, supports work safety performance, enables online query of special work certificates and management of safety education and training, monitors construction and maintenance sites remotely, and allows online management to improve work efficiency.



Case

Bensteel improves the safety management system and work safety

Following the requirements of "Five Musts and Five Nos", "Four No-relaxations", and electronic safety performance logs, Bensteel improves various safety and control measures in combination with reality. In 2021, it took in 14 work safety management rules and regulations from Ansteel, established, revised, or abolished 15 management policies, and solved 61 key and difficult problems for better safety management. Pangang has improved the *Work Safety and Fire Accident Management Measures*, *Safety Management Measures*, and *Management Measures for Work Safety Responsibilities* to standardize work safety. A total of 49 production units have met work safety standards and leveled up overall safety.

Raising Safety Awareness

Ansteel strengthens safety performance, promotes safety knowledge, and organizes safety training and special activities for employees to improve their attitudes, knowledge, skills, and behavior and build a safety culture.



Safety knowledge

- Anshan Iron and Steel Group fully adopts multiple forms such as "safety lectures by officials" and "monthly safety lectures" to educate all employees.
- In newspapers and magazines, large screens, and columns, Bensteel holds online and in-person training with team safety activities to teach employees the new *Work Safety Law*, *Criminal Law Amendment*, and other laws and regulations, and organizes officials to watch the video *Life is Above All - General Secretary Xi Jinping's Important Remarks on Work Safety* to urge all employees stick to the bottom line.



Skill training

- Ansteel helps front-line workers by offering training for registered safety engineer exams in Anshan and encourages subsidiary safety managers to attend the registered safety engineer exam.
- Ansteel holds company-wide special training on fire operations, covering more than 400 personnel and improving fire management.



Special activities

- In the "Work Safety Month" activity, Bensteel holds a safety skill competition involving theories and hands-on practice and covering 330 outstanding team leaders with special training, themed activities, safety interviews, safety consultation days, "Qing'an Cup" competitions to raise the safety awareness of employees.



Anshan Iron and Steel Group holds a comprehensive emergency drill for work safety accidents



Ansteel holds the highest-level and largest special training for work safety

In October 2021, during the first training course on improving the ability of work safety management personnel and the publicity of the *Work Safety Law*, Ansteel invited four experts to give lectures on General Secretary Xi Jinping's important remarks on work safety and the revision and interpretation of the *Work Safety Law*. About 800 people including leaders at all levels and safety managers participated in the training, cementing the concept of "life first, safety first".



Bensteel creates new forms of safety education and training

Bensteel carries out immersive training on hidden danger investigation, emergency practice, and case studies at safety training bases to strengthen interactions and make participants fully engaged in classrooms. Each training item is evaluated and 30% of the trainees are sampled to see the effect of training. When it comes to typical cases, discussions centering on "what responsibility should I shoulder in accident prevention" are conducted and the results are checked to enhance the awareness of safety responsibilities of employees at all levels.

Safeguarding Occupational Health

Ansteel strengthens the occupational disease protection system and work-related injury prevention system by implementing the *Occupational Health Management Measures* and *Occupational Health Checkup and Testing Plan*. With better management systems in place, we set up occupational health boards and organize physical examinations while detecting relevant hazards. Overall occupational health is evaluated and occupational hazard prevention facilities are improved. Additionally, we carry out publicity events and training, set up emergency plans, and hold regular drills to improve employees' skills in handling work-related injuries. Psychological counseling is offered to help employees relieve their pressure and maintain mental health, thus creating a safe and healthy working environment for employees.

In 2021

- Ansteel occupational health examination and occupational hazard detection both achieved **100%** coverage.
- Bensteel organized **27,000** front-line workers for occupational health examinations, set up **10,049** points of occupational disease on-site testing, evaluated the occupational disease situation of **46** units, and achieved **100%** annual physical examinations, testing, and evaluations.
- Pangang organized **19,705** employees, or **100%** of employees, for occupational health examinations, set up **19,015** points of on-site occupational disease testing, achieved a **100%** detection rate, and evaluated occupational disease hazards of **26** units as scheduled.

Best Quality and Services

Adhering to the mission of "producing better material and creating more wonderful life", Ansteel maintains fair trade while improving product quality management. Better communication with customers helps us understand their needs so that we can provide them with customized solutions. High-quality products and services cement the foundation of Ansteel to make ourselves competitive in the market.

Improving Product Quality

Ansteel continues to build a quality management system with improved systems, supervision, processes, standards, and delicacy management to make better products and help Ansteel improve efficiency. Pangang Group Vanadium and Titanium Resources Co., Ltd. has been granted two awards: "China Vanadium Ferroalloy Quality Supplier" and "China Vanadium Nitrogen Alloy Quality Supplier" for four years in a row.

In 2021

- Pangang's quality management system covered **850** participants, or **100%** of all employees.
- Bensteel carried out **12** quality management training sessions lasting **48** hours for **279** people, **12** Six Sigma projects, and **three** IATF16949 quality system improvement training, thus receiving the title of **Excellent Enterprise in Quality Management Group Activities of Liaoning Province**.

Quality management system

We formulate and revise the quality management system to meet the needs of corporate production and operation and quality management. Anshan Iron & Steel Group has revised more than 20 quality procedure documents and management measures.

Quality supervision

We regularly carry out quality supervision, identify and address quality problems and risks, and improve product quality. Anshan Iron and Steel Group implements manufacturing discipline, prevents quality accidents and seasonal quality risks, and carries out monthly quality supervision.

Quality process improvement

We introduce advanced management tools and improve production line processes, which lays the foundation of quality management. Pangang also applies advanced management tools of the IATF16949 system.

Standardized quality management

We establish technical standards system and core indexes system and standardize the production process and product quality assessments. Pangang's quality management serves corporate production and operation and sustainable development, improves technical standards, and optimizes on-site management. Bensteel evaluates core quality indicators of each production line every month to improve product quality, and the overall pass rate of steel products has increased by 0.03 percentage points over the last year.

Delicacy management of quality

Delicacy management is delivered to enhance on-site operations. Pangang builds three management platforms of "five integrated systems, six sigma, and optimal factory (production line)" while focusing on 5S, SOP, TPM, and six sigma management to build lean teams, A-class demonstration operation areas, and best factories (production lines). We work for "three examples" of Ansteel to improve management.



Bensteel's steel cords wins the "Class A Excellent Supplier" by Bekaert

Bensteel's hot rolled steel cord rod, a high-value-added product, is mainly supplied to Bekaert and Bridgestone. To improve product quality, relevant departments of Bensteel have joined efforts to break technical bottlenecks, organized effective production processes, quantified process control, and conducted comparison and analysis. Quality control of steel cords in the third quarter of 2021 made unprecedented progress and the product made Bensteel the "A-class Excellent Supplier" of Bekaert (Shenyang).

Enhancing Customer Services

Dedicated to “always going beyond customers’ expectations”, we put customers first by getting to know their needs and feedback on products and services in a timely manner through regular communication and visits and offering considerate services to improve customer satisfaction.

