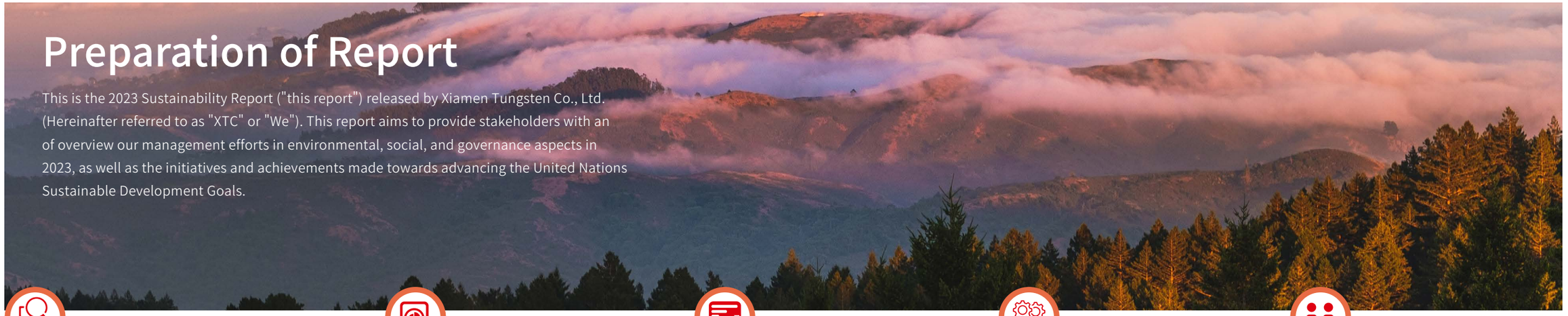
厦门钨业
XIAMEN TUNGSTEN

2023 SUSTAINABILITY REPORT

目录



Preparation of Report

This is the 2023 Sustainability Report ("this report") released by Xiamen Tungsten Co., Ltd. (Hereinafter referred to as "XTC" or "We"). This report aims to provide stakeholders with an of overview our management efforts in environmental, social, and governance aspects in 2023, as well as the initiatives and achievements made towards advancing the United Nations Sustainable Development Goals.

Reference Guidelines

This report is prepared in accordance with the "Global Reporting Initiative Standards" (GRI Standards) and "Sustainability Accounting Standards Board Standards" (SASB Standards). Additionally, it incorporates the "Guidelines No. 1 for Self-regulation of Listed Companies on the Shanghai Stock Exchange - Standard Operation", "Guidelines No. 14 for Self-regulation of Listed Companies on the Shanghai Stock Exchange - Sustainability Report (Trial) ", SASAC Research Center's "Indicators Reference Systems for ESG Reports of Listed Chinese Central State-Owned Enterprises," IFRS S1 General Requirements for Disclosure of Sustainability-related Financial Information and IFRS S2 Climate-related Disclosures developed by the International Sustainability Standards Board (ISSB), and the United Nations Sustainable Development Goals (SDGs).

Reporting Scope

The reporting period is between January 1, 2023, and December 31, 2023, and some parts of the report may be beyond the aforementioned scope. Unless otherwise specified, the environmental data disclosed in this report covers our main manufacturing enterprises, and the economic and social data covers the enterprises within the scope of our consolidation.

Report Data

The financial data in this report is extracted from Annual Report FY2023 of XTC audited by Grant Thornton China CPA LLP. The greenhouse gas emission data is obtained from the "2023 Greenhouse Gas Verification Statement of Xiamen Tungsten Co., Ltd. " issued by Bureau Veritas Certification (Beijing) Co., Ltd and the "2023 Greenhouse Gas Verification Report of XTC New Energy Materials (Xiamen) Co., Ltd." issued by Societe Generale de Surveillance S.A.. Other data is sourced from our internal systems or manually compiled.

