



To Produce Better Materials . To Create a More Beautiful Life

# ANSTEEL

## 2023

ANSTEEL Group  
Corporation Limited  
Sustainability Report

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# About the Report

Dear readers,

Welcome to read the 17th Ansteel Group Corporation Limited Sustainability Report. Based on feedback information and suggestions from various channels, the report elaborates on social responsibility practices of Ansteel Group in business operation, products and services, environmental protection, staff support and community development.

## Reporting Period

The report discloses information dated between January 1, 2023 and December 31, 2023. Part of the report may refer to previous years as needed.

## Reporting Scope

With Ansteel Group Corporation Limited (hereinafter referred to as Ansteel, Ansteel Group, the Company or we) as the main body, the report covers Anshan Iron & Steel Group Co., Ltd. (hereinafter referred to as Anshan Iron and Steel Group), Pangang Group Co., Ltd. (hereinafter referred to as Pangang Group) and Bengang Group Co., Ltd. (hereinafter referred to as Benngang Group) as well as their non-steel industry sectors and directly affiliated entities.

## Release Cycle

This report is released annually.

## Reference Standards

- *GB/T 36001-2015, Guidance on Social Responsibility Reporting* issued by Standardization Administration of the General Administration of Quality Supervision, Inspection and Quarantine
- *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 the GRI Global Sustainability Standards Board (GSSB)
- *ISO 26000: 2010, Guidance on Social Responsibility* issued by International Organization for Standardization
- *Guidelines on Corporate Social Responsibility Reporting for Chinese Enterprises (CASS-CSR 5.0)* issued by CSR-Cloud Academy

## 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 Group. All the sums of money in the report are in the unit of CNY 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 Group's official website <http://en.ansteel.cn>.

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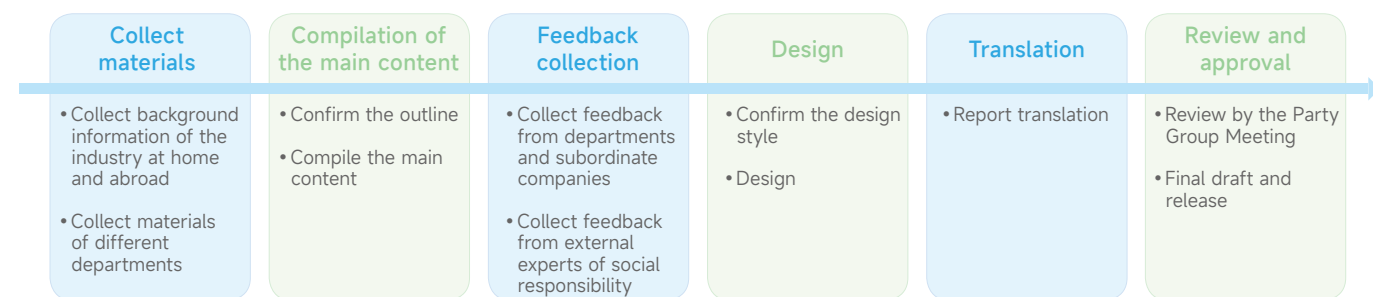
# Report Preparation Process

Sustainability report is one of the important tools for Ansteel Group to communicate with various stakeholders and enhance corporate transparency. We set up a team to prepare the report under the specific guidance of the Leading Group of Sustainable Development, with the Economic Development Research Institute as the main responsible party, and with the participation of all functional departments of the Group and all affiliated units. We mobilized all parties in the company to collaborate in the preparation of the report and submitted it to the Party Group Meeting of the company for consideration and approval.

## ► Materials and Feedback Collection

We learnt about the degree of attention paid by the senior management to each responsibility issue through various relevant management meetings of the Company; held social responsibility seminars to solicit the opinions and suggestions of stakeholders and social responsibility experts on the responsibility issues; and communicated extensively with stakeholders through the medium of the Company's website, WeChat, newspapers and periodicals, and various internal and external communication meetings to collect the opinions and suggestions of stakeholders on the issues.

## ► Preparation Process



## ► Substantive Issue Analysis

Ansteel Group communicates extensively with stakeholders, collects their opinions and suggestions on issues, continuously improves the management mechanism of sustainable development issues, forms the issue identification process from issue identification, ranking, review and continuous improvement, and prioritizes relevant issues in terms of the dimensions of "impact on the sustainable development of the Group" and "stakeholders' concern" to ensure more accurate and comprehensive disclosure of CSR management, practices and performance. It also prioritizes relevant issues in terms of "impact on the sustainable development of Angang Group" and "stakeholders' concern" to ensure more accurate and comprehensive disclosure of CSR management, practices and performance.

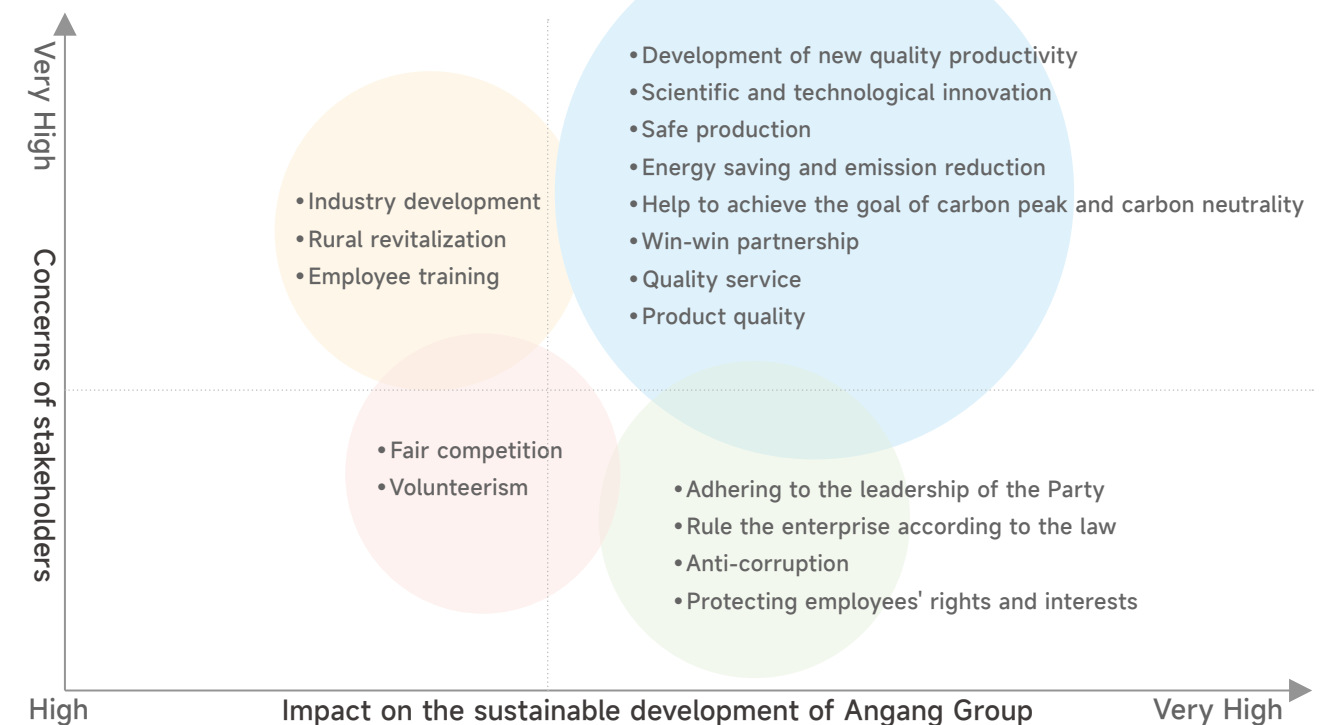
## ► Substantive Issue Identification Process



## ► Demands and Awareness of Stakeholders on Social Responsibility Issues

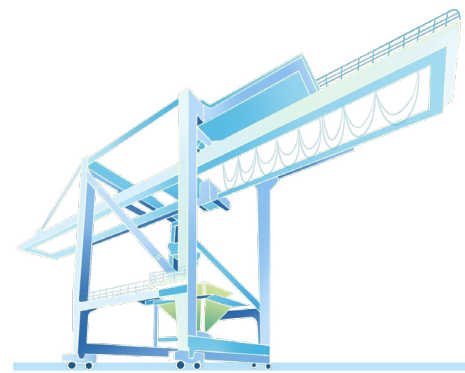


## ► Substantive Issues Analysis Matrix





# Letter to Stakeholders



**Tan Chengxu.**  
Party Secretary and Chairman,  
Ansteel Group Corporation Limited



State-owned enterprises (SOEs) are key players in sharpening the comprehensive national strength and guaranteeing the common interests of the people. As a new round of technological and industrial revolution is unveiled, we should accelerate the building of a world-class enterprise with excellent products and brand, cutting-edge innovation, and modern governance. This significantly contributes to a new development paradigm, high-quality development, and a sustainable and healthy economy and society.

In 2023, guided by Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, we thoroughly implemented the guiding principles of the 20th CPC National Congress and the 2nd Plenary Session of the 20th CPC Central Committee and carried out the decisions and deployment of the CPC Central Committee and the State Council. We also shouldered the responsibility of serving the national strategy and safeguarding the industry and people's life. We acted out our roles in sci-tech innovation, industrial control, and safety support in building a modernized industrial system and new development paradigm. As we fulfilled our economic, political, and social responsibilities as a central SOE, we secured new development, boosting the country's prosperity and strength, the nation's revitalization, and the public's well-being.

In 2023, Ansteel achieved five new highlights: First, we realized significant progress in normative, detailed, and systematic Party building. As a result, in the assessment of the responsibility system for Party building in central SOEs, we were rated A for three years in a row. Second, we made our Company stronger, better, and bigger. We completed the transfer of 49% of the shares of Ling Steel Group and its Party organizations, signaling our formal status as the shareholder of Ling Steel Group. Third, we strengthened the foundation for green development. Xichang Steel & Vanadium became the first steel enterprise in Sichuan Province to accomplish ultra-low emission transformation. Fourth, our mining business picked up steam with iron concentrate production hitting the highest level in history and RMB 4.5 billion of equity financing. Fifth, steel exports rose significantly year-on-year, outperforming our previous records and the general market. Ansteel was included in the Fortune Global 500 list for the tenth time, ranking 283rd. Possessing a brand value of USD 24.3 billion, Ansteel was ranked 306th among the World's 500 Most Influential Brands and 80th among China's top 500 brands, with our brand strength topping the industry.

## **We steadfastly serve the national strategy, shaping our core competitiveness that leads the development of the steel industry.**

Focusing on our main responsibilities and main business, we steadily promote the "7531" strategic goal of Ansteel in the 14th Five-Year Plan period and put in place the pattern of "dual core + third pole". Given the outstanding outcomes from the integration of BenSteel and Ansteel, we have acquired the shares of Ling Steel Group, cementing our industrial dominance. With a crude steel production capacity of 70 million tons, we maintain our competitive edge in Liaoning and the northeast region and optimize the structure of the iron and steel industry. We fulfill our political mission of "security in five aspects" and advance strategic actions to prospect for new mineral resources. The license of the Qidashan iron mine and Dagushan iron mine has been approved for expanding the mining area. The Xi'an iron ore mine project is in full swing. In 2023, its annual output of iron concentrate reached a record high. We have improved our capabilities to supply strategic resources and ensure resource security. Efforts to foster the "third pole" have yielded initial results. Pangang Group Vanadium & Titanium's shares have raised RMB 2.28 billion in full, and the company has been listed as a world-class specialized and sophisticated demonstration enterprise. Our green power and green metallurgy business has taken shape, with strategic emerging business gathering momentum for development.

## **We are committed to leveraging the role of sci-tech innovation, forging a strong steel foundation for sci-tech self-reliance and self-strengthening at higher levels.**

Prioritizing sci-tech innovation, we continue to enhance our position as a major innovator, with annual R&D investment intensity reaching 3.88%, exceeding that of general enterprises and central SOEs. We also undertake national projects where we deliver unprecedented performance. New progress has been made in building high-level R&D platforms. We have signed strategic cooperation framework agreements with the Liaoning Academy of Materials and other higher education institutes and joined the Alliance of Railway Technology Innovation. Pangang Chengdu Materials Institute has been honored as a "science and technology reform demonstration enterprise." Our products are more competitive in the market, with the world's first steel used in the liquid cargo tank of liquefied CO<sub>2</sub> ships



**Li Zhen.**  
Board Director, President, Deputy Party Secretary,  
Ansteel Group Corporation Limited



launched. The ultra-thick, low-temperature normalized offshore engineering steel has been applied in China's first deep-water oil and gas field project. The steel used in the long-life track of the Sichuan-Tibet Railway has been utilized in trial track-laying. The project of "the third-generation steel used in low-temperature and high-pressure pipelines with ultra-large capacity" has won the special prize of the Metallurgical Science and Technology Award, marking a historic breakthrough. The development of digital Ansteel has yielded remarkable results, with 55 production lines digitalized and 53 intelligent manufacturing achievements included for pilot demonstrations. The Company has been evaluated as "excellent" in the assessment of the first phase of the special digitalization and AI improvement campaign of the SASAC.

**We regard reform as a key maneuver to create a model for reforming central SOEs in the new era.** We solidly advance the "four special actions" for building a world-class enterprise and initiate a world-class evaluation index system for the metallurgical industry. Progress has been made in the pursuit of a world-class enterprise. Complying with high standards in deepening reform, we have created the 3.0 version of Chaoyang Iron & Steel's market-oriented reform. Three subsidiaries are recognized as excellent "double hundred enterprises" and another four are new entrants to the list. In our ongoing reform of the three systems, the competition-based appointment rate of managers stands at 82.41% and the exit rate is 10.61%. The physical annualized labor productivity of our main iron and steel business has increased by 19.23% year on year. Our outcomes in the three system reforms are awarded the first prize of the 29th National Enterprise Management Modernization Innovation Achievement, and the Company has been rated A in the assessment of key tasks of the three-year action of central SOE reform.

**We are dedicated to the concept of green development to build beautiful communities benefiting from a better environment.** We stick to the path of eco-prioritized, green, and low-carbon development with solid progress in green transformation. Emissions of major pollutants have been slashed. For example, the emission of sulfur dioxide, nitrogen oxides, chemical oxygen demand, and ammonia nitrogen are reduced by 7%, 9%, 8%, and 22% respectively. Xichang Steel & Vanadium has become the first steel enterprise in Sichuan Province to realize whole-process ultra-low emission transformation. Chaoyang Iron & Steel and Xichang Steel & Vanadium have been awarded the title of "National Metallurgical Landscaping Advanced Unit". The ecological restoration of mines has presented multiple highlights, with more than 4,000 hectares of mines restored or a restoration rate of 93.2%. A total of 16 mines have received the title of the national "green mines." The satellite images of the Dagushan iron ore mine before and after ecological restoration have been adopted to illustrate the stories of "China's changes in the past decade" told at China's 2023 two sessions. We have released 13 EPD reports, which elevate the image of a green Ansteel.

**We go all out to support people's life, demonstrating the social responsibility of a central SOE.** Putting people at the center and adhering to the Party's mass line, we have resolved development obstacles, met the needs of people, and improved the sense of happiness and satisfaction of staff and the public. Under the theme of "One Ansteel, One Dream", the Company has held the third staff sports meeting, which boosts a sense of belonging and honor. Caring about our employees, we have issued RMB 12.61 million of relief funds to 12,308 beneficiaries and RMB 12.7 million of medical relief funds to 4,732 people. We promote the "Serving the People with Concrete Actions" campaign, under which key people-oriented projects are completed and an employee satisfaction rate reaches 100%. Supporting rural vitalization, we have donated pro bono assistance funds up to RMB 43.68 million and brokered RMB 58.96 million of assistance funds from external companies. Our paired assistance performance has been evaluated as "good" by the Central Rural Work Task Force for three consecutive years.

To the beat of drums, we will row our ship more vigorously in the new journey. The year 2024 marks the 75th anniversary of the founding of the PRC and a key year for realizing the goals and tasks of the 14th Five-Year Plan. Guided by Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, we will prioritize high-quality development, accelerate high-end, intelligent, and green development for business upgrade, and promote Ansteel's practice in serving the Chinese path to modernization. We will strive for a new landscape in new Ansteel's high-quality development and fulfill the economic, political, and social responsibility as a central SOE, contributing to the development of a strong country and the great cause of national rejuvenation.



# 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". Headquartered in Anshan City, Liaoning Province, Ansteel is among the first batch of "innovative enterprises" in China and the first steel enterprise in China with complete technology output capabilities. Now the Company has formed a pattern of cross-regional, multi-base and international development. In 2023, Ansteel ranked 283rd in the Fortune Global 500 list.

With nine production bases in northeast, southwest, southeast, and south China that produce 53 million tons of iron, 64 million tons of steel, 40,000 tons of vanadium products, and 500,000 tons of titanium products, Ansteel has rich iron ore, vanadium, and titanium resources in Liaoning and Sichuan, China and in Carrara, Australia. With an annual output of 53.28 million tons of iron concentrate, Ansteel is also the world's largest vanadium producer and China's largest titanium raw material production base. Our industrial services cover engineering technology, chemical technology, energy conservation and environmental protection, information technology, finance and trade, and modern services. We have 29 subsidiaries and organizations overseas and more than 500 customers and partners at home and abroad. The products of Ansteel are sold to more than 70 countries and regions.



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

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

## Corporate Culture





Business Scope

Ansteel has a whole set of advanced iron & steel production equipment covering mining exploitation, sintering, iron-making, steel rolling as well as coking, fire resistance, power 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 China’s major projects, including West-to-East Gas Pipeline Project, Qinghai-Tibet Railway, Beijing-Tianjin High-Speed Train, Three Gorge Hydro Project, Bird’s Nest Stadium, Hualong One nuclear power plant, Blue Whale 1 ultra-deepwater drilling platform, Hong Kong-Zhuhai-Macao Bridge and Shenzhou series. Ansteel is a global supplier of many internationally renowned companies.

**Steel products**

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, and stainless steel.

**Vanadium products**

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

**Titanium products**

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



Figures in 2023

**Economic**

Revenue about RMB <b>288.016</b> billion	Total profit about RMB <b>615</b> million	Total assets about RMB <b>482.674</b> billion
<b>64</b> million tons Crude steel production capacity of Ansteel		<b>53.28</b> million tons Yield of iron concentrate

**Social**

about RMB <b>11.185</b> billion Science and technology input	<b>3.88%</b> Intensity of R&D investment	
<b>16</b> Metallurgical sci-tech awards in 2023 (including a grand prize granted to a project led by Ansteel)		
RMB <b>12.61</b> million Relief funds distributed	<b>12,308</b> Beneficiaries in difficulties visited and assisted	
RMB <b>43.68</b> million Pro bono assistance funds input	<b>1.5%</b> Year-on-year increase	
<b>100%</b> Occupational health examination rate	<b>398,700</b> Employees trained	
<b>100%</b> Coverage of employee training	RMB <b>81.84</b> million Consumption-driven assistance	<b>11.1%</b> Year-on-year increase

**Environmental**

<b>0.51%</b> Year-on-year decrease of comprehensive energy consumption per RMB 10,000 of output value (comparable price)	<b>8.73%</b> Year-on-year decrease in NOx emissions
<b>4,000+</b> hectares Greened and reclaimed land	<b>16</b> National green mines
<b>11.94%</b> Year-on-year decrease of particulate matter/smoke and dust emissions	<b>6.85%</b> Year-on-year decrease of SO <sub>2</sub> emissions
<b>8.25%</b> Year-on-year decrease of chemical oxygen demand(COD) emissions	<b>93.2%</b> Restoration rate



# Corporate Governance

## Organizational Structure

Ansteel consistently consolidates corporate governance by diversifying the Board of Directors and establishing a sound decision-making mechanism. Our Shareholders' Meeting is composed of shareholders from the three parties: the State-owned Assets Supervision and Administration Commission of the State Council (SASAC), China Chengtong Holdings Group Ltd (China Chengtong), and China Reform Holdings Corporation Ltd (China Reform). The Board of Directors consists of 8 directors, among whom 5 are external directors and 3 are internal directors (including 1 employee director). At Ansteel, there is no Board of Supervisors but 2 supervisors appointed by China Chengtong and China Reform respectively.

Ansteel Group Corporation Limited

General Office  
(Office of Party Committee)  
(Board Office)  
(Office of Party and Government Supervision)

Strategic Planning Department

Technology Development Department

Capital Operation Department

Work Safety Supervision Department  
(Energy and Environmental Protection Department)

Financial Operation Department

Human Resources Department  
(Organization Department of Party Committee)

Management and Informationization Department

Legal & Compliance Department

Audit Department

Discipline Inspection Commission  
(Office of the Commissioner of the Supervisory Commission)

Labor Union

Publicity Department of Party Committee  
(United Front Work Department of Party Committee)  
(Corporate Culture Department)  
(Youth League Committee)

### Regional Subsidiaries

Anshan Iron and Steel Group Co., Ltd.  
Pangang Group Co., Ltd.  
Bensteel Group Corporation Limited

### Sector Subsidiaries

Ansteel Mining Group Co., Ltd.  
Ansteel Lianzhong (Guangzhou) Stainless Steel Corporation, Ansteel Group Engineering Technology Development Co., Ltd.  
Ansteel Group General Industrial Development Co., Ltd.  
Angang Group International Trade Corporation Limited  
Ansteel Capital Holding Co., Ltd.  
Ansteel Finance Co., Ltd.  
Pangang Group Chengdu Real Estate Co., Ltd.