Better Services

We reach customers through visits, telephones, WeChat, mailboxes, fax, and other means of communication to meet their different needs. A three-in-one service system that integrates management, execution, and support is built to allocate service resources reasonably and improve service efficiency. According to customer value contributions, we classify customers into different categories with customized services that are offered by a team in technical services, price policies, demand identification, business tracking, etc. Given the after-sales quality of products, we improve the recall and compensation mechanisms to protect the rights and interests of customers.

Responsible Marketing

In strict accordance with the *Law on the Protection of Consumer Rights and Interests* and the *Advertising Law*, we educate employees about responsibilities, improve their awareness of the brand, and provide customers with complete and accurate information on products, technologies, and quality to meet their needs.

Customer Privacy Protection

According to the principle of “those in charge should keep confidentiality”, Anshan Iron and Steel Group ensures that customer information is in the safe hands of professional managers and customer information is classified as trade secrets with restricted access.

Customer Satisfaction

Under the *Customer Satisfaction Measurement Program*, we carry out customer satisfaction surveys on product quality, price policies, and customer services and make targeted improvements. We quickly respond to customer needs and provide customers with the best solutions. In 2021, Anshan Iron and Steel Group’s customer complaints decreased by 29% from last year and all complaints were resolved.



Case

Quick response to customer needs

In July 2021, Pangang Group International Trade Co., Ltd. integrated the customer service teams of Pangang Vanadium, Pangang Group Xichang Steel & Vanadium, Pangang Group Sichuan Changcheng Special Steel Co., Ltd., and other bases for a new customer service center. The center is fully responsible for the daily management of Pangang customer services and adopts the assignment to other places or overseas monitoring model throughout the sales process so that customers’ needs can be swiftly responded.



Reputation Always Comes First for an Honest Supplier

Reputation is the foundation for building an ever-lasting brand. Upholding honesty, integrity and fair competition and cooperation, Ansteel regards doing business in good faith as the foundation of our operations. We strive to foster a healthy business atmosphere of integrity, and endeavor to build a responsible brand. Ansteel cooperates with all parties to build a global iron and steel industry ecosystem where value is created and benefits are shared by all stakeholders.

Operating in Accordance with Law and in Good Faith

Strictly abiding by relevant laws and regulations, Ansteel implements the policy of “Six Focuses and Six Improvements”, and takes great efforts to promote the building of 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). The practice aims to strengthen the Company’s awareness of honesty, integrity and compliance operation, therefore providing strong legal safeguard for its compliance operation and high-quality development.



Improving the rule of law system building

- 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.” It is able to sustain and ensure the high-quality development of the new Ansteel construction.
- Having formulated the Eighth Five-Year Plan for the publicity of and education in laws in Ansteel, we have established a relevant work system featuring sophisticated rules, accurate targeted groups, objective evaluation criteria, and clear responsibility divisions. We have actively implemented the system to strengthen the employees’ rule of law awareness.



Improving compliance system building

- We have acted upon the requirements for compliance management made by the SASAC, to continuously advance the compliance management system building in Ansteel.
- We have thoroughly carried out a special campaign to regulate the trade name and business name of enterprises. In doing so, we can systematically identify compliance risks and crack down on activities infringing the trade and business name of Ansteel.
- Focusing on the cultivation of compliance culture, we have printed and distributed *Ansteel Compliance Handbook* and *Work Plan for the Special Campaign of Developing Compliance Culture in Ansteel*. Being involved in this campaign, the employees are able to improve their compliance awareness and boost their compliance abilities.

Stimulating the Supply Chain Development

Being committed to strengthening the building of a responsible supply chain, Ansteel selects suppliers on the basis of factors including supplier qualification, evaluation and assessment, and withdrawal. The Company upholds transparent and green procurement to build a high-quality, high-efficiency, and high-value responsible supply chain, eventually boosting the sustainable development of the industrial chain.

In 2021

- Bensteel had **3,614** suppliers, including **422** new ones; **527** suppliers were removed from the list and **9** were blacklisted.

Reinforcing supplier management

We have established strict mechanism for supplier qualification, evaluation and assessment, and withdrawal, and amended and improved the added items of qualified suppliers and the annual review criteria. We have intensified the dynamic management of suppliers, ensuring that the overall capability of the upstream supply chain is improved through market competition. We require the suppliers to provide certificates of special trade license in aspects such as quality, environmental protection and safety based on material specificity, and organize on a regular basis the suppliers to learn about the initiatives and policies on social responsibility to improve the suppliers’ awareness and ability of shouldering social responsibilities.

Creating a transparent procurement environment

We have set procurement principles highlighting regulatory compliance and transparent procurement covering the Company, subsidiaries and unit enterprises; we have released announcements of invitations to tender to ensure the transparency of bidding and procurement information; we have realized the informatization of procurement processes by incorporating all data generated from procurement and public bidding into the discipline supervision system and the audit system. With the help of this informatization technology, we can achieve real-time control of the procurement processes and results and enhance the coordination and transparency of procurement processes.

Building a green and responsible supply chain

Actively responding to China's '30•60' Decarbonization Goal, we adhere to the principle of local purchasing and purchase low-sulphur and green materials that meet the standard. In doing so, we can realize resource optimization and reduce pollutant emission in transportation. Meanwhile, we actively engage in technical transformation to enhance supply quality, and besides, we publicize the philosophy to the upstream and downstream enterprises to ensure the supply of green products.

- By the end of 2021, 54 crude fuel suppliers of Ansteel had passed the authentication of environmental management system, and 48 suppliers had passed the authentication of occupational health and safety management system.
- In 2021, Ansteel Group General Industrial Development Co., Ltd. had a procurement amount of RMB 15.22 million in environmental protection, and RMB 15.3 million in activities assisting and benefiting people.

Mutual Benefit for Win-Win Cooperation

Ansteel is committed to the cooperation principle of "openness and fairness, complementary advantages, mutual support, and resource sharing". We join hand in hand with our partners to cooperate in fields such as the integration of enterprises, universities, research institutes and end-users, and the R&D and application of new technologies. With these efforts, we aim to build an open collaborative innovation community, enhance our core technological competitiveness, and further develop the industry.

Promoting the Development of the Industry

Upholding the philosophy of openness and win-win cooperation, Ansteel provides a platform for the industry to engage in international exchange. The platform is conducive to the sharing and exchanging of advanced philosophies and experience, the creation of new models and forms, and the transition and upgrading of the industry. We, together with our partners, are to build a more intelligent, efficient and competitive manufacturing industry in the new era.

Anshan Iron and Steel Group plans to form a binding alliance--an alliance of the enterprises, universities, and research institutes dedicated to developing technology of steel used in marine applications, with the company as the leader and other nine enterprises as the members. Besides, we also plan to establish a collaborative laboratory.

On February 25, 2021, the "Enterprise-University-Research Institute Innovation Alliance of Iron and Steel Industry, Liaoning Province" was officially established, with Bensteel as the chairman of the board. The member organizations include: Bensteel, Northeastern University, Dalian University of Technology, and Scientific Research Institutes including Dalian Institute of Chemical Physics of the Chinese Academy of Sciences.

Anshan Iron and Steel Group has held six large-scale domestic academic seminars including "Seminar on the Pipe Welding Equipment of Oil-Gas Field and Intelligent Rot-Resistant Coating New Technology Application".