External Assurance

RSM China CPA LLP independently guarant ees the environmental, social and corpora te governance performance key indicators in this report, and the external assurance, working scope, methodology of work and conclusion of assurance are set out in the Appendix.

Report Availability and Feedback

The report is released once a year in electronic format in both Simplified Chinese and English versions. In case of any inconsistency between the Chinese and English versions, the Chinese version shall prevail. The electronic version of the report can be accessed and downloaded from our official website (www.cxtc.com) and Shanghai Stock Exchange website (www.sse.com.cn). In the process of preparing the report, we have taken into account the reading requirements of different stakeholders, to the extent possible, and made the report as concise, clear and easy to read as possible. Due to practical constraints, aspects of this report may not be entirely satisfactory. Your comments and suggestions are welcome and we strive to address your concerns in an effort to continually improve moving forward.

Explanatory Note

Abbreviation	Full Name
XTC, We	Xiamen Tungsten Co., Ltd.
XTC Haicang Branch	Xiamen Tungsten Co., Ltd. Haicang Branch
Xiamen Jialu	Xiamen Tungsten (H.C) Co., Ltd.
Malipo Haiyu Tungsten	Malipo Haiyu Tungsten (H.C) Co., Ltd.
Luoyang Yulu	Luoyang Yulu Tungsten Mining Co., Ltd.
Ninghua Xingluokeng	Ninghua Xingluokeng Tungsten Mining Co., Ltd.
Duchang Jinding	Jiangxi Duchang Jinding Tungsten Co., Ltd.
Xiamen Honglu	Xiamen Honglu Tungsten & Molybdenum Industry Co., Ltd.
Xiamen Golden Egret	Xiamen Golden Egret Special Alloy Co., Ltd.
Haicang Golden Egret	Xiamen Golden Egret Cemented Carbides Co., Ltd.
Longyan Rare-earth	Longyan Rare-earth Development Co., Ltd.
Golden Dragon Rare-earth	Fujian Changting Golden Dragon Rare-earth Co., Ltd.
GANPOWER	Ganzhou Highpower Technology Co., Ltd.

Abbreviation	Full Name
XWXN (Xiamen)	XTC New Energy Materials (Xiamen) Co., Ltd.
XWXN (Sanming)	XTC New Energy Materials (Sanming) Co., Ltd.
XWXN (Ningde)	XTC New Energy Materials (Ningde) Co., Ltd.
XWXN (Yaan)	XTC New Energy Materials (Yaan) Co., Ltd.
Chengdu Hongbo Molybdenum	Chengdu Hongbo Molybdenum Co., Ltd.
Chengdu Hongbo Industrial	Chengdu Hongbo Industrial Co., Ltd.
Tianjin SofTool	SofTool Manufacturing Co., Ltd.
Basic Electronic Materials	Fujian Basic Electronic Materials Co., Ltd.
Bobai Judian	Bobai Judian Mining Co., Ltd.
RMAP	Responsible Minerals Assurance Process
LECD	L (Likelihood, the probability of an accident), E (Exposure, the frequency of exposure to a hazardous environment), C (Consequence, the potential consequences of an accident). Three factors are given different scores. The sum of these three scores is then multiplied to D (Danger) to evaluate the level of risk associated with working conditions.

Message from the Chairman

In 2023, a year of turbulent changes, the global economy struggled forward, geopolitical tensions escalated, and the increasingly extreme and frequent adverse weather triggered by climate change underscored a new turning point in world affairs. Confronted with multiple challenges and opportunities, all members of XTC remained true to our original aspiration and founding mission, steadfastly focusing on our core business. We kept concentrating on the three core areas of tungsten and molybdenum, new energy materials, and rare earths, vigorously advancing innovations in technological and management. We persisted in the path of sustainable development, embraced the concept of green growth, and marched towards our strategic objectives, vision and mission.