### Directly Affiliated Entities

Ansteel Beijing Research Institute Corporation Limited  
Ansteel Economics Development Research Institute Co., Ltd.  
Ansteel Human Resources Service Company  
Ansteel Finance Shared Service Center  
Ansteel Auditing Center  
Ansteel Education and Training Center (Party School)  
Ansteel News and Media Center

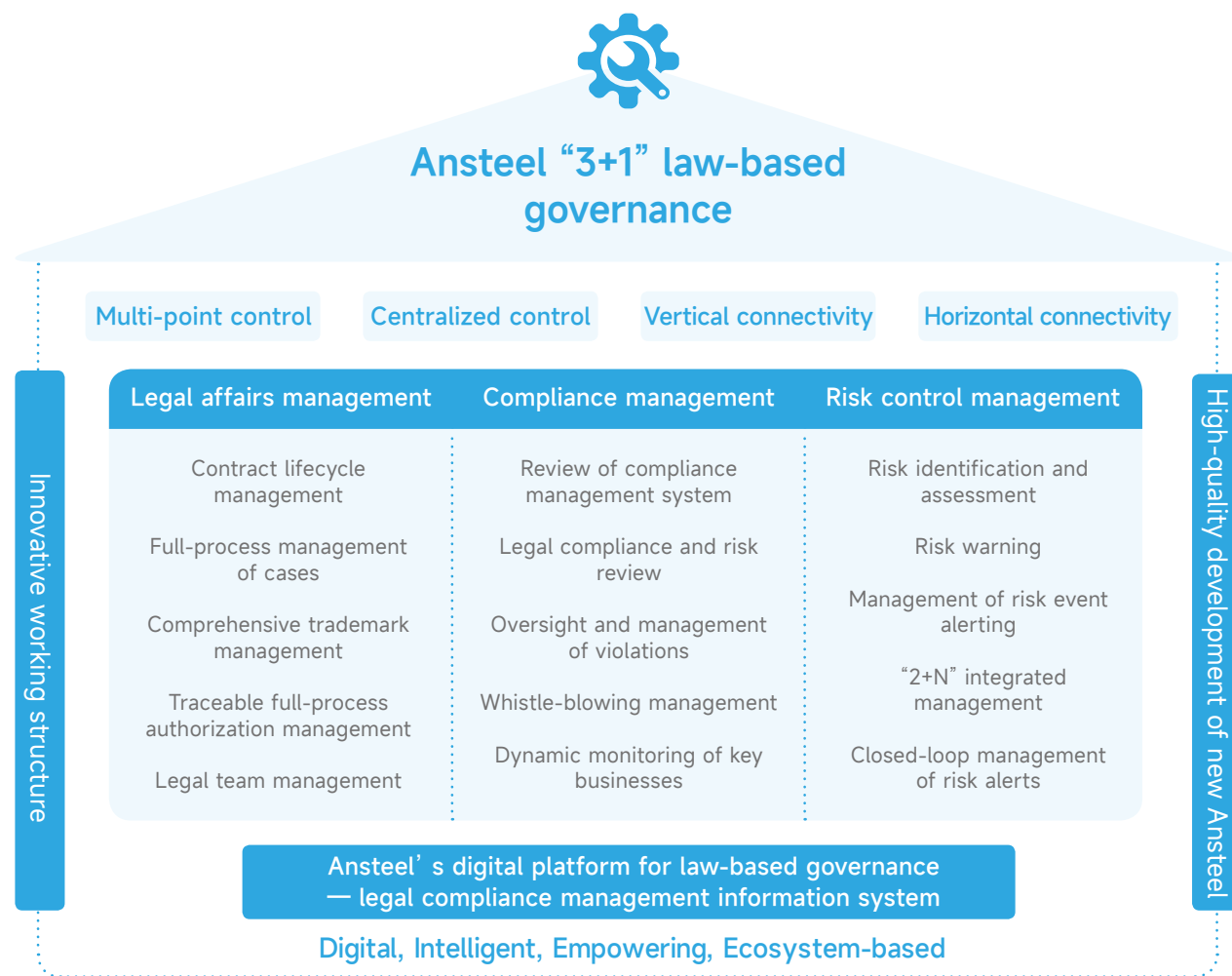
## Development Strategy

Focusing on the main mission of "practicing the new development philosophy and promoting high-quality development", we pursue innovation- and reform-driven development, accelerating the strategic development of the "Dual-Core" strategy of "steel + mining" businesses and "new industrial clusters" and promote smart and low-carbon transformation and upgrading. We comprehensively enhance our capabilities in "technological innovation, industrial control, and safety support", strengthen the leading position in the core area and strive to become a world-class comprehensive solution service provider of high-quality materials.



## Legal Compliance

Ansteel promotes the “3+1” law-based governance, that is, the informatization-based management in legal affairs, risk control, and compliance. We take the initiative in preventing and diffusing major risks, and learn from the risk management experience of world-class enterprises. By embracing a “risk-oriented, internal control-based, law-backed, and compliance-based” approach, we continuously facilitate the integrated management of legal, compliance, risks, and internal control affairs to develop an Ansteel-specific integrated risk management system, which empowers and safeguards the high-quality development of the Company.



### Case Ansteel launches the legal compliance management information system

Ansteel’s legal compliance management information system was launched at the 2023 Legal Work Conference and the Digital Achievement Exhibition. Pursuing a digital, intelligent, scenario-based, and ecosystem-based approach, the system profoundly focuses on “multi-point and centralized control, along with vertical and horizontal connectivity”. By applying cutting-edge technologies such as big data, artificial intelligence, and digital twins, Ansteel strives to develop a platform for intelligent management of contracts and cases throughout their lifecycles, and integrated management of risks and compliance, etc. The platform allows for scientific data analysis, forward-looking trend prediction, proactive risk warning, and closed-loop problem handling, thereby empowering business security, major decision-making, and system management, as well as deep integration of law-based governance with digitalization within the organization.



## Contextual Analysis of Sustainable Development

In 2023, the global economy remained in a sluggish recovery, and the external environment was complex and ever-changing with an increase in instability and uncertainties. The steel industry has entered into a new cycle of adjustment. The continued excess supply and lackluster demand could lead to increasingly fierce competition in the steel sector, and bring new risks and opportunities to the Company. To this end, Ansteel has continuously strengthened macro policy analysis and industry research, and actively responded to market changes. Moreover, Ansteel has accelerated the development of new quality productive forces, propelled green transition, and reinforced safety management to effectively enhance the Company’s sustainable development capabilities.

### Increasing global economic uncertainties

### Intensified industry competition

### Challenging situation due to ongoing trade friction

### Green transition requirements

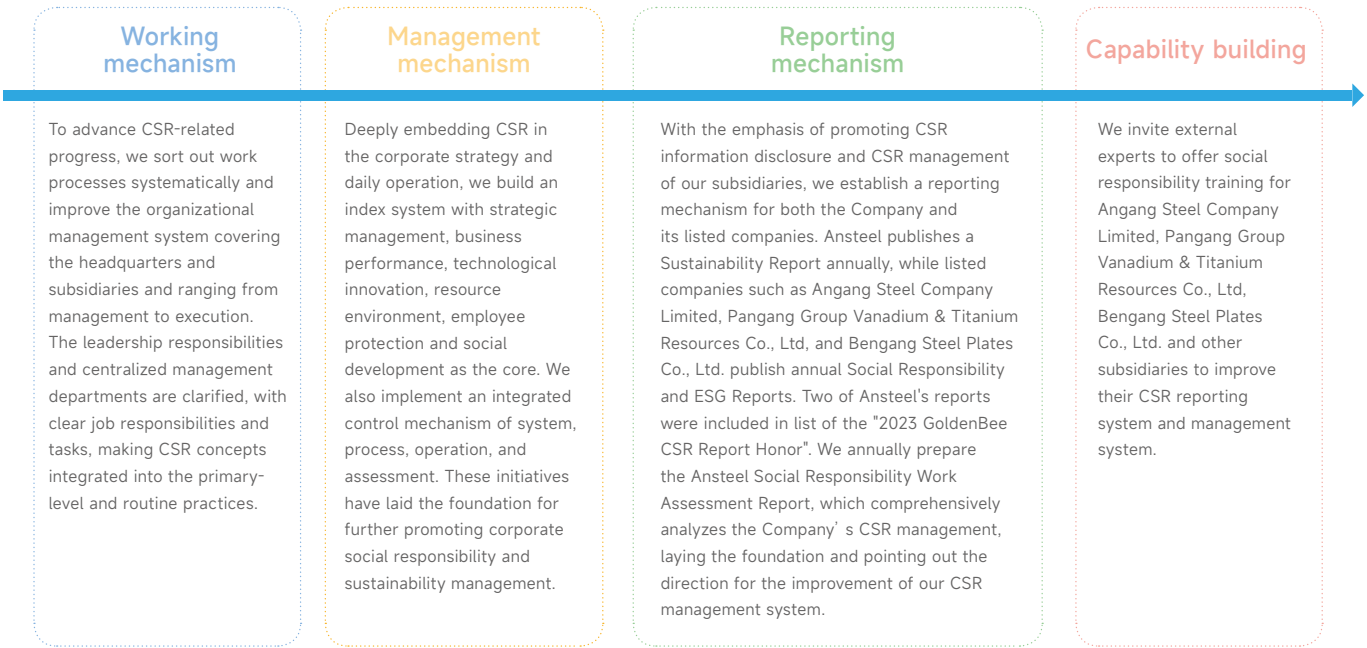
- The sluggish recovery of the global economy may lead to weak demand, impacting the steel export market and price competitiveness.
- The complexity and dynamism of the external environment heighten market risks and operational uncertainties.
- The steel industry has entered into a new cycle of adjustment, with oversupply leading to an increasingly intense market competition.
- The generally subdued demand for steel products puts the Company in the competition for market share and under the pressure of declining prices.
- The differentiated demands for steel in downstream sectors and the expected slight decline in overall demand pose challenges to the Company with market segmentation and evolving customer needs.
- The rise of trade protectionism overseas and international trade frictions may exert more strain on steel exports.
- The steel export market is facing uncertainties and the risk of price fluctuations.
- Green and low-carbon development has become a global consensus. As a major consumer of energy and emitter of carbon, the steel industry must expedite the green transition for lower energy consumption and carbon emissions.
- The increasingly stringent environmental policies and regulations impose more environmental costs and compliance risks on the Company.

# CSR Management

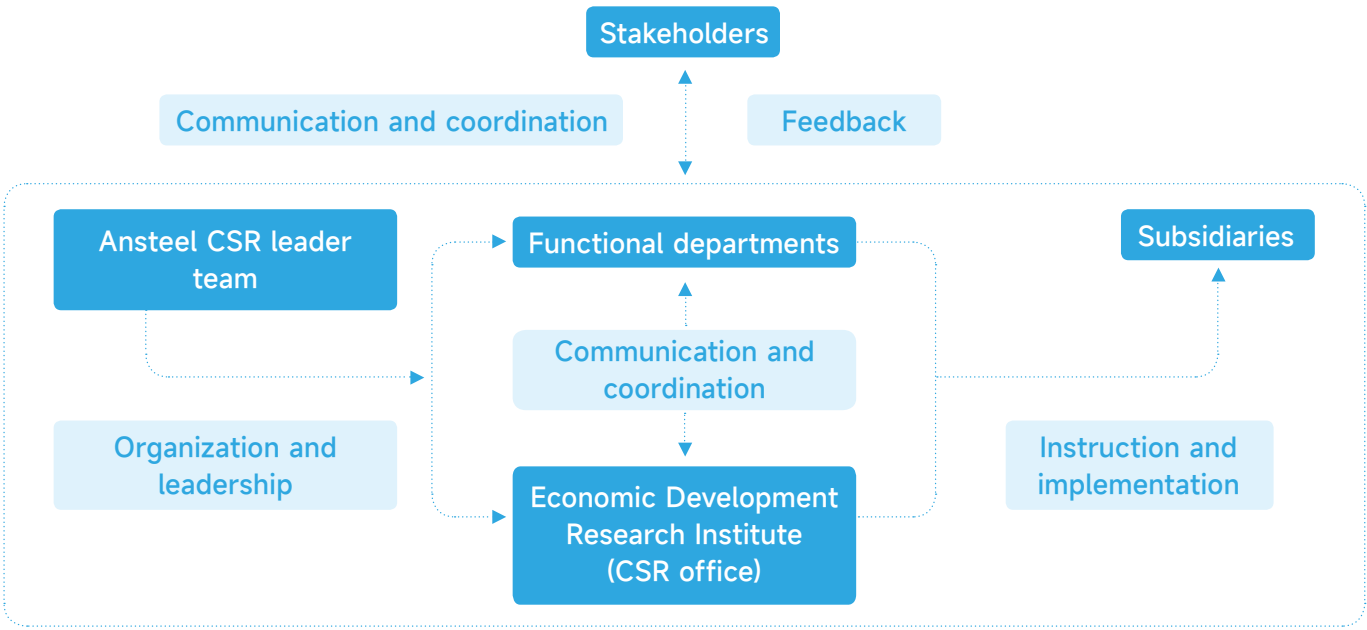
Ansteel makes continuous efforts to carry out its CSR management. By integrating the expectations and demands of various stakeholders into every aspect of the Company's functional management and operations, we further deepen our CSR practice and strive to achieve harmonious coexistence between society and the environment.

## Better Management System

Ansteel keeps improving the CSR management system to consolidate the foundation for CSR practices and support sustainable and high-quality economic and social development.



## Organizational Structure of Social Responsibility and Sustainable Development



## Stakeholder Engagement

Ansteel proactively tracks the expectations and demands of stakeholders. We have created multiple communication channels, including the "Sustainable Development" column on the official website, WeChat official account "Cradle Ansteel" (WeChat ID: agjtwx), and feedback on sustainability reports. Targeted actions are taken in responses to stakeholders' demands.

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



# Feature One: Traversing Geographical Boundaries in Building a New Steel Silk Road

In the past 10 years since the Belt and Road Initiative (BRI) was proposed, the blueprint for international cooperation has been translated into real actions, expanding from hard connectivity to soft connectivity. Over the last decade, Ansteel has contributed to the development of BRI with steel products and services, marking an extraordinary trajectory on this journey of opportunity and development. We have injected Ansteel's wisdom, solution, and power into the building of a community with a shared future for mankind. New "silk roads" made from steel cross the mountains and the sea, connecting different parts of the world. Construction projects supported by Ansteel products have become the landmarks of BRI countries for a better life.

In 2023, bearing in mind the instruction of Xi Jinping, general secretary of the CPC Central Committee, we served the efforts to build a new development paradigm and strengthened exports, with steel exports increasing by 41.59% year-on-year. We shaped a new competitive edge in participating in international cooperation and competition.

## Connecting the World and Improving Well-being

### Steel for railway tracks

Since the BRI was proposed, promoting high-level opening up and contributing China's strength to the world have become prevailing trends of the times. Railways vividly embody high-level opening up to the outside world, where Ansteel is at the forefront:



In September 2015, the first modernized urban light rail on the African continent, Addis Ababa Light Rail Transport in the capital of Ethiopia, was opened to traffic, and all its steel was provided by Pangang.

In October 2016, the Addis Ababa-Djibouti Railway was completed and opened to traffic. This 752-kilometer-long China-Africa friendship "golden line" had nearly 100,000 tons of steel rails provided by Pangang.

In May 2017, the Mombasa-Nairobi Standard Gauge Railway was opened to traffic. Pangang was one of the major suppliers of rail steel, with a supply of more than 10,000 tons of rail, accounting for one-third of the total amount.

In December 2021, the China-Laos Railway at a length of more than 1,000 kilometers was put into operation. Its total demand for steel rails reached nearly 180,000 tons, of which more than 120,000 tons of track switches and the domestic section were supplied by Pangang.

Ansteel bogie steel was exclusively applied in the vehicles of the world's first "Cross-sea SkyRail", Bahia SkyRail in Brazil, injecting new momentum into the local economy.

Pangang has sold more than 3 million tons of steel rails to 36 countries and regions on five continents, becoming China's largest rail exporter. In 2023, newly signed steel rail export contracts of Angang Group International Panzhihua Company Limited increased by 135.48% year-on-year, setting a historical record for the best performance.

### Case The exclusive supplier of Jakarta-Bandung High-Speed Railway

In October 2023, the Jakarta-Bandung High-Speed Railway, running at a maximum speed of 350 kilometers per hour, was officially opened, shortening the journey between the two cities from over 3 hours to over 40 minutes. Pangang's steel rail featured excellent quality that can meet various environmental conditions and the company also put forward feasible logistics solutions. Therefore, Pangang was granted all the rail supply contracts of the Jakarta-Bandung High-Speed Railway. This was the first time that long fixed-length rails tailored for Chinese-standard high-speed railways were exported in batches. Since November 2020, 38,000 tons of Pangang steel rails have crossed the sea, and multiple technologies are the first in China.



### Case Supplying steel rails for the Maya Train in Mexico

As a national strategic project, the Maya Train spans 1,500 kilometers. It started construction in early June 2020 and had steel rails supplied by rail manufacturers from China, the United States, and Japan, of which 50% was from Pangang. At the end of August 2023, the Pangang Vanadium Rail and Beam Factory completed the production and delivery of the 115REIS heat-treated rails required for the first section of the Maya Train in Mexico. Due to their excellent quality and timely delivery, the customer ordered an additional 2,000 tons of rails.



## Steel for bridges

Since 2010, the bridge steel of Ansteel, characterized by high toughness, easy welding, and resistance to atmospheric corrosion, has been exported and applied in the Tanana River Railroad Bridge in Alaska, the Verrazano-Narrows Bridge in New York, the Sava Bridge in Serbia, the bridge in Germany, the Ethiopian Bridge, the Danish ferry bridge, and the key bridge projects in Tanzania, Norway, Mozambique, etc. Ansteel's bridge steel follows Chinese, American, and European standards, covering all bridge steel varieties and specifications.



In 2014, when supplying suspension bridge to Norway's Halogaland, it took us only one month to complete the certification of steel plates and the supply of more than 7,000 tons of steel plates, which amazed the bridge's operator.

In 2016, we won the exclusive contract for all steel plates for the steel box girders of the cross-sea Maputo Bay Bridge in Mozambique, the longest suspension bridge in Africa. The total length of the bridge is 3000 meters, with a main span of 680 meters, a "dream bridge" for local people.

In 2018, we won the exclusive bid for the world's first sea-crossing bridge constructed on a deep-sea uncovered coral reef environment, the China-Maldives Friendship Bridge, which was fully opened to traffic.

### Case The exclusive supplier of bridge steel for the construction of Canada's Pattullo Bridge

Canada's Pattullo Bridge is a challenging and complex bridge project and the steel plates it uses far exceed the current bridge steel standards in Europe and the United States. Ansteel's bridge steel team has developed high-performance uncoated weathering bridge steel with huge thickness, high toughness, and excellent weldability and weatherability. The steel plates are as thick as 6-100 mm with key technical indexes reaching the world-class level. The 500MPa grade uncoated weathering bridge steel has set a precedent for practical application. In March 2023, the exclusively supplied steel components for bridge steel were loaded and shipped.



## Contributing to Projects of Significance and Common Prosperity

Seizing the opportunity brought by BRI cooperation, Ansteel has accelerated the pace of going out and contributed to steel-made engineering projects of significance in BRI countries and regions, stimulating local economic development.

In Asia, Ansteel's steel for nuclear power is used in the first overseas Hualong One nuclear power project under construction - Pakistan Karachi Nuclear Power Plant Unit-2. Ansteel's high-strength steel plates for containers are exclusively used in the Hambantota Port LPG phase I station spherical tanks in Sri Lanka.

In the Arctic, Ansteel's ship steel plates are used for the world's first Arc7 ice class polar condensate tanker, which is equipped with dual-phase ice-breaking capability and is capable of sailing and transporting condensate all year round without the guidance of ice-breakers. We have supplied low-temperature steel for the Yamal LNG project, the world's largest LNG project in the Arctic region.

### Case Supplying steel for the China-Russia East-Route natural gas pipeline

The China-Russia East-Route natural gas pipeline is a landmark energy cooperation project between the two states. In March 2018, Pangang won the contract for producing 18,700 tons of 21.4-mm thick X80 high-grade pipeline steel for spiral steel pipes for the project (Heihe-Changling section). After the delivery of the contract, we secured another large order including 70,000 tons of steel for the middle section of the China-Russia East-Route natural gas pipeline in 2019. On December 2, 2019, after five years of construction, the China-Russia East-Route natural gas pipeline, a major energy artery spanning China and Russia, was officially put into operation.





## Offering Outstanding Products and Services

The steel of Ansteel is used in railways, bridges, oil and gas pipelines, vehicles, and domestic appliances. Our products support people's life, improve public service facilities and transportation networks, and strengthen environmental protection. People-oriented projects adopting Ansteel products are implemented, generating practical benefits for households in BRI countries and regions.

In 2023, Ansteel leveraged foreign trade subsidiaries and markets at all levels as "bridgeheads" to build a reliable and efficient logistics network and supply chain, providing strong protection for expanding the overseas market and improving international operations.