In March 2021, Pansteel held "Seminar on Vanadium-Titanium Magnetite Blast Furnace Smelting Technology" in Xichang, and in September, the company also co-hosted "the Second Seminar on the Technology for the Integrated Application of Vanadium-Titanium Resource".



Case

Establishing an iron and steel industry financial blockchain alliance to promote the realization of inclusive financing

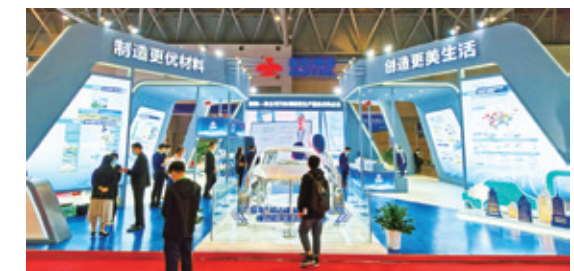
In April 2021, the opening ceremony and the first board meeting of the iron and steel industry financial blockchain alliance was held at Chengdu. It was hosted by Ansteel and organized by Tianfuhuirong Property Management Corporation of Pangang. This announced the official establishment of the alliance. Ansteel will work with the partners to act upon the requirements of making finance serve the real economy and explore the development vision and model of the alliance. The Company will also deepen cooperation and consensus and build a financial service ecosystem that bonds every segment together. The ecosystem is characterized by "close coordination among iron and steel enterprises and efficient integration of upstream and downstream supply chain resources", which can help achieve the goal of inclusive financing.



Case

Ansteel invited to participate in China Intelligent Vehicle Technology Exhibition

On May 6, 2021, the opening ceremony of China Intelligent Vehicle Technology Exhibition was held at Chongqing International Expo Center. As an important supplier of automotive steel, Ansteel was invited to participate in the exhibition. Apart from exhibiting the new technology, results, and products in the field of automotive steel, Ansteel also exchanged with other enterprises in this field advanced experience and technology and shared views on the thriving condition and future development of vehicle industry.



Ansteel is invited to participate in China Intelligent Vehicle Technology Exhibition as a supplier of automotive steel



Ansteel's automotive steel is displayed at the AUTO TECH Guangzhou International Automotive Technology Expo 2021 and South China Automotive Steel Special Exhibition

Reinforcing Multi-literal Cooperation

Upholding the philosophy of win-win cooperation, Ansteel has actively established an extensive strategic alliance and a close cooperation relationship with stakeholders, including higher education institutions, partners, governments, and international partners. The practice aims to promote resource sharing for all parties and realize win-win cooperation.



Cooperation with government

- Through a discussion with the leaders of Liangshan Yi Autonomous Prefecture, an agreement was reached on further deepening cooperation and accelerating the integrated use of vanadium-titanium resource in Panxi region.
- Upon meeting the leaders of the Municipal Committee of the CPC and the municipal government, we had an in-depth exchange with them on strengthening the cooperation between enterprise and the local to work together for high-quality development.



Cooperation with banks

- We have actively visited and held discussions with China Development Bank Liaoning Branch to expand the cooperation field and achieve win-win cooperation.



Cooperation with other enterprises

- We have held meetings with the senior management of China Chengtong Holdings Group Limited and China Reform Holdings Corporation Ltd., to empower the high-quality development of the economy in Northeast China.
- We have negotiated with Jiangnan Shipyard (Group) Co., Ltd. on improving cooperation quality and expanding cooperation field, etc. We aim to work together to advance high-quality cooperation and create great equipment of a major country.



Cooperation with universities

- Ansteel and Anshan Iron and Steel Group signed an agreement--Joint R&D on Green Hydrogen Energy Smelting Technology--with Institute of Process Engineering, Dalian Institute of Chemical Physics of Chinese Academy of Sciences and Shanghai University, with the purpose of making breakthroughs in low-carbon smelting new technology.
- Through vanadium-titanium alliance, strategic cooperation and technical cooperation, Pangang has signed 57 technology innovation projects with some higher education institutions that are influential in this field, including University of Science and Technology Beijing, Chongqing University, and Metal Research Center of SCIVIC Engineering Corporation.

Sticking to our missions and shouldering our responsibilities

Angang Steel Company Limited signs with Shanghai Nuclear Engineering Research and Design Institute the agreement for co-building "China Advanced Passive" industrial chain alliance



Being one of China's 16 science and technology major projects, "China Advanced Passive" represents the sophisticated third-generation nuclear power technology in the world, and is the latest result of China's nuclear power technology R&D and industry innovation. From October 21 to 27, 2021, "China Advanced Passive" made its debut at China's Scientific and Technological Innovation Achievement Exhibition During the 13th Five-Year Plan Period, and was applauded by the CPC and national leaders. On October 29, 2021, Angang Steel Company Limited signed with Shanghai Nuclear Engineering Research and Design Institute the agreement for the co-building of "China Advanced Passive" industrial chain alliance. Acting thoroughly upon the spirit of General Secretary Xi Jinping's speeches, the company plans to work with the institute to achieve full domestication of nuclear power equipment, and to make the modern industrial chain of passive nuclear power in China safer, more innovative, economical and competitive. Finally, China will realize the self-reliance and self-improvement of the industrial chain.

As the first iron and steel enterprise to join the "China Advanced Passive" industrial chain alliance, Angang Steel Company Limited will take the opportunity to devote to supporting the alliance's development. This will help the company play a better role in the R&D and innovation of the steel used for nuclear power plants. We will also strive to build Ansteel into "the cradle of advanced original technology of making steel used for nuclear power plant", and to become the standard setter for the steel used in nuclear power plant and the manufacturer of advanced materials, to contribute to building a "strong iron and steel country".



Responsibility for Well-being

Ansteel shoulders the responsibility of central SOEs as “a steel backbone”. Emphasizing employee cultivation, we provide equal and diversified employment opportunities and a stage to achieve self-value for each employee with rich resources and a first-rate career development platform. We invest manpower, material, and financial support in public welfare, support the COVID-19 response, and take on the responsibility of pandemic control, demonstrating the responsibility fulfillment of a central SOE.



Cultivating Vigorous Ansteel Staff

Ansteel seeks shared growth with employees, links their needs, and promotes featured and quality training programs of different terms, levels, and scale. We also strive to unblock career development channels for talents, enhance their incentives, and leverage their leading role to build an educated, skilled, innovative, and expert team.

Training Professional Personnel

Adhering to the training-driven development, Ansteel continues to optimize the education and training system. We have established a basic training system based on professional abilities, steadily carried out staff training, and improved employees' managerial skills and professional abilities, thus helping them maximize their value.



In 2021

- Ansteel invested RMB 148 million in staff training and launched 1,644 training programs for 381,016 trainees. The training coverage rate was 100%, and the average investment for each trainee was RMB 996.

CSR Honors

- In 2021, Liu Tie, a worker from Angang Steel Company Limited Main Steelmaking Plant, and Yanglin, a worker from Pangang Group Xichang Steel & Vanadium, were rated as "national technical experts", and Angang Steel Company Limited was recognized as the "Outstanding Contributor of National Skilled Talent Training".