In the past year, we pursued innovation as the driving force, propelled reforms in institutional mechanisms, management models, and technological research and development, thus comprehensively shaping a new landscape for enterprise development. During this period, we remained focused on achieving our interim goal of ‘strengthening improvements, yielding tangible results’, promoted our International Advanced Manufacturing (IAM) management model, profoundly implemented the Integrated Product Development (IPD) innovative operational system, enhancing the adaptability of the IPD system to our business, and fully facilitating the construction and enhancement of manufacturing and innovation capabilities. We achieved an increase in the comprehensive strength and core competitiveness of the enterprise, resulting in growth in economic benefits. Over the past year, we realized a consolidated operating income of CNY 39.398 billion and a net profit attributable to shareholders of CNY 1.602 billion, **making XTC a place for shareholder to invest in.**

In the past year, we endeavored to implement responsible supply chain management, collaborated with partners to foster a dynamic industry ecosystem, and constructed a resilient, responsible, and sustainable supply chain to forge world-class products and services. Throughout this period, we continued to prioritize our three core businesses: tungsten and molybdenum, rare earths, and new energy materials. We strengthened our control over the raw material supply chain, rigorously managed product quality, and utilized advanced lean manufacturing practices and market-oriented product innovation to deliver high-quality, stable, and sustainable products to our global customers, thus contributing to the advancement of the manufacturing and new energy industries. Over the past year, we achieved significant milestones in research and development. Our independently developed high-strength tungsten wire for photovoltaic was successfully mass-produced, exceeding a scale of 7.6 million kilometers, leading to a notable increase

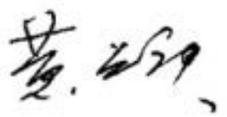
in the efficiency of silicon wafer processing and a reduction in energy consumption, thereby effectively supporting the enhancement of quality and efficiency in the photovoltaic industry. XTC's development of gear milling tools has successfully overcome the challenges in gear processing for domestic tools, significantly reducing the production time of wind turbine gear rings and lowering tool costs. This advancement ensures the seamless operation of the supply chain in the wind power industry. The titanium alloy milling tools has achieved major breakthroughs in tool substrates, coatings, and surface edge treatments. The use of aluminum alloy tools in the milling of motor shaft grooves for new energy applications dramatically increases the lifespan. This guarantees efficient and high-quality processing of core components in the aerospace, aviation, and new energy vehicle industries, achieving cost reduction and efficiency enhancement to provide users with satisfactory service, **making XTC a place for customer to find solutions.**

In the past year, we have been cultivating people-oriented culture and fostering mutual growth with our employees, which in turns providing talent momentum for enterprise growth. We emphasized the protection of every employee's rights and interests, upheld equal and compliant employment practices, listened to employees' voices, and strived to provide a diverse, healthy, safe, and inclusive work environment, along with competitive compensation and diversified welfare benefits. We were attentive to each employee's growth and development, orienting towards value creation and leveraging a goal-oriented performance culture to drive organizational optimization and enhance individual effectiveness. We refined talent mechanisms and talent pool construction, and established clear and open career development pathways for employees to unlock their potential and vitality. Moreover, we built a sound system of long-term incentives and constraints for shared benefits and risk sharing, fostering a strong bond between employees and the organization for mutual development and shared achievements, **making XTC a place for employee to realize personal value.**