- |  |   |
|--|---|
| <p>▶ The marketing center of Angang Steel Company Limited looks for potential orders from overseas engineering projects and strategic customers' overseas factories and improves the ability to supply global customers. The company has established a dynamic export adjustment mechanism and expanded exports by reallocating domestic goods in stock or circulation and confirming tentative export orders.</p> | <p>▶ Angang Group International Trade Corporation Ltd. takes proactive marketing approaches, makes accurate judgments of the Turkish market opportunities, and responds swiftly to take orders. In 2023, the company's contracted exports increased by 209% year-on-year. With the help of the Malaysian SIRIM certification, the volume of exported hot-rolled steel coils has achieved a breakthrough.</p>  |
| <p>▶ By participating in industry exhibitions held outside China, mail and telephone exchanges, and video conferences, the export marketing department of Pangang Group Vanadium &amp; Titanium maintains frequent communication with foreign customers to arrange orders in advance, rapidly respond to customer inquiries and requests, and maximize customer satisfaction.</p>                                  | <p>▶ Benxi Iron &amp; Steel (Group) International Economic and Trading Co., Ltd. closely follows the needs of end customers, puts in place a technical exchange and mutual visit mechanism, and offers professional advice for customer problems, boosting the export of BenSteel automotive steel plates. The company also strengthens cooperation on Mexican agricultural vehicle steel, another profit growth area, and guarantees the goods loading timing to avoid risks in contract delivery.</p> |

### Case High-grade steel rails are delivered on schedule

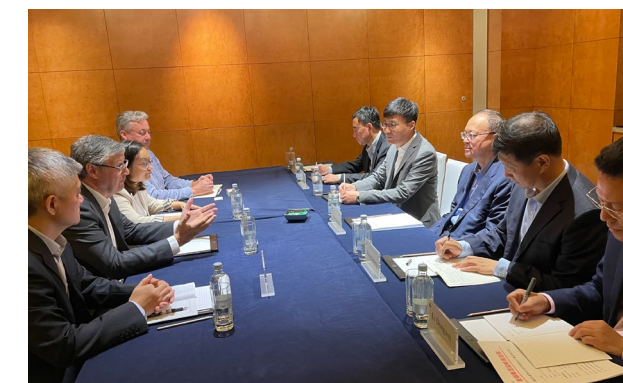
UIC54R370CrHT 50m steel rails for exports produced by Angang Steel Company Limited are shipped from China to other countries for the first time. The first batch of steel rails are exported to Indonesia through one-stop transportation and loading services. Featuring super hardness and strength, the steel rails meet the strictest European standards in product specifications, flatness and distortion, and surface quality. Angang Steel Company Limited has set up a production, marketing, research, and management team that can implement industrialized trial production of rails and adopt a tailored "3+1" rolling process to ensure on-time contract delivery.

## Facilitating Open Exchanges and People-to-People Bond

In September 2023, a delegation consisting of Anshan Iron and Steel Group, Pangang, BenSteel, and Angang Group International Trade Corporation Ltd. organized the "Ansteel Day" activity in Vietnam during the 13th Asian Steel Forum, attracting many trade partners at home and abroad, Vietnamese producers, and industry experts. Hosted by Ansteel, the activity organized the first joint promotion of three regions, where Ansteel listened to the opinions of customers, carried out in-depth business exchanges, and reached long-term initial purchase and sales contracts with several enterprises. The delegation also visited Nam Kim Steel, SeAH Steel Vina, POSCO-VIETNAM, and other enterprises to discuss future cooperation.

On November 6, 2023, at the 6th China International Import Expo, the "Green, Intelligent, Sharing - The Road to New Industrialization of Iron and Steel" forum hosted by Ansteel was held, inviting global partners to discuss the new industrialization and new quality productive forces. At the forum, Ansteel signed contracts with eight overseas suppliers, including Australia's Rio Tinto, Germany's Tenova-LOI, Britain's Primetals Technologies, and Russia's ELSI, involving low-carbon technology, digital industrial products, coal, machinery and equipment.

In the future, Ansteel will improve the integration of the global supply chain, optimize the overseas marketing strategies, expand the marketing and service network layout, and consolidate our competitiveness in international cooperation and competition to support higher-quality and higher-level BRI development.



Tan Chengxu, Secretary of the Party Committee and Chairman of the Board, leads a team for exchanges with international partners



## Feature Two: Contributing to Ecological Restoration to Build a Beautiful New Ansteel

Since the 20th National Congress of the CPC was held, China has been pursuing modernization featuring harmonious coexistence between humanity and nature in its development. Committed to the principle that "to protect the environment is to protect productivity and to improve the environment is to boost productivity", Ansteel maintains the path of prioritizing ecology and green and low-carbon development and goes all out to promote the harmonious coexistence between the Company and nature, making Ansteel's contributions to a beautiful China.

**4000+** hectares

Mines that are restored ecologically

**93.2%**

Restoration rate

**16**

National green mines

Ansteel Mining Ecological Park is recognized as the  
"National Green Mining Demonstration Base" and  
"Primary and Secondary School Field Study Base".

### Building Green Mines

Building green mines is an important approach to promoting ecological civilization and the inherent requirement of mining transformation and green development. Ansteel coordinates the development and utilization of mineral resources and environmental protection, safeguards green mines, and follows the path of sustainable development to shore up invaluable ecological assets. We are convinced that green mines will be a vivid embodiment of a beautiful China.



### Ongoing ecological restoration

Ansteel Mining Group Co., Ltd. has formulated and implemented the *Green Mine Building Master Plan and Ecological Restoration and Governance Plan* for phased management and step-by-step resolution of outstanding environmental problems. Several mine landscaping and restoration projects have been launched to revitalize mines. During China's 2023 two sessions, Hua Chunying, Assistant Minister of Foreign Affairs and spokesperson, posted five sets of satellite images in comparison on her social media Twitter account, showing China's changes in the past decade. Among these images was Ansteel's mine ecological protection progress.





## Case Ecological restoration project of the Dagushan iron ore mine open pit is launched

In December 2023, the ecological restoration project of the Dagushan iron ore mine open pit was launched. The project adopted cemented tailings backfill to eliminate the risks of landslides at the open pit's steep slopes and gradually restore the century-old open pit to its original landscape. The tailing sand used in the project is produced by several mineral processing plants of Ansteel Mining Group Co., Ltd., which can effectively reduce the occupation of tailing ponds, increase the land for agriculture and forestry, and improve the amount of carbon sequestered in soil and vegetation.



In 2023, strictly adhering to mine governance standards, each subsidiary strengthened the environmental governance of their mine areas to create green mines:

### Pangang

The company revised mine ecological restoration plans, implemented ecological protection measures such as mine re-landscaping, soil consolidation, and soil and water conservation, and restored 1 million m<sup>2</sup> of the railway discharge sites and the new Baima I discharge sites.

### BenSteel

The company promoted the "Great Beauty Mine" brand and restored mines such as Nanfen open-pit iron ore mine, Waitoushan iron ore mine, and Beitai iron ore mine. In 2023, a total of 297 hectares, or 97%, of land was restored through fixed investment in restoration projects, tree planting by employees, and natural landscaping.

### Ansteel Mining Group Co., Ltd.

The company released the 2023-2025 mine ecological restoration plan, aiming to spend three years on systematic ecological restoration of seven mines that cover 191.11 hectares and realize harmonious mine development and environmental protection. In 2023, the ecological restoration of five mines, such as the rock discharge field of the Dong'anshan iron ore mine and Guanbaoshan mining rock discharge fields, with a restored and landscaped area of 61.31 hectares, a restoration rate of 100%.



## Technology lights up a green future

Green and intelligent development is a must to realize mineral resource sustainability and the transformation and high-quality development of mining enterprises. Ansteel advances green and intelligent mine development, gets rid of the old mindset of pollution first and action later, and implements whole-process innovation centering around the efficient utilization of poor iron ore.

## Case Two projects win the 2023 Green Mine Science and Technology Award

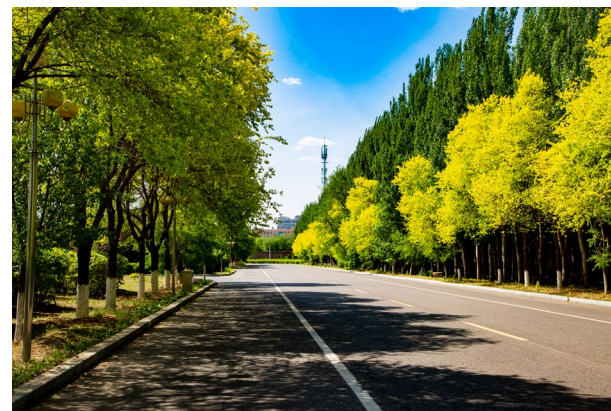
Ansteel's project of "key technology and application for improving the metal recovery rate of hard-to-grind and hard-to-process ore" fundamentally addresses the incompatibility of grinding and processing technology and the nature of ore, increasing the metal recovery rate by 1.45% and generating remarkable economic and social benefits. The project of "research and application of new efficiency and energy-saving technology for hematite separation by high-pressure roller grinding and pre-selection" improves the efficiency of hematite separation and slashes energy consumption and waste, providing new solutions for the green and sustainable development of China's mining industry. These two projects have won the second prize of the 2023 Green Mine Science and Technology Award.



## Building Garden-styled Factories

Ansteel accelerates transformation by carrying out environmental management and landscaping actions in factories and ramping up investments in improving the factory environment to build an environment in harmony with the surrounding urban areas. We strive to create beautiful and eco-friendly garden-styled factories.

- **Anshan Iron and Steel Group:** The company has created forest-styled and garden-styled factories through landscaping, improving the quality of the environment proactively. In 2023, a total of 56,200 arbor trees, 136,700 shrubs, and 13,200 vines were planted in the Anshan area, and alfalfa grass was sown over 30,500 square meters of land.



- **Pangang:** Systematic planning and construction are carried out through measures such as landscaping, landscaping radiation, layout of visiting routes, road hardening and restoration, corridors landscaping, and coloring of the facades of buildings and structures, comprehensively improving the factory environment.



In 2023, Chaoyang Iron & Steel and Xichang Steel & Vanadium won the title of "National Metallurgical Landscaping Advanced Unit".

- **BenSteel:** The overall environment of the three major plate factory (mine) areas has been significantly improved, forming initial iron and steel industrial tourism routes. Bengang Steel Plates Co., Ltd. and Benxi Beiyang Iron & Steel (GROUP) Co., Ltd. have been formally recognized as national "3A" industrial tourism attractions.



### Case Creating national "AAA" garden-styled factories

BenSteel strives to build eco-steel-factories that are in harmony with the urban environment by dismantling more than 40,000 square meters of waste buildings, painting more than 500,000 square meters of building exteriors, and adding or improving 300,000 square meters of landscaped areas. The total green space of Bengang Steel Plates Co., Ltd. and Benxi Beiyang Iron & Steel (GROUP) Co., Ltd. has reached 2.2 million square meters, with two new Party building themed plazas and three theme parks. In 2023, Bengang Steel Plates Co., Ltd. and Benxi Beiyang Iron & Steel (GROUP) Co., Ltd. were awarded the national 3A industrial tourism attraction.







Marked by innovation, new quality productive forces, the key of which is quality, are advanced productivity in essence. Ansteel grasps the key of science and technology, leverages the "golden key" of innovation, and stimulates the vitality of sci-tech innovation by fostering a sound innovation ecology. With a high-level innovation platform in place, we bring together strengths for sci-tech innovation. By serving China's strategic needs and industrial upgrading, we improve our strength in sci-tech innovation, which shapes new quality productive forces for the high-quality development of the iron and steel industry, injecting a strong impetus to build a global first-class enterprise.

## Innovation-driven Strategy Fosters New Quality Productive Forces

/ Sci-tech Innovation  
/ Empowerment by Digital Technology  
/ Business Expansion





# Sci-tech Innovation

Science and technology are the bedrock upon which a country relies for its strength, enterprises for success, and people for a better life. Ansteel deepens the efforts to build an R&D system, ramps up sci-tech R&D investments, and continues the R&D on core technology and technology for future industries. We enhance the coordinated innovation among industry, university, and research institutes, play a leading role in innovation, and promote industrial innovation through sci-tech innovation, accelerating the formation of our technological strength in iron and steel.

## Improving the innovation system

The Company continues to improve the innovation system, consolidate the sci-tech foundation, and optimize the innovation environment. Our efforts to build several national research platforms push forward sci-tech self-reliance and self-strengthening at higher levels.

3.88% Intensity of R&D investment

### Improving the innovation system

In 2023, the Company improved the innovation system by issuing guidance in the areas of patents and future industries, and introduced policies to strengthen basic research, standardize sci-tech management, and perfect incentive mechanisms for a sound innovation ecology.

### Establishing innovation platforms

We cultivate a "1+3+N" R&D system, put in place an independent innovation R&D platform centered on research institutes and a strong technical support platform based on the manufacturing base, and contributed to the development of national key laboratories. In 2023, we added innovation platforms such as the Liaoning Academy of Materials - Ansteel Group Corporation Limited Advanced Metal Materials Industry Innovation Center and Ansteel Technology Innovation Center - Ansteel Mine Research Institute.

### Stimulating innovation vitality

The Company has implemented the *Ansteel Improvement of Sci-tech Incentive Mechanism Implementation Program*, offering more incentives for researchers and research teams that make significant contributions to undertake core technology research tasks, build a cradle for original technology, form leadership in the modern supply chain, and enhance the competitiveness of core technology. We have shaped a new pattern of salary distribution oriented to knowledge and value creation to fully tap into the innovation and development potential of researchers.

## Case Holding the Ansteel sci-tech innovation conference

On September 25, 2023, Ansteel held a sci-tech innovation conference, where the sci-tech innovation agenda was confirmed seven Ansteel scientists and nine outstanding teams were recognized, and six first-prize projects of 2023 Ansteel Science and Technology Award were announced. We also unveiled Ansteel's innovation platforms - Ansteel Mine Research Institute and Ansteel Original Technology Cradle, to strengthen the main position of Ansteel in sci-tech innovation, forge national strategic sci-tech forces, and embark on a new journey to foster iron and steel strength for a great country in science and technology.





Generating innovation outcomes

The Company highlights sci-tech innovation and the responsibility to undertake national key and core technology R&D and continues to foster and commercialize high-end sci-tech achievements.



Sci-tech honors

16  
Metallurgical sci-tech  
awards in 2023  
(including a grand prize granted to a project  
led by Ansteel since its establishment)

21  
Sci-tech awards of  
Liaoning Province

6  
Sci-tech awards of  
Sichuan Province

43  
Industry and provincial  
sci-tech awards

Undertaking national research projects:

In 2023, the Company led the research of several national projects. We carried out national key R&D projects such as "surface engineering technology and application of key components in the metallurgical field under complex engineering conditions" and "development and application of long-life rail steel for Sichuan-Tibet Railway". The research outcomes have been applied in projects.

Promoting standardization:

The international standard ISO 630-5 Structural Steels – Part 5: *Technical Delivery Condition for Atmospheric Corrosion Resisting Steels*, which we helped revise, was released, enabling China to play a leading role in formulating two of the six major standards for structural steel in ISO 630. It enhanced China's dominance in structural steel products and international standards.



37 Technical standards revised and issued Including: 1 International standard 31 National standards 5 Industry standards

3 International standards that are being revised under the leadership by the Company

Improving the patent layout:

By the end of 2023, we had accumulated 12,347 valid patents, including 6,946 effective invention patents, or 56% of total patents, and 168 valid overseas patents, or 1.3% of overseas patents. In 2023, another 1,772 patents were authorized.

Pursuing innovative R&D outcomes:

Case Winning the 2023 metallurgical sci-tech award grand prize

The Ansteel-led project "Key Technology Development and Commercialization of the Third-Generation Low Temperature and High-Pressure Pipeline Steel for Ultra-large Transmission Capacity" won the grand prize of the 2023 metallurgical sci-tech award. The project addressed core issues of crack arrest, toughness matching, and size effect, thus obtaining more than 20 patents. Three major products developed from the project have achieved five records of "first of its kind" at home and abroad, a world-class achievement that meets the demand for pipelines of extreme specifications. The project outcomes have been applied in many major pipeline projects in China, completely localizing the manufacturing of low-temperature steel for ultra-large capacity transmission in major national pipeline projects.

Case Winning the first prize of the nonferrous metal industry science and technology award

Pangang's "Key Technology Development and Application of Ultra-soft Titanium Sponge Preparation for Aviation" project has developed a complete set of technology for the large-scale preparation of high-quality ultra-soft titanium sponge, realizing the high-quality utilization of Panxi's titanium resources and replacing the import of key titanium materials in the aviation industry. It guarantees the security of titanium basic materials for China's aviation field and an independently controllable titanium metal supply chain. In 2023, the project won the first prize of the nonferrous metal industry science and technology award.





# Empowerment by Digital Technology

Regarding the building of a digital Ansteel as a key approach to enhancing core functions and competitiveness, we focus on "AI+" to digitalize industrial upgrading, foster a digital industrial ecology, and tap into the value of data to shape a new model of digitalized green and low-carbon development. The SASAC has rated the digitization and intelligent development of Ansteel as "excellent" and the Liaoning Provincial Party Committee and Provincial Government have applauded the achievements of Ansteel in the development of "Digital Liaoning, Great Intelligent Province".

**14** Production lines digitalized

**53** Innovation outcomes for pilot demonstrations

Including **28** Innovation outcomes at the level of ministries and commissions



## Drafting a digitalization blueprint

The Company sees the building of a digital Ansteel as a new engine to accelerate high-quality development and promotes digitalization through three paths: "digitalizing industrial upgrading, accelerating the development of the digital industry, and harnessing the value of data".

### Digitalizing industrial upgrading



- Advancing key projects of smart management, smart operation, and smart manufacturing
- Strengthening the in-depth integration of new-generation digital technology and business scenarios
- Rapidly promoting the summary, sharing, and application of the outcomes in building a digital Ansteel

### Accelerating the development of the digital industry



- Improving the service capacity for the digital industry
- Accelerating the development of new digital infrastructure
- Implementing the industrial Internet innovation and development strategy

### Harnessing the value of data



- Strengthening design at the top, improving the whole system, and formulating special programs
- Carrying out data governance and sorting out data resources comprehensively
- Strengthening capacity output and engaging in relevant tasks and special research
- Tapping into the value of data and building a big data platform based on the "1+N" structure

## Building a digital Ansteel

The Company's digital transformation has empowered high-quality development, offering exemplary leadership and valuable insights for the digital transformation of iron and steel enterprises. In 2023, we digitalized 55 production lines, and 53 intelligent manufacturing achievements including the intelligent energy management and control platform were listed by state ministries, commissions, and industry associations for pilot demonstrations, demonstrating the remarkable results in building a digital Ansteel.

### Case

#### Building the Yujia industrial Internet platform

Ansteel's "Yujia industrial Internet platform" is a new manufacturing service system covering all elements, the whole industry, and the whole value chain. Centering around "application + platform + data", the platform develops an integrated operation model covering the whole iron and steel industry ecosystem, projects, products, and services. In 2023, the platform was listed as one of the "cross-industry and cross-sector" platforms, the first in Northeast China, by the Ministry of Industry and Information Technology.

### Case

#### Launching the steel industry integrated platform

Ansteel has built an integrated operation and manufacturing management system for the iron and steel industry, facilitating all links in the value chain, including procurement, production, quality, logistics, and sales. 2023, the integrated platform was applied at BenSteel, with a 12% increase in the hot-rolling hot charge ratio, a 21% drop in inventories, an average reduction of 17% in repair fees per ton of steel, and a 4% increase in overall equipment efficiency, showing significant empowerment effects.




# Business Expansion

Ansteel fosters and grows strategic emerging industries and future industries, supplements, extends, or shores up the supply chain, and shapes a new development pattern of "dual-core + third pole" to cultivate new industries, models, and driving forces. We enhance core functions and competitiveness, deepen cooperation and exchange, and share development opportunities.


## Exploring non-steel industries

The Company fosters new growth engines in new materials, modern supply chain, new energy, energy conservation and environmental protection, and other areas to create new industry clusters able to make up for the cyclical fluctuations in our main business. In 2023, we achieved impressive results in the third-pole key industries.