Ansteel organizes technical competitions for employees

Ansteel aims to make work competition an effective tool for boosting the high-quality development of enterprises. In 2021, we launched a work competition themed "Forging ahead on a new journey in the Fourteenth Five-Year Plan period". To involve all staff, we take attendance as a significant indicator for evaluation. Each subsidiary company quickly carried out various and extensively involved themed work competitions and special work competitions, thus effectively enhancing the competitiveness of the enterprise and improving employees' abilities.

Contributing to Talent Development

Ansteel has developed a qualification-based, ability- and performance-oriented post management system and established a multi-sequence talent development mechanism covering R&D, engineering technology, and high-level skills regardless of educational background and age. We have formed an unimpeded "H" type talent development channel that has realized horizontal exchange and vertical promotion. We also encourage employees to choose a career path for themselves to maximize their self-value.

In 2021, there were four recipients of the State Council Special Allowance, four employees selected for the Ten Million Talent Project at the provincial level and other major projects, two outstanding experts in Liaoning Province, two in Anshan City, and one top young talent chosen for the "Young Elite Program of Invigorating Liaoning Province". One was honored outstanding science and technology worker in metallurgy, two were awarded outstanding science and technology workers in Liaoning Province, and five introduced talents enjoyed awards of RMB 150,000.

Enhancing incentives for talents	Promoting career planning	Unblocking development channels	Improving re-employment ability
Anshan Iron and Steel Group keeps improving benefits for talents and provides timely incentives for them. In 2021, we provided 31 employees with awards of RMB 6.18 million. We also give transport allowance for chief engineer and higher key talents. By clarifying the standard of benefits for fulfilling one's duties, we have enhanced key talents' sense of achievement.	Pangang has launched the "one employee, one table" staff training plan for newly recruited employees and young officials, which covers training programs lasting 3 to 5 years that aim to help employees fix their shortcomings, strengthen their foundation, and improve their abilities.	Anshan Iron and Steel Group keeps expanding the scope of professions and types of work in talent evaluation and hiring. As a result, personnel of R&D, engineering technology, skills, procurement, and sales increased by 22%. We have broadened the talent development channel for communication between technical and skilled personnel, and 47 production and service employees have transferred to technical positions.	Pangang focuses on the improvement of job skills and professional abilities while promoting the "integration of practical operation and inspection" and "joint operations of major types of work," so as to strengthen the training of compound types of work and personnel who have been transferred to new posts, thus improving their re-employment ability.



Creating a future with craftsmanship



A mentor instructs an apprentice on laboratory testing



Case

Bensteel facilitates the career development of young talents

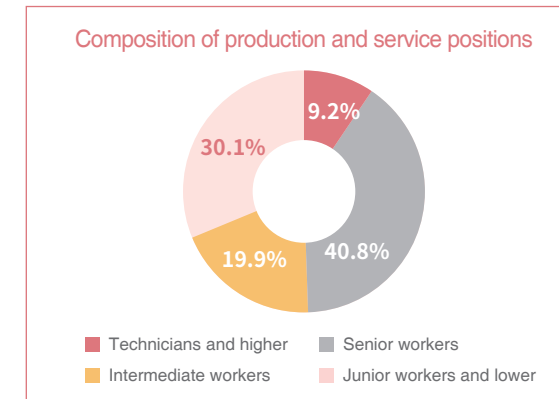
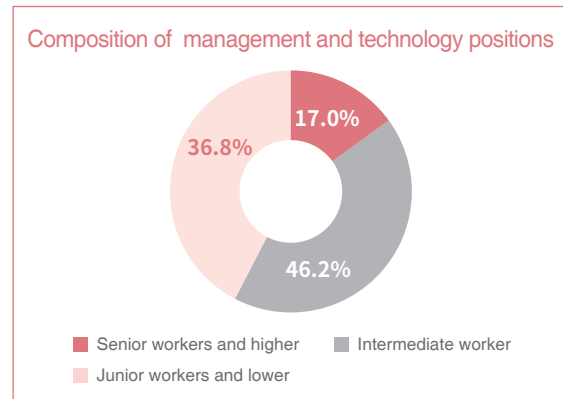
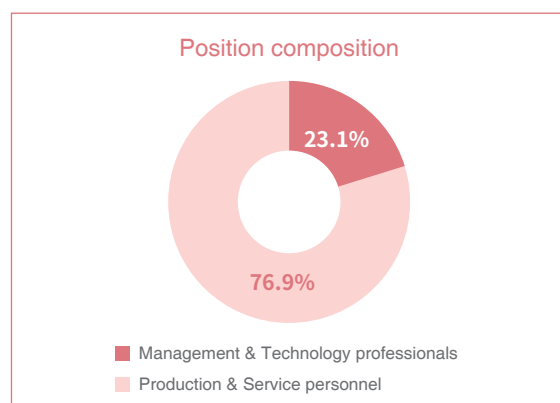
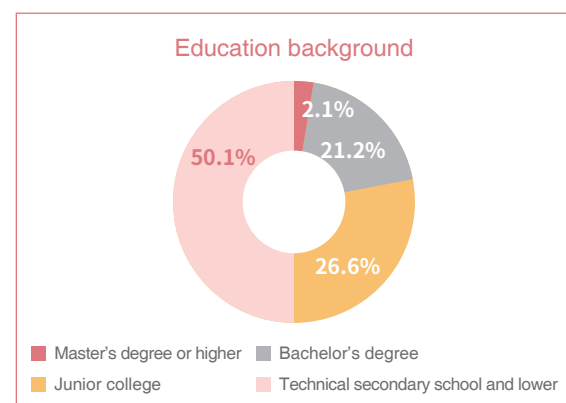
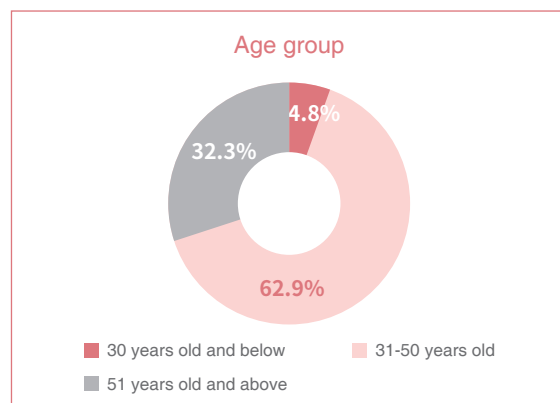
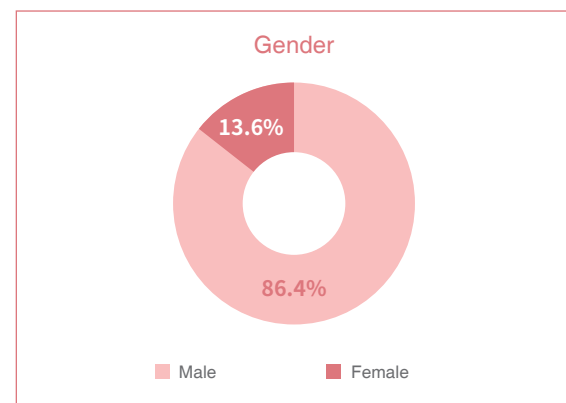
To better cultivate the young talents of Ansteel, Bensteel organized career planning for college graduates, with 511 full-time graduates with bachelor's degrees or higher included in the first batch of the planning. Sixty-three mentors have formulated targeted career plans for graduates and helped them set short-term goals and design career paths so that graduates can live and work with purpose and direction.