In the past year, we gained deep insights into the challenges and opportunities presented by energy transition, explored innovations in green manufacturing and the low-carbon sector, and worked hard to establish new models of green production with significant potential for adoption, firmly proceeded along the path of green development. Throughout this period, we adhered to the national carbon peaking and carbon neutrality goals, setting our targets for carbon peaking by 2030 and achieving carbon neutrality by 2050. We conducted greenhouse gas inventories and partial product carbon footprint assessments, formulated emission reduction plans, and promoted energy conservation and emission reduction through green product and technology innovation, digitization, and automation management. Additionally, we introduced non-emission energy sources such as photovoltaic and nuclear power to facilitate energy structure transformation, and implemented initiatives like energy-saving renovations of process equipment, focusing on improving energy conservation and emission reduction to achieve carbon peaking and carbon neutrality goals and contribute to find global climate change solutions. We are dedicated to minimizing the adverse impacts of our business activities on climate change, water resources, land, and biodiversity through technological and management innovations. While pursuing our own environmentally friendly development, we also addressed the demands and expectations of stakeholders in surrounding areas. Through diversified communication mechanisms, active participation in local community activities, and interactive exchanges, we promptly understood and effectively addressed stakeholders' feedback and suggestions. Moreover, we continuously invested in supporting community development in environmental protection, education, and economic aspects through means such as philanthropic donations and infrastructure construction, aiming to reinforce the well-being enjoyed equally by every local resident, **making XTC a place for society to benefit from.**

The establishment of a robust and effective corporate governance system is the cornerstone of achieving high-quality and sustainable development for enterprises. We implemented a comprehensive governance mechanism for sustainable development, continuously refining sustainable development policies and systems. We enhanced the effectiveness and the level of ESG governance through the formulation of annual performance targets and indicators for various ESG issues, as well as tracking and evaluating completion status. We established a comprehensive risk management system to bolster the company's overall risk management and control capabilities. Additionally, we incorporated scenario modeling to identify and assess sustainability risks and opportunities, thereby enhancing our strategic resilience amidst sustainability risks. In light of the evolving global landscape and changing corporate dynamics, we commit to relentless diligence and proactive advancement. We will uphold a strategy of sustainable development, drive corporate transformation and growth through innovation, accelerate the enhancement of our core competitiveness and global impact, and collaborate with stakeholders to collectively foster global economic, social, and environmental sustainability. Together, we will create a harmonious ecosystem and pursue human well-being.

Chairman of XTC



About XTC

We focus on three core businesses: tungsten and molybdenum, new energy materials, and rare earth. Through continuous technological and managerial innovation, we have built a complete front-end tungsten mine selection, mid-end tungsten and molybdenum smelting and production of tungsten and molybdenum powders, high-end deep processing applications such as hard alloys, tungsten and molybdenum wire and cutting tools, and recycling of the entire industry chain, with many technologies leading internationally. We have established a complete new energy material product line to support 3C consumer electronics, new energy vehicles, and energy storage to create more possibilities and provide advanced material solutions for achieving carbon neutrality. We have also established a complete industry chain from rare earth mining, smelting, and separation to rare earth deep processing products, setting a model of rare earth development mode driven by deep processing to promote industrial development.

Our Mission

We aim to make XTC a place for employee to realize personal value, a place for customer to find solutions, a place for shareholder to invest in, and also a place for society to benefit from.