The "third pole" core logic: relying on the main business, developing industries, and incubating enterprises




New materials industry




Green and low-carbon industry



Information technology industry

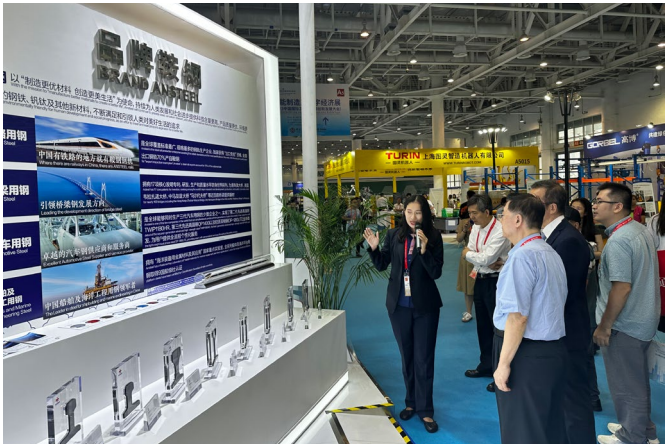


New energy industry



Modern supply chain industry

- We extend the conventional gas chemical industry to the field of carbon material, set up the Lvding new Company, and roll out business in Panzhihua to realize the coordinated development of the two places.
- We promote various types of high-end spherical aluminum powder and other products. Ansteel Group Aluminum Powder Co., Ltd. has developed a full range of aluminum powder products with proprietary intellectual property rights.
- We accelerate the formation of a commercialization platform of scrap steel resources, whose annual revenue in 2023 reached RMB 3.59 billion, with five core bases, 22 resource nodes, and resources of 5 million tons under control.
- We have set up the "Joint Innovation Center for Recycling of Renewable Resources in the Whole Life Cycle" and built an industry-leading patented intelligent quality inspection system integrating packaging, grading, and remote monitoring.
- Ansteel Green Resource Technology refines the "Ansteel Brand" slag powder and cooperates with the Science and Technology Center of the Ministry of Housing and Urban-Rural Development to formulate standards for using metallurgical slag as green building materials.
- We have built the Ansteel 1+N big data platform independently and one-stop data services of "data collection, storage, calculation, governance, and use".
- The "Yujia" industrial Internet platform with proprietary intellectual property rights is listed as a national "cross-industry and cross-sector" industrial Internet platform.
- We have formed Ansteel's overall work program for the technology application innovation industry with milestones achieved and follow-up tasks specified.
- The pilot project of the iron and steel metaverse 5500 virtual factory has been launched.
- In the field of hydrogen energy, we take well-planned action and pilot the use of hydrogen-powered heavy duty trucks in Anshan, Bayuquan, and Benxi Iron & Steel (Group) Co., Ltd. plants respectively. We have built the only hydrogen refueling station for iron and steel enterprises in the Northeast region.
- In the field of wind and solar power, we are determined to promote the development of the green energy industry. We have built the new energy industry development platform of Anxia Clean Energy. We signed key projects at the 2023 State-owned Central Enterprises Symposium on Assisting Northeast China's Revitalization.
- In the northeast region, Delin Land Port Supply Chain Services Co., Ltd. expands market shares, achieving annual revenues of RMB 12.296 billion in 2023.
- In the southwest region, JWELL practices "Internet + advanced manufacturing" and is among the first companies to explore the new model of industrial Internet, realizing annual revenues of RMB 11.9 billion in 2023.





Case

### Accelerating the project of producing 60,000 tons of titanium dioxide by molten salt chlorination each year

In 2023, one of Ansteel's third-pole landmark projects, a key project in Sichuan Province to enable Pangang to manufacture 60,000 tons of titanium dioxide by molten salt chlorination each year, had its supporting equipment, a 110KV substation, put into operation successfully at the first commissioning. This guaranteed the commissioning and operation of the main equipment. As the production line was established and operated, annual titanium dioxide production was expected to reach 295,000 tons.





Conducting cooperation and exchanges

Ansteel deepens industry exchanges, maintains long-term and stable industry-university-research partnerships with research institutes, and accelerates collaborative innovation and sci-tech outcome commercialization, making new contributions to building a country with a strong iron and steel foundation and great sci-tech strengths.

Deepening industry exchanges

<p><b>In February</b></p> <p>The Company introduced digitalization practices at the exchange conference of the iron and steel industry in Liaoning Province, which was co-hosted by the Liaoning Provincial Government, Northeastern University, and Ansteel.</p>	<p><b>In April</b></p> <p>Director Yang Rui of the Institute of Metal Research, Chinese Academy of Sciences, led his team to visit Xichang Steel &amp; Vanadium and Pangang Group Sichuan Changcheng Special Steel Co., Ltd. for exchanges in titanium alloys. Two special presentations, including <i>The Application and Development of Titanium Alloys</i>, were made.</p>	<p><b>In July</b></p> <p>The National Vanadium and Titanium Industry Alliance founding ceremony was held in Chengdu, Sichuan Province. Pangang was elected as the chairman unit of the alliance to promote the vision of "developing vanadium and titanium resources for a strong country and a shared future".</p>
<p><b>In October</b></p> <p>The third meeting of the coal and steel industry exchange mechanism was held, which was organized by the China Iron and Steel Association, China National Coal Association, and China Coal Transportation and Distribution Association and hosted by Ansteel.</p>	<p><b>In November</b></p> <p>We invited academician Mao Xiping to preside over the third meeting of the second session of the Academic Committee of the State Key Laboratory of Metal Material for Marine Equipment and Application.</p>	<p><b>In December</b></p> <p>Zhou Qingyue, a China Railway Science Research Institute researcher, was invited to give an academic lecture on "Abrasion and Fatigue of Heavy Railway Rails".</p> <p>The "Strengthening Party Construction and Optimizing the Iron and Steel Industry" on-site exchange meeting, also the fifth council meeting of the tenth session of the Metallurgical Council of China, was held in Ansteel.</p>

Promoting research cooperation

<p><b>In February</b></p> <p>We signed a strategic cooperation agreement with Liaoning Academy of Materials to build an industrial technology innovation center for advanced metal materials.</p>	<p><b>In September</b></p> <p>We signed a new strategic cooperation framework agreement with the Dalian University of Technology and renewed the strategic cooperation framework agreement with Northeastern University and Harbin Institute of Technology to see that our cooperation goes extensive and intensive.</p>	<p><b>In October</b></p> <p>Together with Shenbei New District of Shenyang City, Northeastern University, Shenyang Urban Resource Recycling Technology Co., Ltd., and Liaoning Lufan Industrial Group Co., Ltd., we built a "Joint Innovation Center for the Whole-Life-Cycle Recycling of Renewable Resources", to support the development and innovation of cutting-edge technology in renewable resource recycling and digitally empowered whole-life-cycle use of iron and steel materials.</p>
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Strengthening strategic cooperation

In 2023, Ansteel signed strategic agreements with China Mobile, China Telecom, China Broadnet, ZTE, Industrial and Commercial Bank of China, Sunwah Group, China Tower, and Harbin Electric Corporation to carry out in-depth cooperation in various fields such as sci-tech innovation, financial business, environmental protection, and supply chain.

- On April 10th, 2023, Ansteel and Sunwah Group in Hong Kong signed a strategic cooperation framework agreement. The two sides will strengthen cooperation in the areas of supply chain, international business, sci-tech innovation, financial and capital operation, and engineering projects to improve core competitiveness and China's economy.
- On April 13th, 2023, Ansteel signed a strategic cooperation agreement with China Tower. The two sides will strengthen strategic cooperation in six major areas, including supply chain, technology R&D, new infrastructure, engineering projects, finance, and Party building, to realize complementary advantages and win-win cooperation.
- On April 27th, 2023, Ansteel signed a strategic cooperation framework agreement with China Certification & Inspection Group. The two sides will strengthen cooperation in 11 areas, such as China's 30•60 Decarbonization Goal, environment, certification, and organization service improvement, metrology, inspection, and appraisal to jointly promote the high-quality development of both sides.
- On November 15th, 2023, Ansteel signed a strategic cooperation framework agreement with Harbin Electric Corporation. The two sides will deepen cooperation in the fields of material supply, product service, sci-tech innovation, digitalization, industrial finance, engineering design and construction.
- On December 6th, 2023, Ansteel signed a strategic cooperation agreement with China Geological Survey. The two sides will strengthen cooperation in deep and peripheral geological prospecting in mining rights areas, sci-tech innovation in the field of geology and minerals, cooperation in overseas geological surveys, and high-quality development of the mining industry to support the security of China's energy and resources.







02

Steel is a crucial cornerstone for building a manufacturing powerhouse. With the focus on its core steel business, Ansteel produces various high-quality steel products and participates in the manufacturing and research of many national pillar projects, striving to solidify the foundation of the real economy. By leveraging the mineral resource advantages, we enhance China's strategic resource security and ensure the safety of the steel industrial chain and supply chain. We adhere to brand leadership, aiming to create a world-class enterprise with global competitiveness through quality products and services, thereby becoming the "steel backbone" in the construction of a modern industrial system.

## Serving the Overall National Interests to Build a Community with Shared Future

/ Contributing to National Prosperity and Economic Growth  
/ Ensuring Resources Supply  
/ Providing Quality Service with Brand Leadership





## Contributing to National Prosperity and Economic Growth

The automotive steel, shipbuilding and marine engineering steel, bridge steel, nuclear power steel, and special steel products manufactured by Ansteel are all industry leaders. These products are widely used in key national projects, significantly supporting the steady development of national infrastructure, defense industry, and equipment manufacturing. Ansteel provides a constant source of driving forces for the national strength and the rejuvenation of the Chinese nation.

### Supporting infrastructure development

With high-quality steel products, Ansteel provides solid support in construction fields such as bridges, railways, and subways, becoming a vital force in national infrastructure development.

#### Case Providing strong steel support for major national pipeline projects

The natural gas pipeline project from Heihe, Heilongjiang province to Shanghai is the first to use 1422mm ultra-large diameter, X80 high steel grade, and 12MPa high pressure level steel pipes in China, reaching world-class standards. Ansteel delivered a total of 644,700 tons of medium and thick plate pipeline steel for this project, accounting for nearly 40% of the total usage. This sets multiple records, including the largest pipe diameter, thickest wall, highest pressure pipeline application domestically, and the world's largest river-crossing pipeline project.

#### Case Assisting in the construction of the world's longest cross-sea high-speed railway bridge

The Hangzhou Bay Railway Bridge is a key project of the Nantong-Ningbo High-speed Railway. It is designed for a speed of 350 kilometers per hour and has a total length of 29.2 kilometers, making it the longest cross-sea high-speed railway bridge in the world. In March 2023, the construction of the Hangzhou Bay Railway Bridge officially began. BenSteel provided approximately 120,000 tons of Q355C hot-rolled products for the "Nantong-Ningbo High-speed Railway station" project. Once completed, the project will significantly improve the road network of the Yangtze River Delta region.



### Serving the development of the real economy

Steel is a fundamental cornerstone in building a manufacturing powerhouse. Ansteel focuses on its core steel business and promotes the development of a new pattern in the steel industry, striving to solidify the foundation of the real economy and forging high-quality development capabilities.

#### Case Achieving international advanced levels in ultra-high heat input welding ship plate steel

Anshan Iron and Steel Group independently develops and produces the model EH40W, a welding ship plate steel with an ultra-high heat input of 600kJ/cm, which has successfully passed certifications from DNV, American Bureau of Shipping (ABS) and other international classification societies. This milestone signifies that Ansteel's ultra-high heat input welding steel has reached an international leading level. The product can effectively reduce the number of welding passes, improve welding efficiency, and significantly lower shipbuilding costs, thereby providing crucial support for the rapid development of the shipbuilding sector in China.

#### Case Supporting the development of the automotive industry

The Main Cold Rolling Plant of Bengang Steel Plates Co., Ltd. produces the world's widest 2150mm wide plate, leading a transformation in downstream automotive production from laser welding to wide plate production. In 2023, efforts were made to fully cover the specifications of wide-width products, which significantly improved the qualification rate of wide plate products. The successful rolling of dual-phase steel with enhanced formability on the No.3 pickling line and the successful production of extreme specification materials certified by FAW on the No.2 continuous annealing and No.5 galvanizing lines marked significant advancements in new product development.

### Forging national pillars

National pillars are critical to a nation's security and development. Ansteel continuously enhances its manufacturing capabilities, strengthens its innovation momentum, and builds synergy for development to contribute to forging national pillars.

#### Case Supplying high-end large marine engineering equipment

In May 2023, the world's first M350 floating production storage and offloading (FPSO) vessel, fully supplied by Ansteel, was officially delivered in Dalian, Liaoning province. This ship type represents the world's first ultra-large marine project designed using the latest standards, marking a significant breakthrough in China's FPSO shipbuilding industry.

#### Case Contributing to the construction of China's northernmost nuclear power plant

In December 2023, the construction of the Unit 1 nuclear island project at Liaoning Xudabao Nuclear Power Plant, the northernmost nuclear power plant in China, broke ground. Located in Xudabao Town, Xingcheng City, Liaoning Province, this project is one of the largest clean energy investments in Liaoning during the "14th Five-Year Plan" period. Over 2200 tons of Class 1 nuclear steel plates from Ansteel will be used in the construction of the containment vessel, contributing Ansteel's strength to the comprehensive revitalization of Northeast China in the new era.



## Ensuring Resources Supply

Adhering to the goal of "providing world-class products with world-class costs and on a world-class scale", Ansteel picks up pace to build itself into a globally competitive mineral resources enterprise. Through implementation of the "Cornerstone Plan", the Company strives to increase iron concentrate output by 20% by 2025 compared to 2020, and double it by 2030, establishing Ansteel as the "ballast stone" that ensures the security of China's steel industrial chain and supply chain.

### Strengthening resource development

Steel is the grain of industry, and iron ore is the grain of steel. Ansteel steadily increases the speed of project construction in the mining sector and continuously advances the "three batches" projects. Adhering to the mission of "enhancing the strategic resources supply capability", we make contributions to improve the resilience and safety level of the industry chain and supply chain. In 2023, the Qidashan iron mine and Dagushan iron mine of Ansteel Mining Group Co., Ltd. obtained expansion mining licenses, and all pre-requisites for the Xujia Baozi mining and selection project were completed, making it ready for construction.

**53.28 million tons**  
Annual iron concentrate output

**1.29%**  
Year-on-year increase

**RMB 8.04 billion**  
Profit in the mining sector

### Case Industrial application of ultrafine titanium concentrate

In June 2023, the efficient recovery demonstration line of Pangang's ultrafine particle titanium magnetite achieved its production and efficiency targets, marking the industrial application of innovative ultrafine titanium magnetite beneficiation technology. This technological achievement overcomes a world-class problem, significantly improving the comprehensive utilization rate of titanium resources and promoting the deep development of vanadium-titanium magnetite resources in the Panxi region.



### Case

### "Cornerstone" opens a new chapter in domestic underground iron mine construction

In December 2023, the "Cornerstone", a TBM (full-section hard rock tunnel boring machine) used for the first time in domestic underground iron mine construction, was deployed at the Xi' anshan iron ore mine project of Ansteel. The "Cornerstone" has a total length of 188 meters, an excavation diameter of 7.03 meters, and a total weight of 1,200 tons. Compared to traditional drilling and blasting methods, its comprehensive construction efficiency can be increased by more than three times, marking a new phase of accelerated construction for the Xi' anshan iron ore mine project.



### Building a responsible supply chain

We keep advancing the development of the procurement supply chain management system, aiming to build a refined, collaborative, international, intelligent, and green responsible supply chain. We have established a supplier information sharing system as the centralized platform for suppliers. Through this platform, we blacklist non-compliant suppliers and publicly disclose them. Subsidiaries set supplier management departments, which are responsible for developing supplier management rules and conducting supplier grading management, as well as for supplier evaluation and performance assessment.

**569**  
Non-compliant suppliers being evaluated, dismissed and blacklisted

**54**  
Raw material suppliers certified for environmental management systems

**48**  
Suppliers certified for occupational health and safety management system



Promoting green procurement

We carry out green procurement in accordance with the relevant requirements for green procurement in the *Ansteel Management Measures of Procurement*. With measures such as purchasing low-ash and low-sulfur coal and coke, adjusting the coal injection structure, and significantly increasing the amount of scrap steel purchased, we prioritize purchasing standard-compliant, low-sulfur and green raw materials.

We purchase standard-compliant equipment and spare parts (with priority given to energy-saving motors, air conditioners, and other electrical equipment) as well as materials (with priority given to materials meeting green environmental protection requirements, such as LED lights).



## Providing Quality Service with Brand Leadership

Ansteel upholds the mission of creating values for customers and is dedicated to providing excellent service. We aim to be the most trusted quality service provider and a globally recognized brand that offer the best comprehensive product solutions for our customers. We are steadily progressing towards the goal of becoming a world-class enterprise.

### Guaranteeing product quality

We persistently undertake quality enhancement initiatives, such as improving the quality management system, benchmarking against top standards, exploring potentials, improving production processes and technical equipment, optimizing product structures, and enhancing quality control capabilities. With these efforts, we strive to produce highly competitive steel products.

#### Anshan Iron and Steel Group

Anshan Iron and Steel Group has improved its product traceability system. Since each product is attached to a QR code label, users are able to trace the product's origin. It has also strengthened digital quality management to further optimize new quality systems, promote quality standardization development, and keep an eye on critical quality control points. **In 2023, Anshan Iron and Steel Group conducted nine quality management training sessions with 379 participants, achieving a product qualification rate of 99.3%.**

#### Pangang

Pangang has organized site experience exchange meetings on quality management, special analysis meetings on quality issue, and QC team release meetings to identify key issues affecting product physical quality. **In 2023, Pangang conducted three quality management training sessions with 300 participants, achieving a product qualification rate of 98.9%.**

#### Bensteel

Bengang Steel Plates has passed the third-party audits for the quality management system and the IATF16949 quality management system. Bensteel Beiyong passes the ISO9001 audit every year, maintaining its quality system certification. **In 2023, the quality management system coverage rate of Bensteel's leading products was 100%, with a product qualification rate of 99.62%.**



#### Case

### Two products win the "Golden Cup Award" for metallurgical product physical quality

In March 2023, China Iron and Steel Association released the list of recognized physical quality of metallurgical products. Two products declared by the main plant of Ansteel were granted the "Golden Cup Award". In particular, the hot-rolled ribbed steel bars were awarded the title of "Gold Cup Quality Product", and the steel rails for high-speed railways received both the "Gold Cup Quality Product" and "Gold Cup Excellent Product" titles.

### Providing thoughtful services

Ansteel considers service quality improvement as a key for building a world-class brand. By following a market-oriented and customer-centric approach, we strive to improve customer service quality, enhance service assurance capabilities, and boost service development capacity, facilitating the transition of the Company from a manufacturer to a service provider.

In February

At the 2023 Supplier Conference of Dongfeng Truck, Pangang was awarded the title of **"Best Supplier"** for 2022.

In March

At the 2022 SAIC Passenger Vehicle Branch Supplier Conference, Bengang Steel Plates became the only domestic steel enterprise to receive the **"Excellent Supplier"** title.

In November

At the BYD NEV Core Supplier Convention, Angang Steel Company Limited received the **"Outstanding Strategic Partner"** award, being the only steel enterprise to win this honor.







03

Building a green steel industry is an inherent requirement for its high-quality development and an important task for achieving China's 3060 decarbonization goal. Upholding the ecological conservation concept of "lucid waters and lush mountains are invaluable assets", Ansteel constantly improves its green management system, implements China's carbon peak and carbon neutrality strategy and fosters new drivers of growth, making concerted efforts to cut carbon emissions, reduce pollution, expand green development, and pursue economic growth. With these efforts, we aim to build a new ecosystem where we prioritize ecological protection, pursue green and low-carbon development, and achieve harmonious coexistence between economy and society, striving to write Ansteel's chapter in the story of the Beautiful China Initiative.

## Crafting a New Chapter of Environmental Protection through Green and Low-carbon Initiatives

/ Environmental Management  
/ A New Path for Low-Carbon Development  
/ Exploring New Opportunities in the Low-carbon Field  
/ Promoting Green Operations





# Environmental Management

Ansteel actively responds to national requirements for green and low-carbon development. Complying with environmental protection laws and regulations such as the *Environmental Protection Law of the People's Republic of China* and the *Law of the People's Republic of China on Energy Conservation*, we integrate the concept of green and low-carbon development into corporate operations and management to further improve the environmental management system. We launch education and training sessions on environmental protection, and refine management on environmental emergencies, striving to achieve coordinated progress between corporate development and environmental protection.

## Raising environmental awareness

Ansteel deepens the integration of daily production and operations with environmental protection. We enhance the environmental responsibility awareness of employees at all levels, encouraging them to jointly assume environmental responsibilities, protect environmental quality, and build a beautiful home. In 2023, Ansteel organized an "online training on green manufacturing for steel enterprises", with participation from over 300 energy conservation, emission reduction, and low-carbon development-related management personnel and technical experts.

### Anshan Iron and Steel Group

The company attaches great importance to green publicity. By conducting environmental protection training and releasing promotional videos, it has promptly publicized the latest environmental protection policies and promoted the green development and harmonious coexistence concept within the company. In 2023, the company invested RMB 258,000 in environmental protection training, involving 7,800 participants.

### Pangang

Takes the advantage of the environmental protection information platform to organize study of environmental protection laws, regulations, standards, and policies among employees and improve the professionalism of environmental protection team. Pangang has organized and participated in online training on energy-saving, carbon reduction, and environmental management knowledge, and conducted special training on four themes such as the Decarbonization Situation and Green Low-Carbon Actions in the Steel Industry, and Ultra-Low Emission Technologies and Applications in the Steel Industry, further enhancing the professionalism of environmental protection management team.

### BenSteel

Strengthens training management and actively participates in national, provincial, and municipal online and offline training on decarbonization goals, hazardous waste, and volatile organic compounds. In 2023, BenSteel organized more than 80 special training sessions on environmental protection laws and policies at various levels, totaling 200 hours and training over 2,000 participants.



## Case Carrying out theme activities on the World Environment Day to promote environmental protection concepts

On June 5th, 2023, Anshan Iron and Steel Group, in collaboration with the Gaizhou Municipal Ecology and Environment Bureau and the Kuangdonggou Township People's Government, held '6.5' World Environment Day activities themed "Building a Modernization with Harmonious Coexistence between Humans and Nature". Through activities such as "Running and Picking Up Garbage", "Sorting Waste and Leading a Green Life Together", "Environmental Knowledge Quiz", the company made its contributions to protecting drinking water sources with actual actions and jointly practiced the concept of green ecology.