Caring for Employees' Well-being

Upholding the philosophy of shared development, Ansteel protects employees' rights and interests, cares for them, and enriches their life. We work together with employees and continue to meet the employees' aspirations for a better life, thus enhancing their sense of gain, happiness, and security.

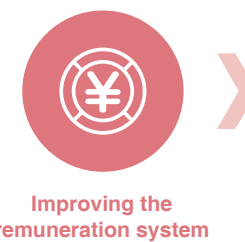
Protecting the Rights and Interests of Employees

Ansteel strictly abides by relevant laws and regulations, ensures equal employment, actively promotes the localization of human resources, guarantees employee benefits, and enhances democratic management to safeguard each employee's legal rights and interests. In 2021, the staff turnover rate of Angang Steel Company Limited was 0.81%, and 0.5% of Pangang Group Vanadium and Titanium Resources Co., Ltd.



Ensuring equal employment

We sign labor contracts with employees in accordance with the law and strengthen the confidentiality management of employees' information and privacy. We treat employees equally regardless of race, gender and religious belief, and prohibit any forms of child labor, forced labor, harassment, and discrimination that damage the rights and interests of laborers. In 2021, the labor contract coverage rate of Ansteel was 100%.



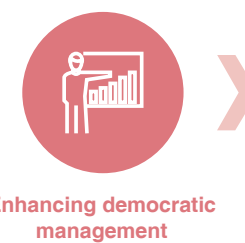
Improving the remuneration system

We strictly implement the *Remuneration Management Measures*, standardize the remuneration management system, organically combine the value and performance of employees' positions and staff skills with enterprise efficiency, and construct an overall balanced, flexible, and forward-looking remuneration distribution system at the international level.



Improving employee benefits

According to the insurance policies and different conditions of local governments, we purchase endowment insurance, medical insurance, unemployment insurance, employment injury insurance, maternity insurance, and housing provident fund for all employees and pay the premiums in full. We also launch supplementary pension schemes to improve employees' pension security. Strictly abided by *Special Provisions on Labor Protection of Female Employees* and relevant laws, we provide female employees with maternity leave and breastfeeding leave to relieve their working pressure and to help them achieve better work-life balance. In 2021, we paid social security for all employees.



Enhancing democratic management

We implement collective consultation and the collective contract system and continue to improve the democratic management system based on the worker's congress. We decide resolutions concerning employees' immediate interests by ballot and have carried the *Guidance on Strengthening Labor Contract Management and Fully Introducing Market-oriented Employment* unanimously. We also promote the disclosure of corporate affairs at the primary level, conduct the real-name "online questioning" activities, listen to the voices of employees, and uphold their rights to stay informed about, participate in, express views on, and oversee corporate operations. In 2021, the worker's congress membership rate was 100%.

Caring for Employees

Ansteel puts people front and center and solves the immediate and practical problems that employees are most concerned about. We show our care for employees, strive to pull together in times of trouble and be their powerful backing.

Ansteel aims to broaden assistance channels to every employee and household. In March 2021, we formulated and released the *2021 Leadership's Practical Plan for Well-being*. Through ten practical deeds such as providing targeted assistance for needy employees, improving front-line employees' working conditions and the living conditions of migrant workers, and continuously caring for retired employees, we share the achievements of Ansteel's reform and development with our employees. In 2021, we achieved over 2,800 practical deeds at the primary level for well-being.

Caring for employees in need

In 2021, we carried out mutual assistance for needy employees, established 229 one-for-one pairs and 216 many-for-one pairs, visited 28,843 employees with difficulties, distributed RMB 17.4489 million in relief funds, and disbursed RMB 9.3834 million in medical relief funds, benefiting 2,035 people in total.



Caring for retirees

We continue to care for retired employees of Ansteel and donated RMB 4 million to Anshan City to assist them.



Anshan Iron and Steel Group brings warmth to employees

Bensteel transfers social security accounts of retirees to the management of residential communities



Case

Talent Apartments sends coolness in scorching summer

To ensure all workers of Talent Apartment a comfortable living environment, Ansteel installed 66 outdoor units of central air conditioners, 1,683 indoor units, 115 sets of split air conditioners, and 1,645 sets of water heaters with a total investment of RMB 44 million. On Jun. 23, all installations of air conditioners and water heaters were completed and put into use on schedule. As a highlight project of central SOEs, Talent Apartments were improved, which was highly recognized by the guidance group of Party history education of SASAC.

Enriching Employees' Life

To enrich employees' spare time and improve their work-life balance, Ansteel organizes various cultural and sports activities such as table tennis, balloon volleyball, and poetry contest, creating a harmonious atmosphere and enhancing their sense of belonging.



Ansteel Lianzhong (Guangzhou) Stainless Steel Corporation organizes cultural and sports activities of various type



On-the-spot scene of activities at Ansteel Chaoyang Iron & Steel Coking Plant



Female employees play chess during the International Women's Day



Organizing employees to perform the stage play *Meng Tai*

Providing Volunteer Services

Shouldering the national and historical mission, Ansteel insists on being a responsible enterprise, strives to create more social value while creating economic value and keeps ensuring and improving people's livelihood in development, giving back to society with a heart of gold.

Supporting Community Development

Ansteel is deeply concerned with local infrastructure construction and the daily life of residents, makes full use of industrial advantages and group characteristics, and improves infrastructure construction of villages and local communities which are at pairing assistance. The Company carries out "Serving the People with Concrete Actions" campaign to further serves the people, fully revealing its social responsibility.



Nearly 4,000 employees of Bensteel Beiyang Iron and Steel Group Co., Ltd. under Bensteel use their break time to clean up garbage and sundries at the riverside



Case

Pangang builds a road to people's happiness

There are two roads under relatively poor conditions in Panzhihua, which seriously affect the travel and driving safety of local residents. In 2021, Pangang actively contained the construction of the two roads in the list of "Serving the People with Concrete Actions" campaign. After communicating with the relevant municipal departments, a construction plan was developed through field investigation and survey. In view of the fact that there are many heavy-duty vehicles on the two roads, the technical standards of reinforced concrete were improved. The construction was completed in two months, which greatly facilitates the travel of citizens.

Supporting Public Welfare Undertakings

Ansteel sticks to its original aspiration of giving back to society and always carries forward the public welfare spirit of "helping the poor and doing good deeds". The Company goes deep into the community, organizes and carries out volunteer activities and enthusiastically supports public welfare undertakings, contributing to building a harmonious society.

In 2021

- Ansteel had **5,039** young volunteers and organized **949** volunteer activities with **4,852** participants.

CSR Honors



- The Civil Affairs of Letters, Visits and Research of Pangang's Office won the title of **National Advanced Collective for the Care and Protection of Rural Left-behind Children and the Protection of Children in Need**.
- The Guo Mingyi's volunteer team was awarded the **"Charity Model Award"** by China Charity Awards.