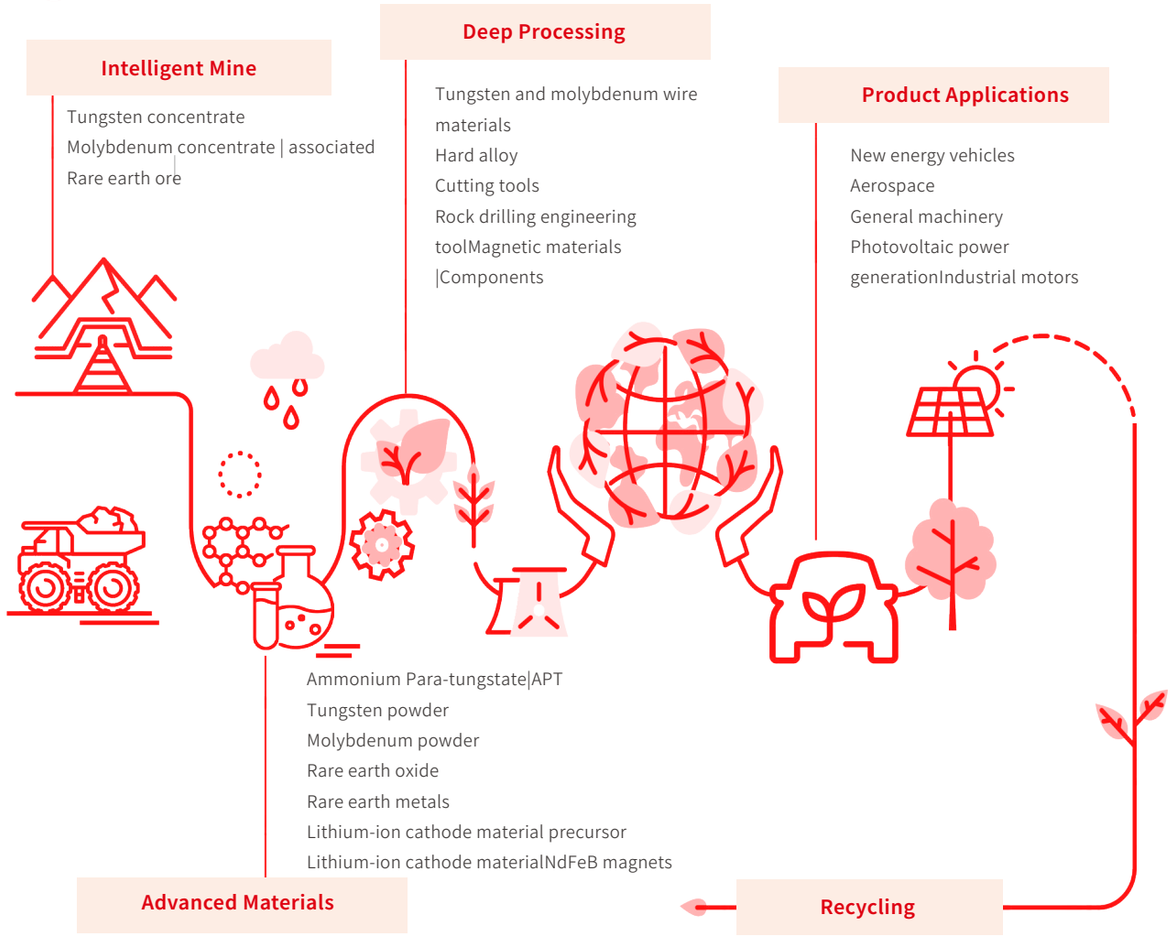
Our Vision

To build XTC into a platform for talent gathering, technology innovation, and industrial development.

Our Business Policy

Pay attention to details, strive for progressive technology, advance steadily, endeavor to enhance the markt share, and focus on long-term interests.

Our Business



Our Contribution to SDGs

As responsible corporate citizens, we use the United Nations' 17 Sustainable Development Goals (SDGs) outlined in the 2030 Agenda for Sustainable Development as our action guide. We are committed to making our due contribution to alleviating global climate change, achieving national dual carbon goal, and enhancing the well-being of all humanity.

	SDGs	实践
Environmental		• We actively respond to the national dual carbon strategy by organizingcarbon assessments, producing green products, researching and developing innovative technologies, implementing energy-saving technological upgrades, electrification transformations, increasing the proportion of clean energy usage, and offsetting emissions through carbon trading measures to continuously reduce emissions of carbon dioxide and other greenhouse gases to achieve sustainable development. • We strengthen the protection and management of water resources by innovating in technology and equipment to achieve the recycling of water resources, improve water resource utilization efficiency, minimize external water intake, and reduce emissions into the external environment as much as possible. • We strive to practice green production methods by increasing environmental protection investment during production and operation, introducing clean production technologies, controlling the generation of pollutants from the source, and implementing a series of measures to reduce pollutant emissions, thereby reducing the negative impact of production and operation on the environment. • We attach importance to the protection of biodiversity, adhering to the concept of "developing with protection, protecting in development," and simultaneously conducting ecological restoration during business development. Greening is conducted in areas affected by business activities to reduce the impact of business activities on the environment, thereby creating a suitable ecological environment for local biodiversity protection. • We emphasize resource recycling and utilization by implementing measures such as secondary resource recycling and the recycling of auxiliary materials to reduce resource consumption and achieve efficient resource recycling, further promoting the development of the circular economy.