## Improving the environmental management system

Ansteel continues to improve the environmental management system, refine environmental policies, establish an environmental emergency mechanism, and increase environmental protection input, thus enhancing environmental management capabilities on all fronts.

### Improving environmental protection system:

In 2023, Ansteel revised and issued the *Management Measures on Energy Conservation and Environmental Protection of Ansteel Group Corporation Limited*, making coordinated efforts to promote energy conservation and environmental protection and ensuring that leaders assume their responsibilities of environmental protection. The Company also organized subsidiaries to undertake and break down these tasks in details. Anshan Iron and Steel Group revised the *Environmental Protection Committee Work System of Anshan Iron and Steel Group Company Limited* and other environmental protection management systems; BenSteel revised the *Environmental Protection Management Measures of BenSteel Group Co., Ltd.* and the *Regulations on Environmental Protection Work Responsibility of BenSteel Group Co., Ltd.*

### Strict control of environmental protection acceptance:

Subsidiaries of Ansteel at all levels rigidly follow the rule that facilities for environmental protection are designed, built and put into use simultaneously with the main body of the project concerned, and organize environmental assessments and acceptance of construction projects. Anshan Iron and Steel Group has organized environmental assessment on 15 construction projects, including the internal compliance disposal of three types of hazardous waste, and completed the final environmental protection acceptance of 12 projects, such as the VOCs collection and treatment at the chemical technology coking wastewater station. Pangang has conducted compliance reviews on plans, construction, and acceptance of construction projects, completing environmental impact assessments and acceptance for 18 projects in 2023. BenSteel has received 45 environmental impact assessment approvals for construction projects and completed environmental protection acceptance for 11 projects, such as the tertiary dust removal system renovation of the No.4-6 converters in the plate steel plant.

### Building an environmental emergency mechanism:

Anshan Iron and Steel Group has revised emergency plans for sudden environmental incidents to identify risk substances and assess environmental risks for key projects. Based on an ammonia tank leakage scenario, a company-level emergency plan drill is held to enhance emergency response capabilities. BenSteel hosted the 2023 joint emergency drill for sudden environmental incidents in the Shenyang modern metropolitan area. The company organized emergency rescue operations based on a sudden oil wastewater leakage scenario to improve the effectiveness and operability of the emergency plan.

### Increasing environmental protection input:

In 2023,

Ansteel invested around

# RMB 16.1 billion

in environmental protection in total





# A New Path for Low-Carbon Development

Achieving carbon peak and carbon neutrality is a major strategic decision made by the CPC Central Committee with Comrade Xi Jinping at its core while taking into account both the domestic and international imperatives. It is also a necessary choice to address the prominent issues of resource and environmental constraints and sustain the Chinese nation's development, as well as a solemn commitment to building a community with a shared future for mankind. In response to China's 30·60 decarbonization goal, Ansteel takes green and low-carbon transformation as a key driver of high-quality development and advances the implementation of the decarbonization initiatives by strengthening top-level design, establishing decarbonization platforms, promoting extreme energy efficiency and creating low-carbon products.

## Strengthening overall coordination

Ansteel highly values the top-level design and works gradually to improve the decarbonization management system and advance decarbonization-related efforts in a coordinated manner.

### • Conducting LCA assessment

The Life Cycle Assessment (LCA) of steel products is a technical method for evaluating resource consumption and environmental impact throughout the entire life cycle from raw material extraction to production, use, and final disposal. It is also an important means of promoting the greening, standardization, quality, differentiation, and service development of the steel industry. Ansteel has made active efforts to promote LCA management. Firstly, we promote the construction of the LCA platform. In 2023, the "Carbon Emission and Product LCA Platform" of Anshan Iron and Steel Group was launched, achieving the visualization of carbon emission data and the online generation of carbon footprint assessments on key products. The LCA platforms of Pangang, BenSteel, and Ansteel Lianzhong are under development and will be fully put into operation by the end of 2024. Secondly, we take the initiative to release Environmental Product Declarations (EPD). In 2023, Ansteel published 13 EPD reports, proactively disclosing the carbon footprints of its products.

### • Strengthening top-level design

Ansteel establishes a carbon neutrality task force headed by the main leaders of the Company. We also formulate the *Action Plan for Carbon Dioxide Peaking of Ansteel Group Corporation Limited*, which specifies the phased goals, implementation routes, key tasks, and key projects of achieving the decarbonization goal.

#### Anshan Iron and Steel Group

Anshan Iron and Steel Group seeks green and low-carbon transformation solutions for the entire industrial chain and formulates low-carbon development strategy. By optimizing process flow structures and promoting technological innovation, it assists in realizing the vision of decarbonization goal.

#### Pangang

Pangang promotes energy-saving and low-carbon transformation through medium- and long-term development planning. It has formulated and issued the *Strategic Plan for Carbon Peaking and Low-Carbon Development of Pangang Group Co., Ltd.* and other two programs, one plan, and one method, constructing the top-level design and development path for energy-saving and low-carbon transformation development.

#### BenSteel

BenSteel establishes and improves the decarbonization management system, and formulates the *Carbon Peaking and Carbon Neutrality Work Plan of BenSteel Group Co., Ltd.* BenSteel makes coordinated efforts to advance the decarbonization efforts while focusing on carbon asset management, product carbon management, and carbon reduction management. It has developed a decarbonization path with energy saving and carbon reduction as the focus, low-carbon technology as the support, and structural optimization as the foundation.





## Promoting extreme energy efficiency

Against the background of China's 30·60 Decarbonization Goal, promoting the energy efficiency improvement in the steel industry is an inherent requirement for industrial transformation and upgrading and high-quality development. It is also an important means to reduce carbon emissions in the steel industry and achieve carbon neutrality. To promote extreme energy efficiency, Ansteel focuses on the cultivation of 30·60 Decarbonization Goal Best Practice and Energy Efficiency Benchmarking Demonstration Enterprise to strengthen energy management, enhance research and application of energy-saving process technologies and continuously improve system energy efficiency levels.

### Anshan Iron and Steel Group

Anshan Iron and Steel Group has compiled and issued the *Three-Year Plan for Extreme Energy Efficiency (2023-2025)*. It has established a repository of extreme energy efficiency projects to strengthen energy use supervision and energy-saving renovation, promoting efficiency improvements through extreme energy efficiency initiatives.

### Pangang

Pangang has formulated and promoted the *Three-Year Plan for Achieving Extreme Energy Efficiency Standards of Pangang Group Co., Ltd. and the Energy Conservation Plan of Pangang Group Co., Ltd. for 2023-2025*, leading the deep and practical implementation of extreme energy efficiency through planning.

### BenSteel

BenSteel has formulated the *Work Plan for Establishing 30·60 Decarbonization Goal Best Practice and Energy Efficiency Benchmarking Demonstration Enterprise*, focusing on energy-saving and carbon reduction potentials in process energy efficiency, interface energy-saving systems, and other aspects.



After the completion of Pangang Vanadium 100 MW (Phase II) waste-heat/energy-to-power project, carbon dioxide emissions can be reduced by more than 80,000 tons per year

## Case Extreme utilization of waste heat and energy by Pangang

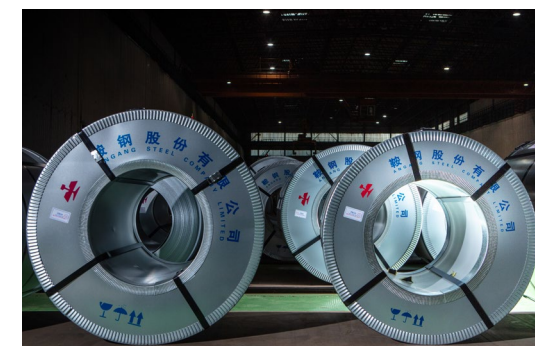
In 2023, Pangang carried out extreme energy efficiency benchmarking in the general steel sector, achieving high-quality and efficient use, tiered utilization, and energy level matching of waste heat and energy. The Panzhihua base achieved zero coking oven gas release throughout the year, with a 0.18 percentage point decrease in blast furnace gas release compared to 2022, converter gas recovery per ton of steel increased by 5.13 cubic meters year-on-year, and the annual power generation reaching 1.874 billion kWh.

## Making low-carbon products

In line with the principle of providing high-quality green products that meet users' needs, Ansteel concentrates on green manufacturing, key low-carbon technologies R&D, and the development of flag-ship low-carbon products, accelerating the establishment of core competitive strength in green and low-carbon technologies.

## Case Achieving stable mass production of automotive steel products with a 30% carbon reduction based on blast furnace-converter production process

To meet the demand for low-carbon products of automotive steel customers, Anshan Iron and Steel has established a carbon neutrality task force to develop production process plan for a high proportion of scrap steel and green electricity for both blast furnace and converter. This initiative has successfully realized stable mass production of automotive steel products with a 30% reduction in carbon emissions and all performance indicators meet the required standards. In January 2024, the automotive steel products that reduce carbon emissions by 30% through the blast furnace-converter production process rolled off the production line and achieved stable mass production.



## Developing clean energy

Ansteel actively lays out new energy landscape and adjusts its energy mix, making every effort to increase the proportion of clean energy applications such as solar, wind, and hydrogen energy.

### Anshan Iron and Steel Group

**23.6%**

Proportion of clean energy usage in 2023

### Pangang

**47.0%**

Proportion of clean energy usage in 2023

### BenSteel

**32.5%**

Proportion of clean energy usage in 2023

## Case The 29.13MW distributed photovoltaic power generation project of Ansteel Lianzhong is connected to the grid

In November 2023, the 29.13MW distributed photovoltaic (PV) power generation project of Ansteel Lianzhong was completed and successfully connected to the grid, becoming the largest single-capacity distributed PV station in Guangdong Province. The project fully utilizes the roof space of a 300,000 square meter factory building to install solar panels, providing the company with 30 million kWh of clean electricity annually. This initiative saves nearly 7,500 tons of standard coal and reduces carbon dioxide emissions by 20,000 tons per year.





## Exploring New Opportunities in the Low-carbon Field

Ansteel actively responds to the national requirements for building a green finance system. We gather the strength of all parties to create a comprehensive one-stop green financial service platform, effectively meeting the diversified financing needs of Ansteel's subsidiaries.



Ansteel and 15 financial institutions establish a green financing alliance jointly



Angang Finance Co., Ltd. won the Annual CSR Case Award at the Fifth China Finance Annual Brand Case Contest

## Promoting Green Operations

Ansteel integrates ecological and environmental protection requirements into every aspect of its corporate production and business development. By reducing emissions at the source and strictly controlling the waste gas, wastewater, and solid waste generated during operations, the Company ensures all emissions comply with regulations. Xichang Steel & Vanadium becomes the first steel enterprise in Sichuan Province to complete the whole-process ultra-low emission transformation.



### Ultra-Low emission renovation

Ansteel promotes ultra-low emission renovation on all fronts, including 32 projects such as coke oven desulfurization and denitrification renovation of BenSteel, desulfurization and denitrification renovation of sintering processes, material plants enclosing, renovation of blast furnace ore bins and casting yards, tertiary dust removal systems for converters, and dust removal renovation at the hot metal pretreatment stations of converters, effectively promoting the in-depth air pollution control.

**6.85%**

Year-on-year decrease of sulfur dioxide emissions

**8.73%**

Year-on-year decrease of nitrogen oxides emissions

**11.94%**

Year-on-year decrease of particulate matter/smoke and dust emissions



### Xichang Steel & Vanadium becomes the first steel enterprise in Sichuan Province to complete the whole-process ultra-low emission transformation

Following a goal- and problem-oriented approach, Xichang Steel & Vanadium devotes full efforts to tackle challenges. It dynamically optimizes the implementation roadmap for ultra-low emission renovation projects with reverse scheduling and visual management techniques. With an investment of RMB 1.6 billion, Xichang Steel & Vanadium has implemented 80 projects, including ultra-low emission transformations for high-sulfur sintering flue gas. On November 16th, 2023, Xichang Steel and Vanadium completed the evaluation and monitoring announcement for the whole-process ultra-low emission transformation on the China Iron and Steel Association, becoming the first steel enterprise in Sichuan Province and within Ansteel to achieve this milestone.



Water resource management

The steel industry is highly water-intensive. Ansteel actively practices water resource conservation and strictly controls the generation and discharge of wastewater through new processes and equipment. The Company continuously strengthens water-saving measures, aiming to minimize production water usage while ensuring stable production and operations.

2.32 tons

Fresh water consumption per ton of steel

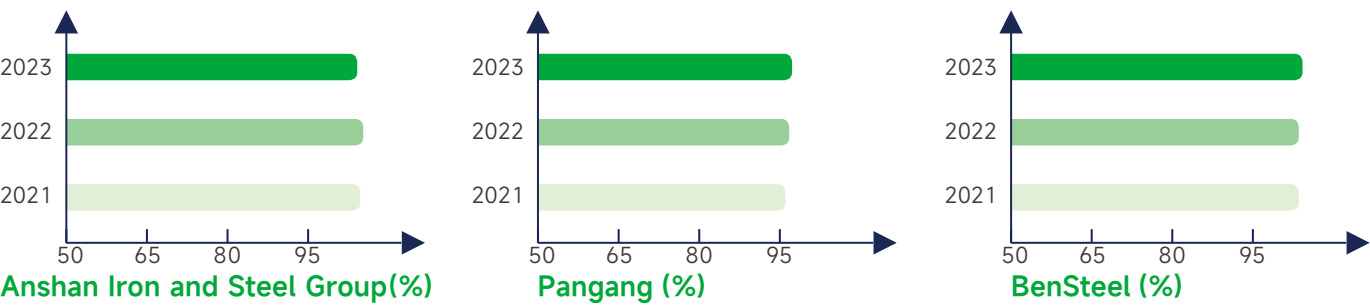
2.83%

Year-on-Year decrease of fresh water consumption per RMB 10,000 of output value (comparable price)

8.25%

Year-on-year decrease of COD emissions

Indicators of water recycling utilization rate



Case Ansteel Beidagou wastewater treatment system achieves efficient and high-quality reuse of sewage

The Beidagou wastewater treatment system of Anshan Iron and Steel Group is the core water treatment unit for the plant's water system operation and a key component in ensuring the balance between water volume and quality. Anshan Iron and Steel has promoted the upgrading of Beidagou wastewater treatment system. Through physicochemical and dual-membrane separation treatment, it has achieved comprehensive reuse within the plant's clean circulating water system and industrial fresh water system. This initiative supports the efficient and high-quality reuse of wastewater.



Beidagou wastewater treatment system

Case Fully utilizing and protecting water resources

To meet the plant's production needs and comply with new national environmental policies on wastewater discharge quantity and quality, Bengang Steel Plates initiated a reclaimed water deep treatment and reuse project in 2020, aiming to further reduce the use of fresh water and prevent water resource waste. Concurrently, with the upgrades to the blast furnace system, cold rolling, and special steel production lines of Bengang Steel Plates, requirements for water quality have been gradually increasing. The secondary reverse osmosis desalinated water has ensured the precision and stability of certain production line equipment and instruments, while the softened water used in the blast furnace system has significantly extended the lifespan of the equipment. In 2023, the fresh water consumption per ton of steel in Bengang Steel Plates was 2.35 cubic meters/ton, earning the title of Provincial Water-saving Benchmark Enterprise for 2022.



## Solid waste

Ansteel follows and implements the *Law of the People's Republic of China on Prevention and Control of Environmental Pollution by Solid Waste*. The Company adheres to the reduction and resource utilization of solid waste from the source, improving the comprehensive utilization rate of solid waste, and reducing the impact on the ecological environment.

### Case Pangang improves comprehensive utilization rate of solid waste

Pangang has organized units, including Pangang Vanadium, to develop an Internet of Things (IoT) system for hazardous waste management, achieving integration with the "Waste-Free Sichuan" platform. This move has further strengthened the full-process traceability management of hazardous waste. Pangang has completed the provincial hazardous waste registration for coal tar and opened channels for external disposal and utilization, thereby eliminating environmental risks in a timely manner. Additionally, Pangang has conducted technological research on the comprehensive utilization of resources such as chlorinated waste salt, titanium extraction tailings, and titanium dioxide acidic wastewater to improve the comprehensive utilization rate of solid waste. In 2023, the utilization rate of blast furnace slag and steel slag reached 100%, and 100% of hazardous waste was disposed of in compliance with regulations.

### Case Comprehensive utilization of "slag powder" to aid traditional industry transformation and upgrading

Blast furnace slag is a waste product generated during steel production. Ansteel has transformed this waste into valuable green building materials by converting blast furnace slag into slag powder. The slag powder has been widely used in major domestic and international engineering projects, including Singapore Changi Airport, the Hong Kong-Zhuhai-Macao Bridge, and various subway and high-speed rail projects. Currently, Ansteel's slag powder is exported to countries such as the United States, South Korea, and Singapore. As of the end of April 2024, Ansteel has exported over 82,000 tons of slag powder.

### Case Resource utilization of iron tailings to transform saline-alkali land into arable land

In addressing the scarcity of topsoil during mine restoration, Ansteel Mining has utilized iron tailings, a byproduct of iron ore production, as a base layer before adding topsoil. The company independently develops the soil reconstruction technology, which includes a mix of iron tailings, specialized conditioners, organic fertilizers, bio-fertilizers (microbial agents), and long-lasting silicon-phosphorus fertilizers derived from iron tailings. The application of this technology significantly reduces the demand for topsoil and successfully converts saline-alkali land into fertile arable land.

By the end of 2023, Ansteel Mining had conducted saline-alkali land improvement trials and applications in Nong'an and Baicheng in Jilin Province, as well as Haixing County in Hebei Province. A total of 1,304 mu (approximately 87 hectares) of saline-alkali land had been improved, with 991 mu (approximately 66 hectares) planted. The rice produced from the improved saline-alkali land meets the national Green AA Food Rice standards. In September 2023, the national standard General Technology for Saline-Alkali Land Improvement Part 1: Iron Tailings Improvement, led by Ansteel Mining, was approved by the state.

## Green office

Ansteel fosters and practices the "green" and "frugal" office concepts. We strengthen publicity and education on green office, advocate for efficient electricity and water use, and enhance employees' awareness of green workplace, contributing Ansteel's strength to building a resource-saving and environmentally friendly society.



### Saving electricity

- Strictly enforcing air conditioner temperature setting standards to minimize air conditioning usage time.
- Using energy-saving lamps for the lighting system to reduce the power consumption of lighting equipment, and resolutely avoiding daytime lights and long-lasting lights.
- Reasonably turning on and using electrical equipment, and promptly turning off the power when off-duty or not used for a long time to reduce standby energy consumption.



### Saving water

- Promptly discovering and solving faults and preventing leaks and drips by strengthening the daily maintenance and management of water equipment.
- Guiding employees to develop water-saving habits, resolutely avoiding long-running water, and advocating for multiple uses of water.



### Advocating paperless office

- Comprehensively promoting electronic workplace, and advocating for paperless office.
- For those that require paper versions, printing and copying on both sides, and strictly controlling the number of documents and materials issued.







04

Ansteel deeply studies and implements the important remarks delivered by General Secretary Xi Jinping at a meeting on promoting the full revitalization of northeast China in the new era. We vigorously deepen reform with high standards and further enhance lean management practices. Led by high-quality Party building, we spare no effort to create a new phase of high-quality development for Ansteel, demonstrating new achievements in building a modern industrial system and serving the establishment of a new development pattern.

## Boosting New Drivers of Growth with **Prudent and Effective Development**

- / Releasing Aggregative Efficiency
- / Deepening SOE Reform
- / Regulating Prudent Operation
- / Consolidating Soul and Roots Through Party Building





## Releasing Aggregative Efficiency

Based on the significant achievements of the reorganization of BenSteel into Ansteel, Ansteel signed an equity transfer agreement with Chaoyang City, Liaoning Province, in 2023 to successfully invest in Ling Steel Group. This move continuously amplifies scale effects, synergistic effects, and agglomeration effects, consolidating the new pattern of steel industry of "Baowu in the south and Ansteel in the north" and significantly enhancing industrial control capabilities.



Ansteel and the People's Government of Chaoyang City sign an equity transfer agreement for Ling Steel Group, transferring Chaoyang's 49% equity in Ling Steel Group to Ansteel



Ansteel completes the acquisition of 49% equity in Ling Steel Group

### Enhancing the concentration of the steel industry

In 2023, the combined crude steel capacity of Ansteel and Ling Steel Group reached 70 million tons, accounting for 67.6% and 51.6% of the crude steel production in Liaoning and the three northeastern provinces, respectively. This increased the concentration of the top ten steel enterprises in the country by nearly 0.6 percentage points that year.

### Improving Ansteel's product structure

Investing in Ling Steel will further increase the proportion of long steel series products of Ansteel, enrich Ansteel's range of construction materials such as bars, wires, medium and wide strips, as well as engineering machinery and automotive steel products. This move will strengthen Ansteel's market control and influence in the region.

### Optimizing Ansteel's market layout

Ling Steel is located at the junction of Liaoning, Hebei, and Inner Mongolia, on the traffic artery connecting Northeast China with North China and linking northeastern Inner Mongolia with coastal ports. This advantageous location, with sales mainly concentrated in North China, helps optimize Ansteel's national marketing layout and implement a regional sales strategy.