Sticking to our missions and shouldering our responsibilities

Establishing the Zhijin Elderly Academy to build a stage for the elderly to pursue their dreams



General Secretary Xi Jinping pointed out in the report to the 19th CPC National Congress that it is needed to respond proactively to population aging, adopt policies and foster a social environment in which senior citizens are respected, cared for, and live happily in their later years, and accelerate the development of old-age programs and industries.

In order to meet the needs of the elderly for spiritual culture, relying on the advocacy of national policies, Ansteel takes the initiative to take responsibility and establishes the Zhijin Elderly Academy to contribute to the lifelong education of the elderly in Anshan. Properties revitalized the idle housing assets and took the school policy of "knowledge increase, life enrichment, sentiment cultivation, health improvement, and society serving". Taking the view of the physiological characteristics and spiritual needs of the elderly, they reasonably set up 79 courses in 9 colleges such as the College of Vocal Music and Chinese Operas, the College of Instrumental Music, the College of Dance and the College of Sports and Health, and equip with characteristic classrooms such as piano classrooms and zither classrooms as well as complete supporting facilities such as canteens and baths. The thirst for spiritual life, demand for diversified learning and yearning for a better life for the elderly are met through distinctive subjects, flexible and diverse teaching methods and warm learning and living environment. The elderly have truly obtained a sense of worthiness and happiness, efforts have been contributed to building a high-quality learning society, and a platform has been provided for creating a civilized and harmonious society. By the end of 2021, Zhijin Elderly Academy had enrolled 4,500 students.



Zhijin Elderly Academy



Pangang launches the volunteer activity of "Irregular Service"



Bensteel's volunteer team cares for the health of the elderly



Visiting the exhibition room of Iron and Steel Research Institute



Case

Standing together with Henan to support flood control

In July 2021, Henan was hit by extremely heavy rainfall and many places suffered severe floods. The disaster pulled at the heartstrings of the employees of Ansteel. With a higher political position, the Company strived to shoulder the political and social responsibilities as a central SOE, tracked the flood situation in Henan, and went all out to support flood control and prevention. RMB 10 million was donated to Henan Charity General Federation for flood prevention and relief and post-disaster reconstruction in Henan, demonstrating the responsibility and mission of Ansteel as a central SOE.



Case

Caring for left-behind children and building a warm home together

Pangang conscientiously implemented the decision and deployment of the CPC Central Committee and the State Council on the care and protection of left-behind children and the protection of children in need and organized the relevant activities in the Yi area and the Tibetan region in Sichuan. The company has successively improved the education and teaching conditions for five schools in mountainous areas and built facilities such as playgrounds, canteens and laboratories. The "Dreams Fulfillment Grant of Pangang" is set up to help students from registered poor households to successfully complete their studies, achieving educational and intellectual assistance. Pangang organized activities under the "Run" campaign such as Visiting Pangang, "Washbasin Plan" and letter communication to change the living habits of left-behind children and helped them grow up healthily. Three public welfare volunteer activities are carried out with the themes of "A Loving Children's Day", "Warm Winter" and "Building Dreams for the Future" with a provision of supplies for over 500 left-behind children and children in need, showing great love and responsibility.

Fighting the COVID-19

In 2021, the international COVID-19 control continuously deteriorated and in China, it was complex and severe. Under the guidance of preventing domestic resurgences and inbound cases, Ansteel strictly implemented the COVID-19 control work deployment of the CPC Central Committee, the State Council, provinces and cities, balancing pandemic prevention and production and operation. There were no infected cases and suspected cases of COVID-19 among domestic and overseas employees and no cluster cases.



Ansteel Group's COVID-19 vaccination is advanced in an orderly manner



Strengthening organization and leadership

All units in Anshan have established COVID-19 control headquarters or leading groups headed by the main leaders of the Party and government, clarified the responsibilities of the departments, and set up full-time and part-time personnel to take charge of the daily affairs of the regular COVID-19 response of their own units and departments. Four COVID-19 control meetings were held and the goal of "zero infections and zero inbound cases" was achieved.



Improving supervision and inspection

We strictly control the access of personnel, implement the supervision responsibility, and carefully check people with a focus on personnel entry. The number and scale of meetings and activities are strictly controlled and large-scale events are reduced based on the principle of necessity. In total, 320 persons returned from overseas employees and their families were checked and 12,502 persons back from cities with resurgence of COVID-19 epidemic, and 224 key control and focus areas were checked.



Organizing vaccination

We make full efforts to promote the vaccination of COVID-19 shots and build a mass immune barrier for Ansteel. By the end of 2021, the vaccination rate of the two doses for Ansteel employees was 97.95%.



Strengthening overseas COVID-19 control

We strengthen overseas COVID-19 control and remote-control measures and take multiple measures to consolidate the foundation of "two types of stability" and inbound case prevention. An Overseas COVID-19 Control Command Center of Ansteel is established to connect with the telemedicine platform of SOEs of the SASAC. We strictly implement the principle of "no vaccination, no dispatch" and actively coordinate with the Bureau of Planning and Development of the SASAC on the vaccination of overseas employees. In 2021, the vaccination rate of overseas dispatched employees was 100% and the goal of zero infections of overseas enterprise employees (including foreign employees) was achieved.

CSR Honors



- The Party Committee of Anshan Iron and Steel Group Security Department (People's Armed Forces Department) won the title of **Advanced Collective in Fighting COVID-19 in Liaoning Province**.
- Zhao Yuqiang, Safety Supervision Director of Safety and Environmental Protection Department of Ansteel, and Yang Xu, former deputy secretary of Ansteel Chaoyang Iron & Steel Party Committee and general manager, were granted the title of **Outstanding Individuals in Fighting COVID-19 in Liaoning Province**.



The steelworks of Ansteel Chaoyang Iron & Steel disinfects the materials purchased outside every day



Epidemic prevention without let-up



The COVID-19 response vanguard of the Heavy Plate Department of Bayuquan Steel Subsidiary swears to guarantee the production of the department



The COVID-19 testing in the Raw Materials Branch of the Bensteel Beiyang Iron and Steel Group Co., Ltd. Main Iron-making Plant



Case

Building a strong line of defense against COVID-19 to turn losses around and get rid of difficulties

In 2021, based on the difficulties such as frequent local outbreaks and a wide range of business operations, Dalian Limestone Mine of Ansteel Mining Group Co., Ltd. established a responsibility mechanism of "Party branch secretaries focus on COVID-9 response and administrative officials ensure the safety" by strengthening the mechanism of "coordination of party and government disciplines". Three outbreaks were effectively addressed through measures such as managing responsibilities lists, strengthening the joint defense with street offices, implementing the "zero report" of all staff for 365 days, and consolidating the barrier of "vaccination for all eligible people". Especially under the severe situation of the lockdown in November, the mine launched the emergency plan of "guarding the mine to ensure production" for the first time, and Party members, leading officials and key production personnel lived on the front line. The challenge goal of "turning losses around and getting rid of difficulties" was fully realized and a profit of RMB 2.146 million was achieved throughout the year.