	SDGs	实践
Social		• We lead with a theme of independent innovation, guided by market demand, and supported by adequate research and development investment and a three-dimensional research and development framework. We continuously deepen Integrated Product Development (IPD) and International Advanced Manufacturing (IAM), promote close collaboration among production, learning, research, and application, and strengthen the training of technical talents, constantly enhance the company's research and development innovation capabilities, and strive to create a platform for technological innovation. • We actively practice and advocate responsible sourcing principles, integrate sustainable development concepts into supply chain management, strictly implement the company's ESG-related requirements throughout the entire supply chain life cycle management, and actively engage in supplier communication and training. We adhere to and promote responsible sourcing policies for minerals from conflict-affected and high-risk areas, effectively prevent potential negative impacts and risks in the supply chain, and collaborate with partners to build a green, low-carbon, and sustainable supply chain. • We consistently view product quality as the lifeline of enterprise development and guarantee product quality and provide satisfactory services for customers as the foundation of enterprise survival. Through a sound product management and customer service system, we provide high-quality, responsible products and services, and strive to build a customer-focused sustainable product system. • We continuously improve the information security management system, standardize information security management work, effectively safeguard information security, and protect the privacy of employees, customers, and other stakeholders. Actively participate in domestic and international forums related to responsible supply chains to support the sustainable development of the industry.

	SDGs	实践
Social		• We commit to complying with international norms such as the “International Covenant on Civil and Political Rights”, “the United Nations Guiding Principles on Business and Human Rights”, and “the International Labor Organization Conventions”, to uphold human rights and protect labor rights, and create a harmonious, diverse, inclusive, equitable, and just working environment for employees. • We improve the talent training system, build a fair competition platform, provide rich and diverse training opportunities, establish clear career development channels, provide competitive salary and benefits, improve the incentive mechanism for scientific research achievements, and build and cultivate a high-level talent team. • We adhere to the occupational health and safety management concept of "safety first, people-oriented, main responsibility, and localized management." We establish a sound safety production management system guided by annual occupational health and safety production management objectives, and strive to provide a safe and healthy working environment and conditions for employees, suppliers, contractors, and other stakeholders. • We respect the rights, cultural customs, and lifestyles of indigenous people, safeguard the personal and collective rights and interests of local residents, establish diversified communication and feedback mechanisms, actively engage in community communication and interaction, prioritize local procurement and local hiring, promoting local employment, and stimulating local economic development. • We actively participate in public welfare and volunteering, contribute to local development in various aspects such as rural revitalization, education, culture, infrastructure, and people's livelihood, and build a good environment for harmony between enterprises and government , and harmony between enterprises and residents

	SDGs	实践
Governance		• We continuously improve the top-down, clearly defined ESG governance structure, constantly optimize policies on sustainable development issue management according to business development needs, and strictly require all companies and employees within the scope of consolidation to comply with the global code of conduct specified in the ESG policy statement. • We establish a sound and comprehensive risk management system, continuously optimize risk management and internal control systems and processes, construct a sound verification and supervision mechanism, continuously strengthen and improve the company's risk control system, and effectively prevent various major risks in company operations. • We adhere to the principles of compliance, integrity, and fairness, always take high standards of business ethics as the basic principles and behavioral norms for business operations, and maintain a zero-tolerance attitude towards all forms of corruption and bribery. • We respect intellectual property rights protection, conduct intellectual property management and protection from aspects including patent ownership, applications, utilization, and rewards, continuously promote the cultural construction of intellectual property , and enhance employees' awareness of intellectual property protection. • Adhere to the principles of compliance, integrity, and transparency, comply with relevant laws and regulations, follow internal control processes to identify, assess, and manage tax risks, and fulfill tax obligations in accordance with the law. • We provide diverse and accessible channels for stakeholders to lodge complaints and reports, encourage stakeholders to make suggestions to the company on matters such as business ethics, human rights protection, and environmental protection. We take a series of measures to protect the legitimate rights and interests of complainants.