## Deepening SOE Reform

Ansteel deeply implements a new round of deepening and enhancing state-owned enterprises (SOEs) reform. We issue the *Ansteel Action Implementation Plan for Deepening and Enhancing Reform (2023-2025)*, which specifies 69 reform tasks in 10 parts. Simultaneously, we set up five special reform groups to advance reform in various fields, further consolidating reform results and making new contributions in the three-year action for comprehensive revitalization of northeast China and Liaoning in the new era.

Angang Mining, Ansteel Group Engineering Technology Corporation, and Jiwell56 were rated as excellent "Double-Hundred Enterprises"

The results of the three reforms were awarded the **First Prize** for Innovation Achievements of National Enterprise Management Modernization

Chaoyang Iron & Steel, BenSteel POSCO, Delin Land Port, and Chemical Technology were newly selected as "Double-Hundred Enterprises"

The three-year action plan for SOE reform was concluded with high-quality results, and was **continuously rated as A-level**

Reform cases were selected into the *Leading Examples: Comprehensive Typical Case Collection of the Three-Year Action Plan for SOE Reform* by the State-Owned Assets Supervision and Administration Commission of the State Council

Chengdu Materials Institute was rated as a "Science and Reform Demonstration" benchmark

### Fully deepening actions for SOE reform

#### Improving corporate governance

- We have refined the list of decision-making matters for major governing bodies, and newly established a Board Supervision Committee to ensure the effective supervision responsibilities of the Board of Directors. We have systematically promoted the implementation of board authority across subsidiaries to facilitate the effective role of decision-making bodies

#### Deepening professional integration

- Pangang has implemented integrated control in the general steel industry
- The reorganization of cryogenic liquid resource marketing business of BenSteel into Ansteel has been completed, achieving integrated marketing management of cryogenic liquids in Liaoning
- We have formulated an implementation plan for the professional integration of the scrap steel industry and established Ansteel Green Gold Industry Development Co., Ltd.

#### Promoting the three reforms

- The appointed rate of management positions through competition is 82.41% with an exit rate of 10.61%, which is relatively high among central SOEs
- The employee market-based exit rate is 2.1%, and the annualized physical labor productivity in the steel industry has increased by 13.02% year-on-year
- A "forced distribution" evaluation mechanism has been established to reasonably widen income disparities



### Case Vanadium & Titanium Resources Co., Ltd. refinances successfully

Pangang Group Vanadium & Titanium Resources Co., Ltd. has actively engaged with the capital market. It has initiated a stock issuance project aimed at specific investors and successfully raised RMB 2.28 billion, securing funding for seven key ongoing projects and providing crucial support for the development of the vanadium and titanium industry. This project marks the first refinancing effort by Vanadium & Titanium Resources Co., Ltd. in nearly a decade.





## Regulating Prudent Operation

Ansteel continuously improves lean management levels. With the focus on key areas, we carry out special actions for lean management, applying lean management concepts and tools to the entire process and chain of operation management, thus strengthening professional functional management and empowering transformation and upgrading of the Company.

### Improving quality and efficiency

We standardize the procurement and supply chain management system and promote the development of "one network, one platform" to realize unified master data of procurement materials of the Company. The costs have been reduced by RMB 1 billion through centralized and collaborative procurement

► We establish a cost control system. By unifying measurement units and methods for 50 different items in eight major categories, we steadily promote the construction of a comprehensive budgeting system, achieving significant results in tax planning

The "account receivables and stock" and "quota + differentiated approval" mechanisms have become increasingly mature and stable, with the scale of the former system reduced by 1.34% compared to the end of 2022

### Management innovation

► To promote the digitalization of rules and regulations of the Company, we establish an Ansteel rules and regulations management system. Phase I has been completed, and the current effective rules and regulations of the Company headquarters have been launched

Management innovation has achieved new breakthroughs. We won five national-level management achievements in 2023, including two first prizes and three second prizes. We also won 13 management achievements among metallurgical enterprises, including three first prizes, four second prizes, and six third prizes, making new records

### Lean management

► Pangang has fully advanced the construction of the best factories, Lean Six Sigma, and A-level demonstration operation areas

BenSteel has created a "123" lean management system framework, determining the "two routes" and "two baselines" lean promotion models to lead the comprehensive advancement of lean management through lean improvement

Ansteel Mining has organized 29 units to initiate 47 lean projects, accelerating the integration of lean management into grassroots units



## Consolidating Soul and Roots Through Party Building

Under the strong leadership of the CPC Central Committee with Comrade Xi Jinping at its core and the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, the Party Committee of Ansteel deeply advances the new great project of Party building in the new era. Guided by high-quality Party building, we spare no effort to break new ground for the high-quality development of the Ansteel.

► We have made significant progress in normative, detailed, and systematic Party building. In the assessment of the responsibility system for Party building in central SOEs, **we have been rated A for three years in a row.**

### Political building

The Party Committee of Ansteel takes the study and implementation of the guiding principles of the 20th CPC National Congress as the main focus of work throughout the year and prioritizes Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era as the primary political task, arming minds, guiding practices, and advancing progress with the Party's innovative theories.

#### Enhancing political awareness

► We take the guidance of General Secretary Xi Jinping's important remarks and instructions as the fundamental principles for planning various tasks. By holding the Standing Committee meetings of Party Committee and special meetings, we detail implementation plan for each task and ensure thorough and effective implementation of all tasks with a conscientious working attitude.

#### Conducting thematic education

► We firmly follow the overall requirements of "studying Xi Jinping thought, strengthening Party spirit, emphasizing practice, and making new achievements". We conduct thematic education by organizing training courses, compiling work manuals, issuing work reminders, and strengthening supervision. To advance theoretical learning, carry out research and survey, promote development, conduct inspection and rectification, and establish systems and regulations as a unified process, we innovatively implement the "Five-Learning" model (including unified learning, leading learning, research learning, joint learning, and practical learning). To vigorously advocate for the fine tradition of "Four working methods at grassroots-level" (including propagating the Party's lines, principles, and policies, conducting investigation and study, handling petitions and receptions, and conducting on-site work at the grassroots level), we conduct in-depth research with the focus on both positive and negative cases.





Organizational structure

Party organizations at all levels of Ansteel resolutely shoulder the political responsibility of managing and governing the Party. With the focus on the main responsibilities and main business, we strengthen the sense of responsibility, and promote new progress and new achievements in political organization.

•Assuming responsibilities of Party building

We set up joint evaluation teams to conduct annual Party building responsibility system assessments for 15 directly managed Party committees. By strictly carrying out performance evaluation of Party Committee secretaries and piloting the “1+1” new model of linked promotion at primary-level Party committees, we strive to resolve the “last-mile” problem of Party building at grassroots.

•Strengthening organizational system

We deepen the three major projects of “strengthening the foundation” , “promotion and upgrading” , and “demonstration of leading players” of Party branches, and establish five demonstration sites for standardizing Party branches in Liaoning Province.

•Building a stronger team of Party members

With the “10,000 Party members to the Party school” training project and a “common + personalized” curriculum training system, we conduct 228 training sessions, covering all Party members.

•Gathering organizational strength

We carry out the practice activities themed “Studying and Implementing the Spirit of the 20th CPC National Congress, Striving for Excellence in Ansteel”. In addition, we deepen the Communist Party member projects, Party member responsibility areas, and Party member vanguard posts, and hold Company-wide seminars on the integration of primary-level Party building with production and operation. The advantages and strength of primary-level organizations have been fully demonstrated in major tasks such as reform and development, technological innovation, and quality and efficiency improvement.



Full and strict governance over the Party

Ansteel earnestly implements the spirit of the 20th CPC National Congress and the second plenary session of the 20th Central Commission for Discipline Inspection (CCDI) of the CPC, consistently strengthening discipline and combating corruption. The efforts of improving Party conduct, building a clean government and fighting corruption within the Company have been deepened. We conduct a survey on our strict governance over the Party among employees and the public, which shows a satisfaction rate of 96.8%, an increase of 1.2% year-on-year.

The Ansteel Department of Supervision (Discipline Inspection Commission) is **rated as “excellent” for a third time** at the annual assessment of the Central Commission for Discipline Inspection and the National Supervisory Commission.

Deepening inspection rectification

We cooperate with the central inspection teams, ensuring correct understanding, organization, execution, and responsibility fulfillment. Significant results have been achieved in promoting reform, Party building, and governance through inspections. We formulate a five-year plan for the Party committee’s inspection work, promoting coordination between higher-level and grassroots inspections.

Strengthening political supervision

By implementing the “12345” political supervision model and focusing on the “first agenda” execution and the implementation of General Secretary Xi Jinping’s important instructions and directives, we establish a list of “focused, thematic, and selected” supervision projects to make political supervision more specific, precise, and routine.

Correcting discipline and combating corruption

We resolutely correct prominent issues of formalism and bureaucratism, deeply address hedonism and extravagance, and investigate 117 cases of violations of the eight-point decision on improving Party and government conduct. Focusing on issues of “utilizing public resources for personal gain”, we carry out special rectification campaigns such as “Clean Mining Industry” and “Anti-Fraud, Anti-Bribery, and Anti-Fraud”, as well as “Clean and Honest Government” initiatives, helping subsidiaries to eliminate losses and improve quality and efficiency, recovering a total economic loss of RMB 72.736 million.

Building a clean culture

We convene warning and education meetings on improving Party conduct, building a clean government and fighting corruption, such as the “8.16” Party Conduct and Clean Government Conference and the Special Rectification Conference of “Utilizing the resources of Ansteel for personal gain”. We produce educational films such as *The Collapse of Mining Corruption* and *The Worm of the Project* and organize film watching among employees. With the innovative “1+1+3+N” clean culture model, we conduct 3,600 integrity education activities. The renovated Party Style and Clean Government Education Exhibition Hall has become a renowned educational base in the surrounding area.







Ansteel puts people first. Highly valuing the all-round development of talents, we strive to offer a platform that empowers the diversified development of employees to boost their satisfaction and sense of belonging. We also foster a healthy and safe working environment, and safeguard the basic rights and interests of employees to achieve a win-win situation between employees and the Company. Furthermore, we proactively fulfill our social responsibilities and contribute to a better society by engaging in rural vitalization and public welfare undertakings.

05

## Adopting People-Oriented Approach to Safeguard the Happy Family

- / Pooling Talents for Shared Dreams
- / Championing Shared Development with Employees
- / Safety Management
- / Caring for Employees
- / Rural Vitalization
- / Volunteering Services





## Pooling Talents for Shared Dreams

Talent development is essential to the sustained healthy development of the Company. Ansteel further implements the "Talent-Driven Development" initiative, and develops an exclusive talent training system to create a fair and just environment for employees' growth and success. The Company optimizes the talent acquisition mechanism, and refines the policies and processes conducive to attracting core backbone talents in key positions. In 2023, we implemented the "Talent Referral Reward Program" and the "Talent Enclave" program, bringing in 40 mature talents, including 10 with Ph.D. degrees, and leading talents with national talent titles accounting for 68%. We also introduced 1,130 talents from high-level vocational colleges and high-level majors, and vocational education and training teachers, 20.5% of whom had gained senior professional titles, an increase of 1.1% year-on-year.

**1030**

Training projects

**8604**

Participants in "Apprenticeship Program" and on-the-job training

**RMB 82.34 million**

Spent on training in total in 2023

**398,700**

Employees trained

**12**

New skill master studios established

**RMB 703**

Average training cost per employee

### Reinforcing talent cultivation

We value talent development. By developing an exclusive talent training system, we help employees grow quickly and realize their self-worth.

#### Intensifying knowledge system development

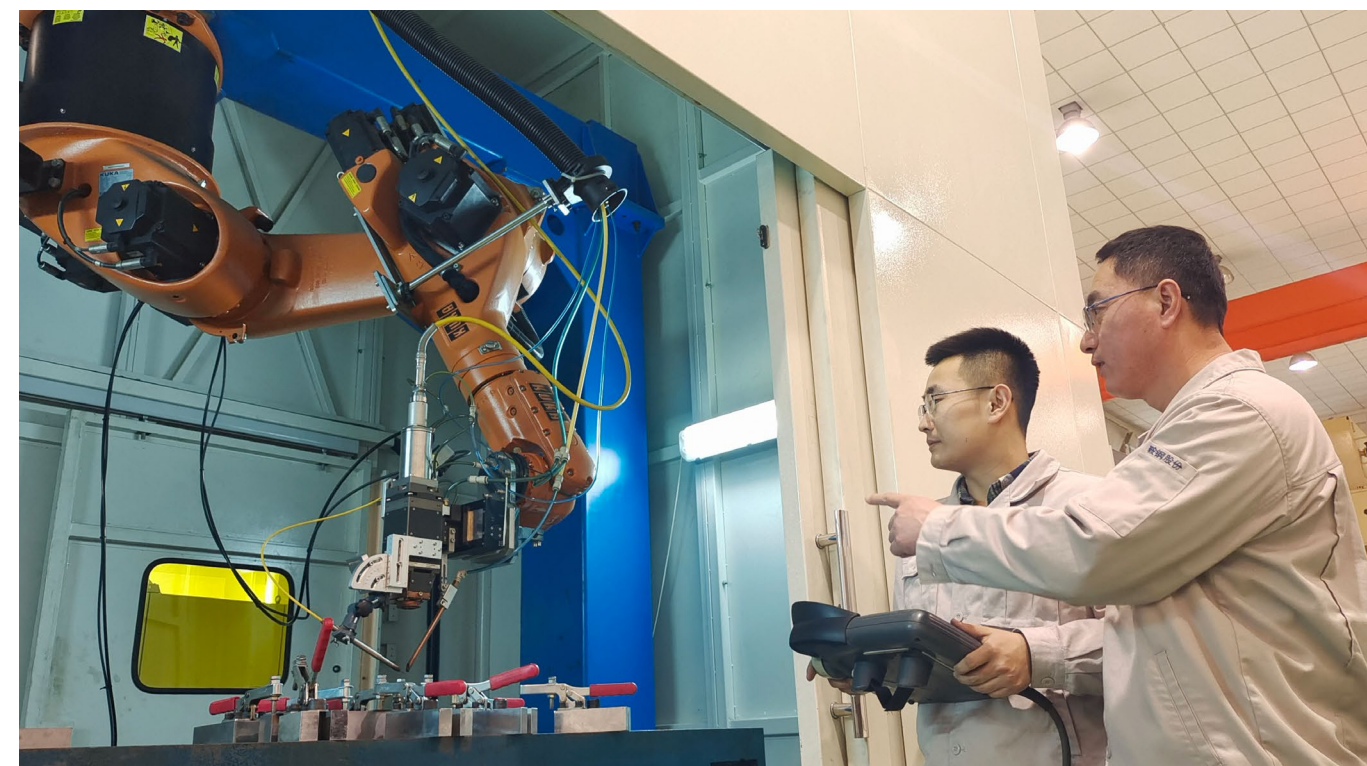
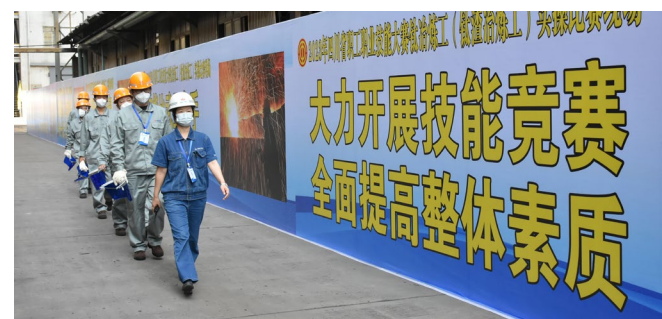
We have continuously developed 212 employee competency models, with all the major professional fields covered, and the position competency criteria and the course syllabus completed. We have also developed 200 supporting courses and a question bank with 300,000 technical skills questions. In 2023, the cumulative number of online learning visits surpassed 100,000, representing the preliminary establishment of a competency certification system featuring "criteria, courses, and platform for training".

#### Strengthening faculty team building

We have engaged 200 part-time internal trainers in senior-level training, and selected 35 backbone members based on their performance in senior-level and internal training for further study at the Ansteel Party School to comprehensively improve their course development and teaching abilities.

#### Conducting training effect assessment of subsidiaries

We have assessed the effects of 2022 training projects of 18 subsidiaries, and proposed 11 targeted improvement suggestions. We have also developed and distributed the training effect assessment manual to provide standards and guidance for training effect assessment.



### Sharpening employee capabilities

To continuously sharpen the competency of our talent teams, we make every effort to offer employees platforms for learning and upskilling, as well as a variety of learning and training opportunities. Additionally, we consistently improve career advancement pathways for employees, and prioritize the development of talents in R&D, procurement, sales, engineering, and technical positions, and high-skilled talents, allowing them to stand out.

#### Cultivation of leaders

We have conducted 47 special training projects on the *Work Safety Law*, interpretation of KPIs in state-owned enterprises (SOEs), lean management, board development, and law-based governance, with 1,985 individuals trained.

#### Cultivation of young executives

We have collaborated with the China Business Executives Academy, Dalian to offer training courses for young executives at all levels tailored to their training objectives and individual learning demands. The training courses feature progressive content and case-based teaching, with a total of 338 trainees over two years.

#### Cultivation of technicians

To upskill industrial workers, we have carried out the "Apprenticeship Program" and on-the-job training with 8,604 participants, and established 12 new skill master studios.

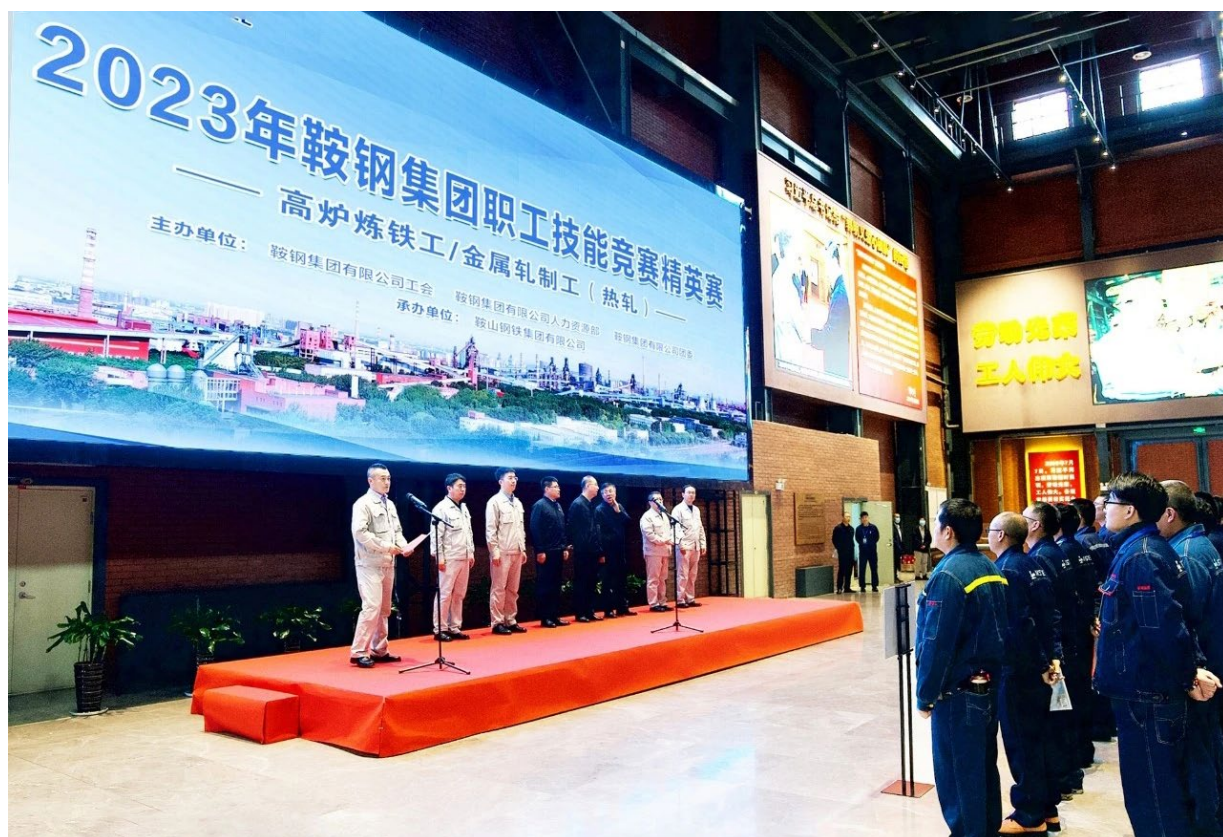
#### Cultivation of special talents

Aligned with the special talent development goals of the "Elite Program" and "Talent-Driven Development Program", we have launched 24 related training programs on digitalization, carbon peaking and carbon neutrality, and internationalization, and outstanding engineering, with 959 trainees.



## Case Promoting workplace competitions

In 2023, Ansteel's labor unions at all levels launched the workplace competition campaign themed "Forging Ahead on a New Journey, and Contributing to a New Ansteel", with an aim to motivate employees to shine in their positions. Anshan Iron and Steel Group carried out 8 special workplace competitions focusing on lean management across systems such as smelting, steel rolling, and energy. Pangang initiated 13 workplace competitions such as "Efficient and Stable Production with Blast Furnaces" focusing on quality and quantity improvement, cost reduction and efficiency boost, product portfolio optimization for increased profits, and optimal production capacity and profitability. BenSteel deeply integrated workplace competitions with mass innovation for better efficiency and benefits, rational proposals, and lean management. Ansteel Mining rolled out 9 competitions including the "Innovation and Entrepreneurship" on Safety, the Production Increase Challenge, and the Cost Minimization Challenge.