Outlook 2022

The year 2022 marks a new journey toward the second centenary goal of building a modern socialist country in all respects. We will always uphold the mission of "producing better material for creating more wonderful life," firmly prioritize social responsibilities, and earnestly implement the important instructions made by General Secretary Xi Jinping on the rebirth of Ansteel. We will ground our efforts in the new development stage, apply the new development philosophy in full, in the right way, and in all fields of endeavor to better serve a new pattern of development and move faster to build a brand new Ansteel featured by high-quality development.

Leading Ansteel

Upholding the Party leadership and strengthening Party building is always the "root" and "soul" of Ansteel. We will stay true to the Party, remain committed to supporting national strategies, always keep in mind the responsibility of the eldest son of the Republic, and dedicate ourselves to serving the country. We will follow the Party leadership throughout the reform and development, carry forward the spirit of model workers, the labor, the craftsmanship, and the Ansteel Constitution of a new era, and fulfill our political, economic, and social responsibilities.

Brand Ansteel

We will put quality first, prioritize efficiency, focus on the "7531" strategic goal, implement the "Dual-Core" strategy, and build "the third pole." We will encourage original technology and take the lead in modern industrial chains to produce better materials and create a better life. We will keep enhancing the competitiveness of our products, the market share, and the brand influence to build Ansteel into a leader in the high-quality development of China's steel industry and a world-class enterprise with global competitiveness.

Innovative Ansteel

We will stimulate innovation, ramp up investments in science and technology, accelerate the improvement in our technological innovation capabilities, and build Ansteel into a leading technology enterprise. We will deepen the innovation of our system, mechanism, and management, promote the reform in quality, efficiency, and motivation of development to build a fine example of SOE reform and boost internal vitality.

Digital Ansteel

We will promote the digitalization of traditional industries and digital industry while creating a new model of smart manufacturing that covers the entire process of production, all dimensions of management, and the whole lifecycle of products. We will improve the application capabilities of information technology, and expedite the digital transformation to empower the upgrading and transformation of Ansteel.

Green Ansteel

We will adhere to green manufacturing and low-carbon development, improve the green manufacturing system, develop and apply low-carbon metallurgy, and work to make solid gains in the battle against pollution. We will build green factories and produce green products to ensure greater harmony between humanity and nature and contribute Ansteel's strength in peak carbon dioxide emissions by 2030 and achieve carbon neutrality by 2060.

Shared Ansteel

We will act on the people-centered philosophy, ensure that development is for the employees and by the employees, and share benefits with them. We will keep enhancing employees' sense of gain, happiness, and security and satisfy the growing expectation of the people for a better life.

Down the road, we will ride the tide of our times, take more determined and confident steps in building a brand new Ansteel featured by high-quality development, and endeavor to become the most influential steel company in the world.



Key Indicator Performance Form

Category	Key indicators	2019	2020	2021
 Economic	Revenue (RMB billion)	217.4	213.111	383.457
	Total profit (RMB billion)	2.351	6.553	17.463
	Asset liability ratio (%)	66.44	63.97	69.31
 Environmental	Year-on-year decrease comprehensive energy consumption per ton of steel (%)	0.48	-1.51	2.2
	Year-on-year decrease of comprehensive energy consumption per RMB 10,000 of output value (comparable price) (%)	0.3	0.95	0.17
	Year-on-year decrease of new water consumption per ton of steel produced (%)	12.03	2.56	2.73
	Year-on-year decrease of SO ₂ emissions (%)	10.23	4.19	9.29
	Year-on-year decrease of the COD emission (%)	4.62	0.76	7.53
	Year-on-year decrease of NO _x emissions (%)	0.3	0.32	-1.59
 Social	Science and technology input (RMB billion)	8.635	8.6	14.8
	Newly authorized patents	1,092	1,309	1,435
	Technical standards released, formulated and revised	34	20	16
	Complaint resolution rate (%)	100	100	100
	Coverage rate of employee physical examination (%)	100	100	100
	Coverage rate of employee occupational health records (%)	100	100	100
	Proportion of female employees (%)	18	15	13.6
	Labor contract coverage rate (%)	100	100	100
	Social insurance coverage rate (%)	100	100	100
	Investment in helping needy employees (RMB million)	16.756	24.0065	26.8323
	Staff education investment (RMB million)	115	103	148
	Training staff coverage (participants)	90,000	220,000	380,000
	Young volunteers	6,990	6,775	5,039
	Volunteer services (times)	940	730	949
	Total donations (RMB million)	5.729	45.01	32.0825
	Assistance funds (RMB million)	35.2262	39.0538	42.05
Assistance officials dispatched	53	47	51	

CSR Honors

No.	Honors
1	The Ansteel Group Corporation Limited Sustainability Report 2020 received the GoldenBee 2021 Excellent CSR Report (First-Star Evergreen Award).
2	Ansteel was rated A for the first time in the annual performance assessment of the heads of central SOEs by the SASAC in 2021.
3	Ansteel's paired assistance was evaluated as "good" by the Central Rural Work Task Force.
4	Ansteel's task force in Tashkurgan Tajik Autonomous County, Xinjiang won the title of "Advanced Collective in Xinjiang Uygur Autonomous Region for Poverty Alleviation".
5	The Party Committee of Angang Steel Company Limited Main Steelmaking Plant was recognized as the "National Advanced Primary-level Party Organization."
6	Two Ansteel cases of "Characteristic Industries Helping Poverty Alleviation" and "Exploring the Road to End Poverty in the Plateau Area" were listed in the "Outstanding Cases of Poverty Alleviation by SOEs" supervised by China Enterprise Reform and Development Society.
7	Anshan Iron and Steel Group and Pangang were acclaimed as "the most patent-innovative steel enterprises in China."
8	The Shougang Jingtang Construction Project of Anshan Iron and Steel Group Engineering Technology Development Co.,Ltd. won the National Quality Engineering Award and Luban Prize.
9	The Ministry of Industry and Information Technology awarded Ansteel Group General Industrial Development Co., Ltd. Aluminum Powder Company the title of "Green Factory" in 2021.
10	Sichuan Province awarded Pangang the title of Advanced Collective in Energy Conservation During the 13th Five-Year Plan Period.
11	Pangang Group Vanadium and Titanium Resources Co., Ltd. won the title of "2021 China Vanadium Ferroalloy Quality Supplier" and "2021 China Vanadium Nitrogen Alloy Quality Supplier."
12	Liu Tie, a worker from Angang Steel Company Limited Main Steelmaking Plant, and Yanglin, a worker from Pangang Group Xichang Steel & Vanadium, were rated as "national technical experts."
13	Angang Steel Company Limited was recognized as the "Outstanding Contributor of National Skilled Talent Training."
14	The Civil Affairs of Letters, Visits and Research of Pangang's Office won the title of National Advanced Collective for the Care and Protection of Rural Left-behind Children and the Protection of Children in Need.
15	Guo Mingyi's volunteer team was awarded the "Charity Model Award" by China Charity Awards.
16	The Party Committee of Anshan Iron and Steel Group Security Department (People's Armed Forces Department) won the title of "Advanced Collective in Fighting COVID-19 in Liaoning Province".
17	Zhao Yuqiang, Safety Supervision Director of Safety and Environmental Protection Department of Ansteel, and Yang Xu, former deputy secretary of Ansteel Chaoyang Iron & Steel Party Committee and general manager, were granted the title of "Outstanding Individuals in Fighting COVID-19 in Liaoning Province".