## Case Continuously promoting employee skill competitions

In 2023, Ansteel organized employee skill competitions, including "Elite Competitions" for six trades and "Mass Competitions" for 26 trades, spawning 194 technical experts within the Company. Anshan Iron and Steel Group, Pangang, and BenSteel also engaged in the "HBIS Cup", a national professional skill game in the steel industry, with 8 contestants winning the title of industry technical experts and the Ansteel honored as an "Excellent Organization".



## Promoting mass innovation

We continuously unlock new innovation models driven by the "four wheels": employee innovation workshops, innovation programs, advanced operation methods, and rational proposals. In 2023, we had 26 employee innovation workshops above the municipal level, and recognized 117 excellent innovation programs, 26 advanced operation methods for Ansteel, and 80 brilliant rational proposals. We also ran a staff innovation meeting where the front-line employees as innovation representatives took up the spotlight.



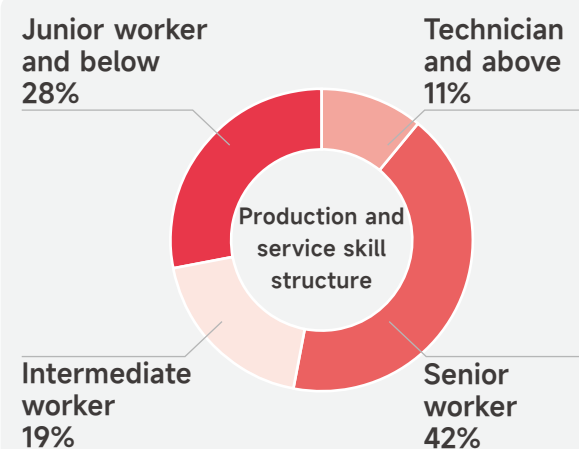
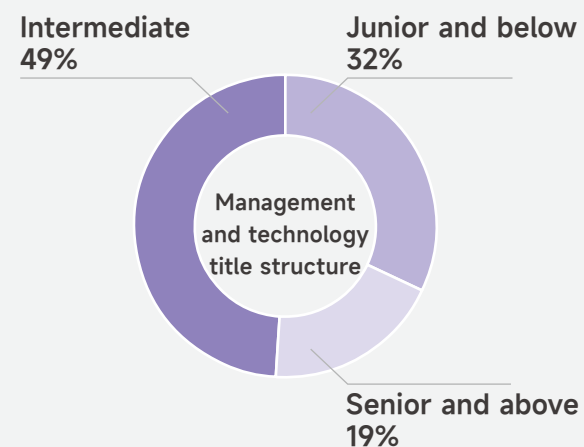
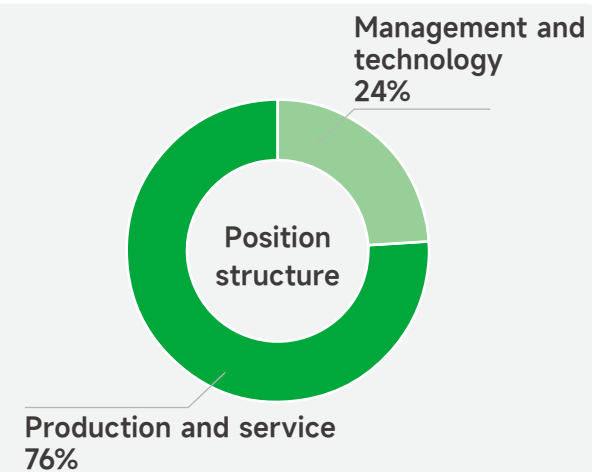
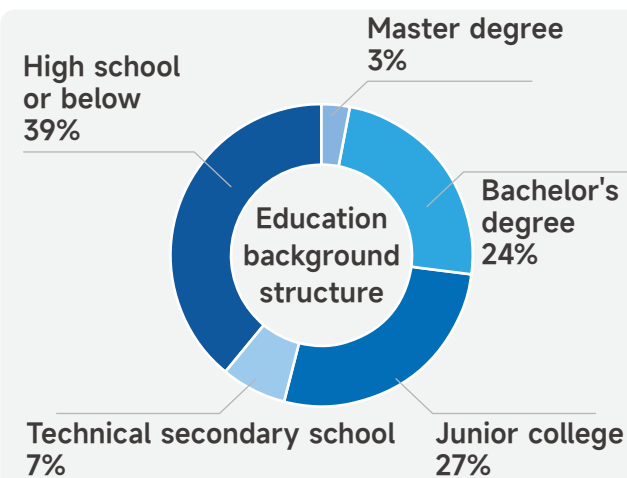
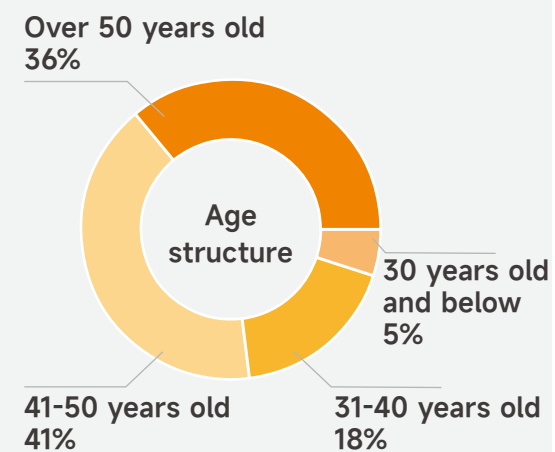
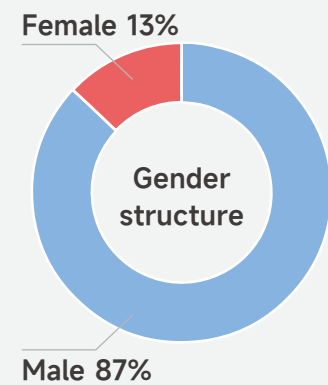
The innovation experience of Ansteel's employees hit the headlines of the *Workers' Daily*. We also won 1 Grand Prize, 2 First Prizes, 4 Second Prizes, and 7 Third Prizes at the National Staff Technical Innovation Achievement Exhibition in the Machinery, Metallurgy, and Building Materials Industries, and 1 Second Prize and 1 Third Prize in the 7th National Excellent Workers' Technological Innovation Achievements Exchange. At the second Innovation Exchange Conference and Forum for Craftsmen of the Nation, Qu Xiaodong from the hot rolled steel plant of Angang Steel won the Excellent Presentation Award for the "Craftsman Roadshow". In the 26th National Invention Exhibition (2022-2023) and the selection of recipients for the Invention Entrepreneurship Award-Project Award, our projects won 8 Gold Awards, 24 Silver Awards, and 35 Bronze Awards, and Ansteel won the Best Organization Recommended Award.





## Championing Shared Development with Employees

In strict compliance with laws and regulations, such as the *Labor Law of the People's Republic of China*, we embrace equal employment opportunities, actively promote the talent localization strategy, and treat employees fairly and equally regardless of their ethnicity, gender, religious beliefs, and cultural backgrounds. We also guarantee employee benefits and enhance democratic management, striving to safeguard the legitimate rights and interests of each employee. In 2023, the Company had 149,765 employees, including 1,168 new hires. The staff turnover rate was 0.41%.



### Implementing equal employment

We sign labor contracts with employees in accordance with the law. We prohibit any form of forced labor and child labor, and oppose employment discrimination. We adhere to employment policies such as gender and ethnicity equality, and treat employees equally and fairly regardless of their ethnicity, gender and religious beliefs.

### Improving the remuneration system

We have optimized the organizational structure and the job positions, improved the performance appraisal system, and standardized the remuneration management system, achieving an organic correlation of the value, skill, and performance of each position with the business performance, and constructing an overall balanced, moderately flexible, internationally competitive, and forward-looking remuneration distribution system.

### Refining the incentive mechanism

We have improved the diverse and multi-level incentive mechanism by promoting medium- and long-term incentives such as the rewards for key roles, the youth incentives, the listed company equity incentives, and the equity dividends of tech companies.

### Optimizing employee benefits

We offer all the employees the endowment insurance, medical insurance, unemployment insurance, employment injury insurance, maternity insurance, and housing provident fund, along with supplemental medical insurance and employment injury insurance, and pay premiums in full. We have also implemented the corporate annuity policy in eligible subsidiaries. In 2023, we facilitated the roll-out of corporate annuity in BenSteel, further guaranteeing the retired life of employees.

### Enhancing democratic management

We have improved the four-tier disclosure system across the Company, primary-level units, working areas, and teams, and worked to expand democratic management channels for disclosing corporate affairs. We have also convened workers' congresses at all levels in a standardized manner and voted through matters such as the use of welfare funds, business performance evaluation methods, and management measures related to employment, work-related injuries, and vacations, thus effectively protecting employees' rights to stay informed about, participate in, express views on, and oversee corporate operations.



# Safety Management

Safety is the premise and foundation for all work. Committed to creating a safe and healthy working environment for our employees, Ansteel strictly complies with laws and regulations pertaining to occupational health and safety (OHS) and implements effective OHS management to ensure the health and safety of our employees.

**76.9%**

reduction in the total number of work safety accidents reported

**79.2%**

drop in the number of casualties

## Improving the safety system

### • Perfecting safety policies

We have revised related policies such as the *Work Safety and Fire Accident Management Measures*, the *Notice on Further Strengthening the Management of Personnel in the Operation Areas*, and the *Division of Responsibilities on Work Safety at the Safety and Fire Committee and Member Units* to refine management, tighten up assessments, and build a closed-loop supervision system with effective safety accountability, thereby facilitating a shift toward preventive and preemptive safety management.

### • Improving the reward and punishment system

We have revised the *Reward and Punishment Measures on Identification of Work Safety Hazards* and the *Interim Measures on Rewards for Safety Appraisal*. By adopting an approach of “imposing punishments to determine rewards, and offering rewards to promote improvements”, we boost the fundamental safety management in both the subsidiaries and their primary-level units.

### • Preventing safety hazards

We have carried out a series of safety hazard correction activities, with 75,145 hazards identified and 75,143 corrected, equating to a hazard correction rate of 99.9%. We have also organized risk prevention seminars to devise countermeasures and prevent risks. Given the high safety risks and arduous management facing iron-making, external expert teams have been commissioned to conduct systematic evaluations of the 5 ironworks of our subsidiaries in 3 regions. Moreover, we have strengthened intelligence to boost inherent safety.



### Case Developing the “Yun’ An Zhilian” platform for multidimensional safety evaluation

Based on the intelligent safety management platform “Yun’ An Zhilian”, Ansteel has developed a multidimensional safety evaluation model featuring 7 modules and 14 indicators focusing on safety performance, accident management, hazard identification, etc. Each month, we would conduct a comprehensive evaluation and analysis of our subsidiaries’ safety management data, and create an intelligent evaluation report in the system to guide our subsidiaries to know about their strengths and weaknesses, address the shortcomings, and close loopholes for targeted management improvements and “one-stop management”.



### Case Strengthening intelligence to boost inherent safety

Ansteel has vigorously facilitated mechanic and automated projects for reduced staffing. We have solicited investment of about RMB 1.2 billion from 7 subsidiaries to complete more than 90 overhauls, replacing and cutting over 1,700 high-risk posts. Additionally, 210 new slope safety monitoring systems have been deployed in open-pit mines and waste dumps to monitor the safety conditions of deformation areas and steep highwalls of the mines around the clock, as well as the landslide dynamics in real time. Furthermore, in tandem with the digital Ansteel program, we have our duty staff withdrawn from hazardous areas and replaced with remote centralized control at the 47 major hazard sources, achieving unmanned daily operation within the radius of major hazard sources, and boosting inherent safety of the sites.





Raising safety awareness

Through a spectrum of realistic activities, we disseminate safety culture and knowledge more extensively and enhance employees’ safety capabilities. By doing this, we foster a robust safety environment, which further raises the safety awareness of employees.

Promoting safety culture and knowledge

Enhancing safety capabilities

Conducting emergency drills

- Watching educational videos such as *Life is Above All* and *Prevention is Priority* to make safety mindset firmly entrenched in our corporate culture
- Launching the “Work Safety Monthly Campaign” , including making and putting up over 22,000 copies of promotional posters, banners, exhibition boards, and materials, conducting more than 6,800 lectures and educational activities, and holding the online knowledge quiz competition with over 58,000 participants and 141,000 answers
- Inviting senior experts to deliver a series of training sessions for the Company’ s executives on related topics such as the Work Safety Law and the Three Administrations and Three Musts with Principal Responsibilities
- Conducting training on safety know-what and know-how, and helping our manufacturing subsidiaries develop a regular learning mechanism, with a total of 196,000 individuals trained throughout the year, representing a training coverage rate of 100%
- Carrying out 211 training projects on the acquisition of certifications for special operations, special equipment, safety management, etc.
- Organizing multi-form fire education activities in subsidiaries, with over 53,000 individuals trained
- Conducting more than 1,100 fire drills concerning subjects such as fires caused by the leakage of hazardous chemicals and gas pipelines, and fire evacuation in the workplace

Protecting occupational health

We have developed personalized health check criteria tailored to employees’ demands, improved the disease prediagnosis mechanism, and elevated our service and capabilities in health condition analysis. We have also taken heightened precaution measures against occupational hazards, and enhanced on-site working conditions to better manage occupational hazards. Moreover, we immediately address any problem with the personal protective equipment to effectively safeguard the safety of our employees.

▶ Pangang

▶ BenSteel

12,466	100%	100%
Spots checked for occupational hazards	coverage of occupational health and safety training	coverage of health examination and health records
100%	100%	0
coverage of occupational health and safety training	coverage of health examination and health records	new case of occupational diseases in 2023

Caring for Employees

We prioritize the interests and well-being of employees and their families. We offer employee care programs and do what we can to help employees in difficulties. In 2023, Ansteel’ s Party Committee facilitated 17 key livelihood projects in 10 aspects at the Company level, among which 10 were key concerns of employees, including low-carbon transition, intelligent manufacturing, and reclamation and greening, with a total investment of RMB 267 million; and 7 were pressing concerns of employees, with a total investment of RMB 122 million. Specifically, we renovated 206 operation rooms, rest rooms, and bathrooms, and 12 staff canteens and baths, and built 2 parking lots. Moreover, we visited 12,308 beneficiaries in difficulties, with RMB 12.61 million of relief funds distributed. We also audited and distributed RMB 12.7 million of medical relief funds, aiding 4,732 employees. 607 employees received assistance from serious illness insurance, with a claim amount totaling RMB 28.82 million. Our “Golden Autumn Educational Subsidies” program benefited 2,749 individuals, with RMB 1.279 million channeled. We also visited front-line employees, providing free “caring meals” and distributing salted soda, watermelon, and other heatstroke prevention supplies to important employees working under high temperatures. Furthermore, we extend our care to employees’ family members, hosting family open days and many other employee activities to enhance team cohesion and employees’ sense of belonging.

RMB 12.61 million

12,308

Relief funds distributed

Beneficiaries in difficulties visited and assisted

RMB 12.70 million

4,732

Medical relief funds invested

Beneficiaries



Ansteel holds the third staff sports meeting



Ansteel carries out outdoor employee engagement activities for new hires



## Rural Vitalization

Ansteel takes a page from the “Thousands of Villages Revival Program” to contribute to the continuous improvements in rural industrial development, rural development, and rural governance. To promote rural vitalization on all fronts, we have taken solid steps to facilitate the paired assistance initiative. On April 28, 2023, our Leadership Meeting on Paired Assistance Work was convened to map out our 2023 paired assistance work plan with a high-level vision and top-tier standards by thoroughly studying and radically implementing the guiding principles of the 20th CPC National Congress, as well as the General Secretary Xi Jinping’s important speech on comprehensively promoting rural vitalization.

In 2023, by following the requirements of “continuance of responsibilities, policies, assistance, and supervision even after a county is removed from the poverty list” and focusing on vitalization driven by five pillars (industrial development, talent development, cultural development, ecological improvement, and organizational improvement), we successfully made the “three shifts” and fully completed our paired assistance tasks for the year. Our performance in paired assistance was evaluated as “good” by the Central Rural Work Task Force for four years in a row.



- Ansteel’s performance in paired assistance was evaluated as “good” by the Central Rural Work Task Force for four consecutive years
- Ansteel was honored as the “Loving Enterprise in 2022” by the China Charity Federation
- Pangang was awarded the title of “Advanced Collective in Rural Vitalization and Paired Assistance Work in Guizhou Province”
- 5 dispatched employees were commended by the Guizhou Provincial Party Committee and the provincial government

**RMB 43.68 million**

Pro bono assistance funds input

**1.5%**

year-on-year increase

**3,109**

individuals trained

**10.3%**

year-on-year increase

**RMB 58.96 million**

assistance funds from other donors  
(including attracted capital from new business)

**RMB 81.84 million**

consumption-driven assistance funds

**11.1%**

year-on-year increase

**RMB 5.18 billion**

Targeted purchase of Panzhou coal

**8,500**

sets of work clothes  
purchased from Xinjiang

**64**

cadres dispatched  
to rural areas

## Industrial development

By leveraging the endowments of resources in the paired assisted counties, we pursue the goals of spawning and developing unique and competitive industries in the locality to practically propel the endogenous development of these regions.

- Our practice of **Empowerment of Panzhou Rosa Roxburghii Tratt Industry with Complete Industrial Chains** was selected as an excellent case in the **Bluebook on Supporting Rural Vitalization by Central State-Owned Enterprises (2022)**

- The Panzhou Rosa Roxburghii Tratt (Cili) program was included in the **2023 Story of Corporate Social Responsibility in China**, which was unveiled at the 6th China International Import Expo

### Developing unique exemplary industries

We have assisted in formulating the industrial development plan for the Taxkorgan County. By developing industrial ecosystems and industrial chains based on its resource advantages, we help transform its resource edges into development strengths.

We have supported the building of the aseptic carton canning production line in the Cili R&D Center to expand the Cili industrial chain. In 2023, the assisted company, Cili King, garnered a revenue of of RMB 230 million, leading to over 100,000 acres of Cili planted in Panzhou City, benefiting 126,900 farmer households with a total of 385,200 people.

### Consolidating the foundation for industrial development

Focusing on strengthening, extending, and supplementing the industrial chain of the farming industry on the growers’ end, we have implemented the planting project in Tatikuli, a relocation site. Through this project, we have helped improve about 337.5 acres of land and helped local residents achieve a bumper harvest of foods such as wheat and highland barley and store winter forage, with an increase in per capita income of more than RMB 330 for the relocated households.

We have supported the construction projects in Sanjiaotian Village such as the “Improvement of Facilities in the Grain and Vegetable Growing Areas”, the “Construction of Safeguard Facilities in the Fine Vegetable Plantation”, and the “Improvement of Infrastructures in Cili Plantation on the Wasteland”. We have also continuously improved the industrial infrastructures in Panzhou to bolster the hard power for industrial development.



Ansteel supports the building of the aseptic carton canning production line in the Cili R&D Center, Panzhou



## Talent development

We have enhanced rural talent development, striving to build permanent talent teams for the assisted areas.

2922

individuals  
trained in total

1050

primary-level  
officials trained

231

rural vitalization  
pioneers trained

1641

technical  
personnel trained

### • Improving the educational environment

We have invested **RMB 10.25 million** to build an integrated nine-year school in the Taxkorgan County, improving the educational quality and promoting balanced educational development.

We have invested **RMB 1.47 million** to renovate the teaching building of the Panzhou Jiupu Primary School, adding teaching facilities and improving teaching conditions.

We have launched the “Student Aid Program”, helping **376** students from struggling families to grow and succeed.

### • Organizing training and exchanges

We have organized special training sessions for primary-level officials, precursors to prosperity, and vegetable growers to sharpen the skills and literacy of the masses.

We have innovatively organized the young outstanding officials from the Taxkorgan County to work at Ansteel for a temporary stint in pursuit of greater vision and better capabilities.

Huajianshan Village and Sanjiaotian Village in Panzhou, Guizhou Province, were rated as the seventh batch of **“Provincial-Level Pilot Village (Community) for Democracy and the Rule of Law”** in Guizhou Province.

## Cultural development

We have continuously revitalized the rural culture in the assisted regions, uplifted the rural civilization, and unlocked a new outlook in rural areas, laying the groundwork and fostering the spirit of rural revitalization.

- The “Cultural Support to Xinjiang” patriotism education museum in Taxkorgan County has been built with the aid of Ansteel to provide patriotic education for ethnic teachers and students. The cadres and the masses in Taxkorgan County have been organized to watch patriotic education films such as the *Steel Will*.
- Cadres dispatched to Taxkorgan County have blended into the villages to guide local efforts such as constructing model villages, promoting rural civilization, optimizing point-based and list-based systems, and refining village rules.
- In Panzhou, we have driven village governance with demonstrative cases, carried out the “Beautiful Courtyard” competition, and helped abolish outdated customs in rural areas. We have also launched the initiative “Civilization Points in Supermarkets”, which can be redeemed with good deeds. Through the initiative, we encouraged villagers to do good deeds and be good people, and promoted civilized rural governance with the “civilization points”.



Ansteel participates in the 10th China Charity Fair



Ansteel participates in the Consumption-Driven Assistance and Agricultural Promotion Weekly Campaign

## Ecological improvement

Guided by Xi Jinping’s thinking on ecological conservation, we practice green development. By focusing on improvements in rural infrastructures for production and living, sewage treatment, and village landscaping, we strive to build beautiful, eco-friendly, and habitable villages.