Expert Opinion



Yu Zhihong

President and Editor-in-chief of *China Sustainability Tribune*

The year 2021 marked the start of the 14th Five-year Plan. China embarked on the new journey of building a modern socialist country in all respects while responding calmly and decisively to the global changes and the COVID-19 pandemic both unseen in a century. Adhering to the new development philosophy and following closely the national strategies, Ansteel issued the 15th sustainability report to demonstrate its key role in promoting the development of China and contributing to the happiness and livelihood of the people. The Company upholds the original aspiration of “always keeping in mind the responsibility of the eldest son of the Republic, and dedicating ourselves to serving the country” and remains committed to building China into a major power in iron and steel to achieve national prosperity and rejuvenation.

This is a high-quality sustainability report, a vivid demonstration of Ansteel’s relentless efforts to achieve sustainable development together with stakeholders. The report consists of four main features: Feature one focuses closely on the current trend of CPC centenary to interpret the Company’s efforts to carry forward the great spirit of Party building; Feature two actively responds to the policy requirement of effectively linking the consolidation of poverty alleviation outcomes with rural vitalization to deploy strategic work for rural vitalization on all fronts; Feature three aligns with China’s ‘30•60’ Decarbonization Goal to build green Ansteel and promote the implementation of carbon peak and carbon neutrality goals; Feature four discloses the responsible practices of reorganizing Bensteel into Ansteel to build a new pattern of iron and steel industry to portrait the CSR fulfillment of Ansteel’s mission as the eldest son of the Republic.

The CSR keynote of “the country’s most fundamental interests” runs throughout the report. The five chapters, namely Wisdom, Contributions, Vision, Commitment, Responsibility, explain in details that Ansteel, as an important central SOE and the steel backbone of China, insists on innovation-driven and focuses on key issues such as green development, digital transformation, security and quality development, and actively responds to expectations and appeals from stakeholders including governments, shareholders, customers, environment, partners, employees, and the public, making Ansteel’s contribution to the rejuvenation of the Chinese nation, happiness and wellbeing of the people.

The report aligns highly with the United Nations’ Sustainable Development Goals (SDGs) and shows that Ansteel promotes the implementation of SDGs such as industry, innovations, infrastructure construction, eco-environmental protection, education assistance and community development. The Company, as a large steel SOE, spearheads to ride the tide of the times and shoulder the responsibilities, advancing the iron and steel industry to embark on the new journey of high-quality development. Sustainable development is not only a development concept and goal, but also a new business mindset and model.

I hope that in the future, Ansteel will “stay true to its original aspiration and founding mission”, continue to fulfill the responsibilities as a central SOE and better convey the spirit of CSR fulfillment. Focusing on the national development strategies and policy requirements and taking a long-term view, Ansteel will strive to become “a world-class enterprise with excellent products and brand, cutting-edge innovations and modern governance”, thus demonstrating an excellent example in CSR fulfillment and communication for other enterprises in China.

Content Index

Report contents	Indicators of GRI Standards	Indicators of CASS-CSR4.0
About the Report	102-49/102-50/102-52/102-54/103-1	P1.1/P1.2/P1.3
CSR Message	102-14/102-15	P2.1/P2.2/P3.2
About Us	102-1/102-2/102-5/102-6/102-7/102-8/102-18/201-1/205-2	P4.1/P4.2/P4.3/P4.4/G1.1/G1.2/M1.1/M1.3/A2
Corporate Governance	102-1/102-2/102-5/102-6/102-7/102-8/102-18/201-1/205-2	P4.1/P4.2/P4.3/P4.4/G1.1/G1.2/M1.1/M1.3/A2
CSR Management	102-16/102-17/102-29/102-33/102-40/102-42/102-43/102-44/102-47/103-1	G2.1/G2.3/G2.4/G3.1/G3.2/G3.3/G4.1/G4.2/G5.1/G5.2/G6.1/G6.2/G6.3
Feature One: Great Party Building Spirit Leads High-quality Development	102-17/103-1/103-2/103-3/205-1/205-2	G1.1
Feature Two: A New Blueprint Pictures Rural Vitalization	103-1/103-2/103-3/415-1/413-1	S4.5/S4.6/S4.8/S4.9/S4.12/S4.13/S4.14
Feature Three: Ansteel and Bensteel Join Hands for a New Chapter	102-5/102-6/102-7/102-10/103-1/103-2/103-3/201-1	P3.1/P3.2/P4.4
Feature Four: A Green Ansteel Contributes to China’s ‘30•60’ Decarbonization Goal	103-1/103-2/103-3/302-1/302-3/302-4/302-5	E1.7/E1.9/E1.10/E2.3/E2.4/E2.5/E2.6/E2.7/E2.23/E2.24
Wisdom in Innovation, Quality, and Efficiency	103-1/103-2/103-3/203-2	M2.4/M2.5/M2.6/M2.7
Contributions to Regional Development	103-1/103-2/103-3/203-1/203-2/413-1	M3.4/M3.6/S1.4
Visions for a Better Ecology and Environment	103-1/103-2/103-3/301-2/301-3/303-1/303-3/305-1/305-2/305-3/306-1/306-2	E1.1/E1.2/E1.3/E1.4/E1.5/E1.8/E2.8/E2.9/E2.10/E2.11/E2.12/E2.13/E2.14/E2.15/E2.16/E2.17/E2.21/E3.3/E3.4
Commitments in CSR Ecology	103-1/103-2/103-3/403-2/403-3/403-4/418-1/414-1/414-2	S3.1/S3.2/S3.3/S3.4/S3.5/S3.6/S2.11/S2.12/M2.1/M2.2/M2.13/M2.14/M2.15/M2.16/M2.18/M3.4/M3.5/M3.6/M3.8/M3.10/M3.12
Responsibility for Well-being	103-1/103-2/103-3/102-8/401-1/401-2/401-3/404-1/404-2/405-1/406-1	S2.1/S2.2/S2.4/S2.5/S2.6/S2.7/S2.8/S2.10/S2.13/S2.14/S2.15/S2.16/S2.17/S2.18/S4.1/S4.5/S4.6/S4.10/S4.11
Outlook 2022	102-29	A1
Key Indicator Performance Form	—	A2
CSR Honors	—	A3
Expert Opinion	—	A4
Content Index	102-55	A5
Feedback Form	102-53	A6

Feedback Form

Dear readers,

This is the Fifteenth 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?

Is there any necessary information omitted in this report?

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

Your Information

Name:

Company:

Tel:

Add:

E-mail:

Ansteel Group Corporation Limited

Fax: 0412-6721369

Code: 114009

Add: Development Research Institute, Ansteel Group Corporation Limited, No. 60 Eryjiu Road, Tiedong District, Anshan City, Liaoning Province, China.



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



QR code of Ansteel Group Wechat



Scan the QR code for reading the Report