- Our “Warm Boiler” maintenance project for herdsmen and farmers in the Taxkorgan County has helped address their problem of winter heating, benefiting **20,000** individuals from **5,000** households.
- We have engaged in the construction of **30** harmonious and beautiful villages in the Taxkorgan County, renovating **35** household and tourist toilets. We have also assisted the two villages, the Langgan Village in Tizhinapu Town and the Bulebuledie Village in Abati Town, in the completion of assessment and acceptance as Rural Vitalization Demonstration Villages in Taxkorgan and Kashgar.
- We have assisted in the rural environment improvement in Panzhou. Through projects such as the “Public Environment Improvement of the Shuangshan Natural Hamlet in the Sanjiaotian Village” and the “Beautiful Village Construction in Jiupu” an”, we carried out sewage treatment, built water supply networks, and installed more public facilities.

## Organizational improvement

Highly valuing giving full play to the political function of primary-level Party organizations in the assisted counties, we make every effort to promote the continuous improvement in the organizational skills of these organizations.

### • Caring for the disadvantaged

Party members spontaneously donated RMB **18,000**, and visited **32** out-of-poverty and honorable households in Taxkorgan.

We visited **91** elderly Party members, distressed Party members, and disadvantaged people in Panzhou to fortify the “warm defense line”.

### • Building cultural strongholds

To elevate the quality of integrated public services across urban and rural communities, we have assisted in building community centers and Party member activity rooms in Taxkorgan, benefiting **7,128** people from **2,406** households.

We have facilitated the construction of infrastructures and cultural arenas of the 2 Party branches in Sanjiaotian Village and Huajiatian Village in Panzhou. We have helped carry out activities such as Party members’ meetings, Party branch meetings, Party group meetings, Party lectures, and themed Party days.

## Consumption-driven assistance

Taking consumption-driven assistance as an essential instrument to consolidate and expand the achievements of the battle against poverty and to promote income increases for the out-of-poverty population, we vigorously implement consumption-empowered assistance programs.

### • Expanding product sales channels

We brought the agricultural products from paired assisted areas to our canteens, labor unions, and workers’ dining tables by purchasing and taking them as employee benefits or donations. In 2023, we purchased RMB **81.84** million worth of agricultural products from poverty-stricken areas, an increase of **11.1%** year-on-year.

By setting up special counters and zones for products from assisted areas in our supermarkets and e-commerce platforms, we have broadened the sales channels and helped sell RMB **10.71** million worth of agricultural products from poverty-stricken areas, an increase of **355.7%** year-on-year.

### • Joining hands to bolster paired assistance

We have vigorously taken part in the Consumption-Driven Assistance Campaign for state-owned enterprises (SOEs). During the “Agricultural Promotion Weekly Campaign”, we procured RMB **23.26** million worth of agricultural products from poverty-stricken areas, ranking **11th** among the top 100 SOEs. Focusing on benchmarking against and exchanging with sister SOEs, we actively join hands with other SOEs to bolster paired assistance.

We have actively created an all-hands-on-deck atmosphere. We make full use of major industry conferences to vigorously promote and publicize the products from Ansteel’s assisted areas.



# Volunteering Services

Upholding the public welfare spirit of dedication, comradeship, mutual assistance, and progress, we conduct deep community engagement. We are active in organizing volunteer activities and passionate about public welfare undertakings, striving to be a socially responsible enterprise and create more value for society.

71

Youth Volunteer Organizations currently owned by the Communist Youth League Committee of Ansteel and our subsidiaries

7906

young volunteers in total

428

youth volunteer service activities

296

new Guo Mingyi volunteer teams across China

Over 20,000

new volunteers



Warm Winter Care



Open Day activity



· Blood donation with love ·



“Subsidies for Students in Xiuyan” program



Youth volunteers offer convenience services



“Learning from Lei Feng” campaign





## Outlook 2024

The year 2024 marks the 75th anniversary of the founding of the People's Republic of China and also the 75th anniversary of the establishment of Ansteel. In 2024, we will follow the new development philosophy completely, precisely, and comprehensively to contribute to the new development paradigm. We will also work unwaveringly to make state-owned capitals and enterprises stronger, better, and bigger, accelerate the journey to becoming a world-class enterprise, and contribute to the development of a powerful China and the rejuvenation of the nation.

**We will create new value to write a new chapter for development.** We will continue to accelerate the transformation and upgrading of the steel industry, and facilitate the restructuring of Ansteel and Ling Steel to entrench the new landscape of the steel industry with "Baowu in the south and Ansteel in the north". We will hold onto the mission of "improving our ability to ensure strategic resources supply", and grow faster to become a world-class resource exploitation company. Furthermore, we will expedite the development of strategic emerging industries and future industries to tap into new sectors that may lead the future development.

**We will continue technological innovation to give new impetus to development.** We will continuously promote the development of the R&D system. By increasing investment in sci-tech R&D, addressing the bottlenecks in core technologies, carrying out R&D in key technologies for future industries, and deepening collaborative innovation among enterprises, universities, research institutes, and end-users, we aim to continuously give new impetus and create new competitive advantages for development. Additionally, we will take solid steps to propel the digital transformation of the new Ansteel. By focusing on the "AI Plus" initiative and the priority tasks such as empowering industrial digital upgrading, fostering a digital ecosystem, harvesting the value of data, and beefing up network security, we seek to empower high-quality development with digital and intelligent transformation and upgrading.

**We will deepen reform to break new ground for development.** Aligned with the goals of "making solid progress

in three aspects" (i.e. improvements in governance and regulation of SOEs; business optimization and restructuring of SOEs; and vitality and efficiency boost within SOEs) set for the SOEs Reform Deepening and Upgrading Campaign, we will deepen functional reforms and innovation in systems and mechanisms, accelerate breakthroughs in key fields and links, and give full play to the "three roles" of SOEs to quicken the pace towards a world-class company.

**We will promote green and low-carbon transition to present a new development landscape.** We will prioritize green and eco-friendly development. By facilitating projects such as ultra-low emission transformation, ultimate energy efficiency, ecological restoration of mines, and green electricity, we will push the low-carbon and high-quality development of the steel industry to a new level.

**We will embrace mutual growth to facilitate common prosperity.** We will vigorously carry forward the spirit of model workers, labor, and craftsmanship, and carry out workplace and skill competitions in an extensive, thorough, and ongoing manner. We will further push forward with the reform of industrial worker development to cultivate a troop of knowledgeable, skilled, and innovative industrial workers, and to nurture an increasing number of craftsmen of the nation and highly-skilled personnel. Additionally, we will continuously proceed with the key livelihood-related project "Serving the People with Concrete Actions", and improve the serious illness medical insurance mechanism for employees to boost the well-being and sense of gain of employees. Furthermore, we will better fulfill social responsibilities as a state-owned enterprise by maintaining our efforts in paired assistance and rural vitalization to earn a "good" rating.

Looking ahead, we will forge ahead with solid efforts to promote Chinese-style modernization, sharpen our core competencies and functions, and open up a new chapter for the high-quality development of a new Ansteel!





Key Performance

Economic	Unit	2021	2022	2023
Total revenue	RMB 100 million	3834.57	3366.16	2880.16
Total operating costs	RMB 100 million	3574.72	3321.73	2895.32
Total profit	RMB 100 million	174.63	80.14	6.15
Total assets	RMB 100 million	4919.76	4810.08	4826.74
Owner's equity	RMB 100 million	1509.81	1553.58	1522.85
Asset liability ratio	%	69.31	67.70	68.45
Total tax amount	RMB 100 million	224.87	172.07	142.33
Yield of iron (pig iron)	million tons	5266.22	5357.24	5272.09
Yield of steel (crude steel)	million tons	5565.33	5564.90	5588.94
Yield of steel products	million tons	5225.38	5228.47	5237.56
Yield of iron concentrate	million tons	4983.96	5260.58	5328.00
Yield of high vanadium iron	million tons	3.68	3.60	3.57
Yield of titanium dioxide powder	million tons	24.44	24.35	25.14
Ranking among Fortune Global 500	-	400	217	283
Ranking by World Steel Association	-	3	3	3
Steel exported	million tons	329.52	329.71	426.00
Proportion of steel exported	%	6.26	6.16	8.82

Economic	Unit	2021	2022	2023
Board meetings	-	8	9	8
Matters discussed and deliberated by the Board	-	36	28	27
Economic responsibility audits	-	24	17	14
Audits and evaluations for investment projects	-	1	3	5
Cost audits of investment projects	-	12	9	9
Management audits	-	8	8	6
Other audits	-	15	14	11
Net deduction of project funds	RMB 100 million	0.66	0.73	1.53
R&D investment	RMB 100 million	148.15	130.56	111.85
Intensity of R&D investment	%	3.86	3.88	3.88
Patent applications accepted	-	1872	2103	2477
Patent authorized	-	1309	1435	1772
Effective inventions	-	4699	5323	6946
International standards released and revised	-	4	2	1
National standards released and revised	-	10	13	31
Industry standards released and revised	-	2	2	5
Industry and provincial level projects that received technology awards	-	34	37	43



 Social	Unit	2021	2022	2023
Complaint resolution rate	%	100	100	100
Number of Anshan Iron and Steel Group's suppliers who obtained ISO14001 system certification	-	9	17	19
Number of Anshan Iron and Steel Group's supplier scertified by the occupational health and safety system	-	9	16	18
Number of Anshan Iron and Steel Group's suppliers that were suspended cooperation due to non-compliance with social responsibility	-	0	0	0
Total number of employees	-	173597	164003	149765
Proportion of female employees	%	13.60	13.20	13.00
Number of new hires		428	1040	1168
Proportion of new hires	%	0.20	0.60	0.78
Number of employees resigned	-	897	1248	619
Employee turnover rate	%	0.50	0.80	0.41
Labor contract coverage rate	%	100	100	100
Social insurance coverage rate	%	100	100	100
Employee training investment	RMB 100 hundred	14800	12012	8234
Training hours per employee	hour	65	60	57
Training investment per employee	RMB	996	872	703
Proportion of management and technical personnel	%	23.10	23.30	23.91
Number of recipients of allowance for people in distress	-	28843	29014	12308
Total investment in allowance for people in distress	RMB 100 hundred	1744.89	1991	1261
Number of recipients of student grant offered by employees	-	1185	3092	2749
Total investment in student grant offered by employees	RMB 100 hundred	95.60	157.66	127.98
Number of employee medical assistance recipients	-	2035	9107	4732

 Social	Unit	2021	2022	2023
Total investment in employee medical assistance	RMB 100 hundred	938.34	1748.30	1270
Coverage rate of employee physical examination	%	100	100	100
Coverage rate of employee occupational health records	%	100	100	100
Total investment in work safety	RMB 100 million	19.32	17.89	20.06
Trainees of safety training	headcount	228518	265414	467757
Coverage of safety training	%	100	100	100
Number of newly added occupational patients	-	3	2	6
Increase/decrease rate of injuries per thousand employees	%	-57	-17	-85.4
Paired assistance funds	RMB 100 hundred	4205.60	4301	4368
Other charitable activities, student aid, and improvement of the community environment	RMB 100 hundred	3208.25	3853.94	1394.00
Total social donations	RMB 100 hundred	7413.85	8154.94	5762.00
Assistance funds introduced for counties receiving central departments paired assistance	RMB 100 hundred	1078	8561	5896
Purchase of agricultural products from areas out of poverty	RMB 100 hundred	5689	7366	8184
Agricultural products from areas out of poverty sold with the help of Ansteel	RMB 100 hundred	116	235	1071
Assistance officials dispatched	headcount	51	64	64
Trainees of central departments paired assistance training helped by Ansteel	headcount	2399	2817	2922
Expenditure of Panzhou coal by targeted purchase	RMB 100 hundred	39.90	55.40	51.80
Young volunteers	headcount	5039	4334	7906
Volunteer services	session	949	543	428
Participants in volunteer services	headcount	11337	11015	11812
Total hours of volunteer services	hour	34011	33045	35436



🏠 Environmental	Unit	2021	2022	2023
Proportion of clean energy <small>(including nuclear power, wind power, hydropower, and photovoltaic power)</small>	%	18.67	26.59	23.56
Year-on-year decrease of comprehensive energy consumption per RMB 10,000 of output value <small>(comparable price)</small>	%	0.17	1.82	0.51
Year-on-year decrease of new water consumption per ton of steel produced	%	2.20	1.49	-0.11
Year-on-year decrease of SO <sub>2</sub> emissions	%	9.29	14.36	6.85
Year-on-year decrease of NO <sub>x</sub> emissions	%	-1.59	9.55	8.73
Year-on-year decrease of the COD emission	%	7.53	29.70	8.25
Year-on-year decrease of new water consumption per ton of steel producedd	%	2.73	5.35	-0.68
Year-on-year decrease of new water consumption per ton of steel produced	%	98.43	98.60	98.34
Water recycling rate of Anshan Iron and Steel Group Water recycling rate of Pangang	%	95.25	95.31	95.46
Water recycling rate of BenSteel	%	98.30	98.31	98.43

## Expert Review

In 2023, during an inspection tour in Heilongjiang, General Secretary Xi Jinping put forward the concept of "new quality productive forces" for the first time, providing scientific guidance for accelerating technological innovation and promoting high-quality development on the new journey and in the new era. Ansteel, as a pioneer in exploring new quality productive forces and revitalizing northeast China, demonstrates its responsibility and commitment of serving the country and strengthening the nation through the steel industry. The Company has steadfastly fulfilled its economic, environmental, and social responsibilities. Ansteel prepares and releases its 17th sustainability report, the *2023 Ansteel Group Corporation Limited Sustainability Report*, showcasing its image of a leading and global renowned brand in fulfilling its duties.

The report addresses current hot topics and highlights Ansteel's responsibility and commitment in the new era. It includes two features, "Traversing Geographical Boundaries to Building a New Steel Silk Road" and "Contributing to Ecological Restoration and Building a Beautiful New Ansteel". The former echoes the 10th anniversary of the Belt and Road Initiative. It illustrates Ansteel's adherence to the Global Development Initiative and Global Civilization Initiative, and its implementation of a high-quality overseas development strategy. It also reflects the Company's vision of becoming an iron and steel group corporation with the most international influence. The second feature highlights Ansteel's achievements in ecological restoration by following the instructions of General Secretary Xi's ecological conservation ideology, and alters traditional perceptions of Chinese steel enterprises, contributing Ansteel's strength to the decarbonization goal.

The report focuses on fostering new quality development forces. The main body elaborates on how Ansteel integrates its development with overall societal progress from five dimensions, including technological innovation, serving the overall national interests, green and low-carbon development, robust governance, and social responsibility. It vividly portrays Ansteel's practices in actively responding to the expectations and demands of various stakeholders such as the government, shareholders, customers, environment, partners, employees, and the public, as well as Ansteel's commitment of assuming its social responsibilities.

The report introduces innovative content. In the corporate governance section, it sets a background analysis for sustainable development from a risk management perspective, making the topics more targeted. Each chapter aligns with the UN 2030 Sustainable Development Goals (SDGs) at the beginning, showing Ansteel's progress in supporting the SDGs and highlighting the Company's focuses, key performance, and CSR practices.

Sustainable development is not only a corporate social responsibility, but also the key to maintain competitiveness in future markets. Looking ahead, we expect Ansteel to remember its original intention of "producing better material, creating more wonderful life", and continue to engage in the global sustainability endeavors. By following national development strategies and the sustainability philosophy, Ansteel is expected to inject powerful momentum into its high-quality development and create more sustainable economic, environmental, and social values for all stakeholders, working together to embrace a brighter future.

Yu Zhihong, President and Editor-in-Chief of *China Sustainability Tribune*





## 《鞍钢集团有限公司 2023 可持续发展报告》评级报告

受鞍钢集团有限公司委托，“中国企业社会责任报告评级专家委员会”抽选专家组成评级小组，对《鞍钢集团有限公司 2023 可持续发展报告》（以下简称《报告》）进行评级。

### 一、评级依据

中国社会科学院《中国企业社会责任报告指南（CASS-CSR 4.0）》暨“中国企业社会责任报告评级专家委员会”《中国企业社会责任报告评级标准（2020）》。

### 二、评级过程

1. 评级小组审核确认《报告》编写组提交的《企业社会责任报告过程性资料确认书》及相关证明材料；
2. 评级小组对《报告》编写过程及内容进行评价，拟定评级报告；
3. 评级专家委员会副主席、评级小组组长、评级小组专家共同签审评级报告。

### 三、评级结论

#### 过程性（★★★★★）

公司经济发展研究院牵头成立报告编制工作组，职能部门和下属单位提报基础资料，总经理把控整体方向并负责报告终审；将报告定位为披露履责信息、强化利益相关方沟通、助力品牌文化建设的重要工具，功能价值定位明确；根据国家宏观政策、国际国内社会责任标准、行业对标分析、公司发展规划等识别实质性议题；推动鞍钢股份、钒钛股份、本钢板材三家下属上市公司独立编发社会责任/ESG 报告，形成“集团公司+上市公司”报告发布机制，延展信息披露范围；计划以电子版、印刷品、长图、中英文版等形式呈现报告，过程性表现卓越。

#### 实质性（★★★★★）

《报告》系统披露了贯彻宏观政策、产品质量管理、责任采购、职业健康管理、安全生产、环保技术和设备的研发与应用、节约能源资源、发展循环经济等所在行业关键性议题，叙述详细充分，具有卓越的实质性表现。

#### 完整性（★★★★☆）

《报告》主体内容从“创新驱动 塑造新质生产力”“服务大局 建设命运共同体”“绿色低碳 擘画山水新篇章”“稳健高效 增强发展新动能”“以人为本 呵护幸福大家庭”等角度披露了所在行业核心指标的 80.39%，具有领先的完整性表现。

#### 平衡性（★★★★★）

《报告》披露了“员工流失率”“新增职业病人数”“生产安全事故减少比例”等负面数据信息，并阐述针对贪污腐败问题的专项整治行动及效果，平衡性表现卓越。

#### 可比性（★★★★★）

《报告》披露了“营业总收入”“利润总额”“员工总数”“安全生产总投入”“吨钢耗新水量同比降低”“清洁能源比重”等 86 个关键指标连续 3 年的对比数据，并通过“2023 年鞍钢集团位列《财富》世界 500 强第 283 位”“位列世界品牌 500 强第 306 位、中国品牌 500 强第 80 位”等进行横向比较，可比性表现卓越。

#### 可读性（★★★★☆）

《报告》从“创新驱动”“服务大局”等五大篇章解读年度履责理念、行动与成效，框架结构清晰，重点议题突出；封面设计采用插画风格，融入鞍钢主营业务相关矢量元素，凸显企业特征；章节跨页选用履责场景实景全图，增强报告的辨识度与感染力，可读性表现领先。

#### 创新性（★★★★☆）

《报告》开篇设置“跨越山海，打造钢铁新丝路”“生态修复，建设美丽新鞍钢”两个

专题，聚焦服务构建新发展格局以及生态修复治理，彰显央企责任担当；创新设置可持续发展背景分析板块，从风险管理的角度对可持续发展背景进行分析；构建以战略管理、经营绩效、技术创新、资源环境、员工保护和社会发展为核心内容的社会责任指标体系，创新性表现领先。

### 综合评级（★★★★★）

经评级小组评价，《鞍钢集团有限公司 2023 可持续发展报告》为五星级，是一份卓越的企业社会责任报告。



中国企业社会责任报告  
评级专家委员会  
Chinese Expert Committee on CSR Report Rating

鞍钢集团可持续发展报告首次获得五星级评价

### 四、改进建议

1. 增加行业核心指标的披露，进一步提高报告的完整性；
2. 丰富报告内容和设计的展现形式，进一步提升报告的可读性。

黄群慧

评级专家委员会副主席

钟宏武

评级小组组长

魏秀丽

评级小组专家



出具时间：2024 年 7 月 24 日

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# Feedback

Dear readers,

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

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

☐ Yes    ☐ Fairly    ☐ No

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

☐ Yes    ☐ Fairly    ☐ No

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

☐ Yes    ☐ Fairly    ☐ No

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

☐ Yes    ☐ Fairly    ☐ No

5.What makes the most satisfactory part of this report?

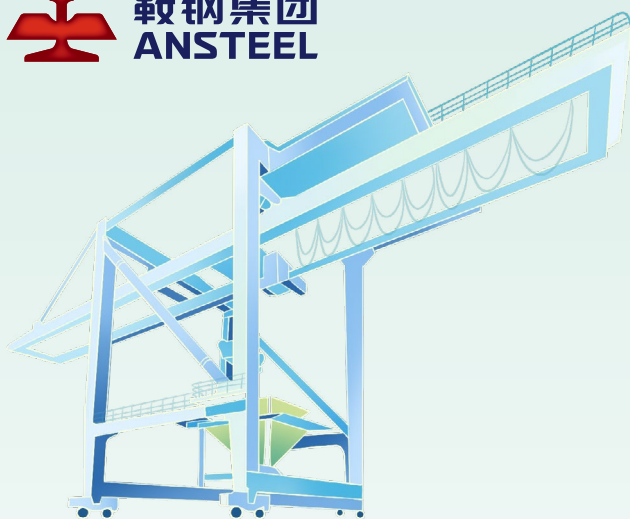
6.Is there any necessary information omitted in this report?

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





The report is printed on environmental friendly paper



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