2023 Economic, Enviromental and Social Influence

Economic Impact

Total Assets
3,927,252
thousand RMB

Operating revenue
3,939,791
thousand RMB

Net profit attributable to shareholders of the parent company
160,170
thousand RMB

Environmental Impact

Total environmental protection investment
16,617
Ten-thousand RMB

GHG emissions
674,990
tCO_2e

GHG emissions intensity
1,713
tCO_2e/ hundred-million RMB of operating revenue

Energy consumption intensity
680
tons of coal equivalent/ hundred-million RMB of operating revenue

Water consumption intensity
5,489
m^3/hundred-million RMB of operating revenue

Social Impact

Total social contributions
545,646
Ten-thousand RMB

Including:
- Total tax payment
  141,322
  Ten-thousand RMB
- Employee compensation
  272,637
  Ten-thousand RMB
- Dividends paid to shareholders
  85,918
  Ten-thousand RMB
- Interests paid to creditors:
  45,095
  Ten-thousand RMB
- Social donations
  674
  Ten-thousand RMB

Social contributions per share
3.85
Ten-thousand RMB

Research and development input
160,857
Ten-thousand RMB

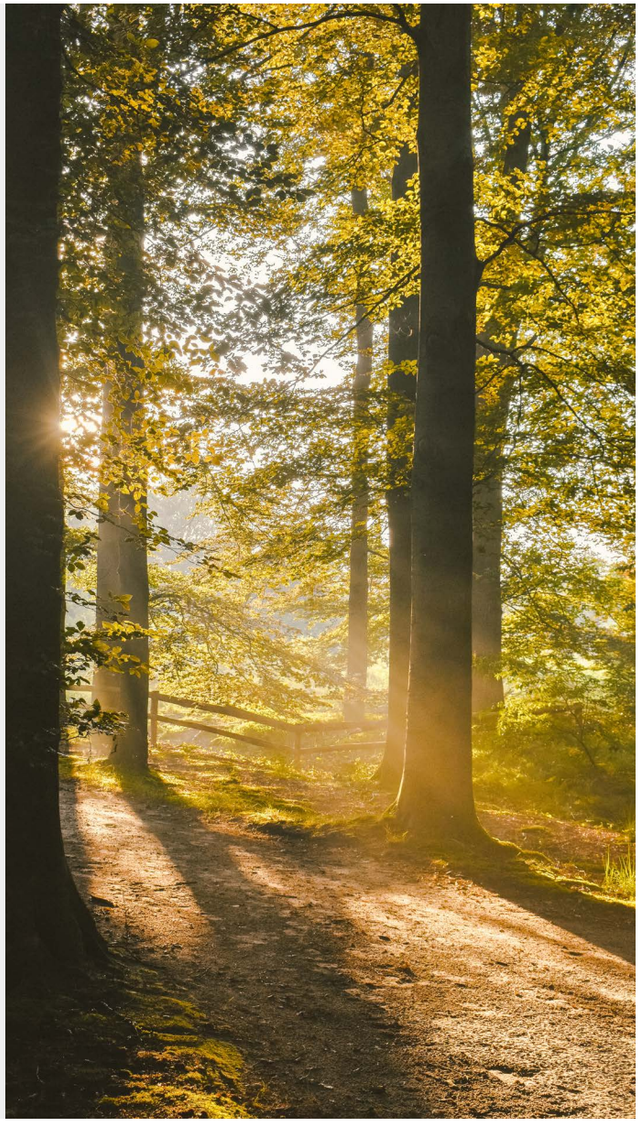
Number of employees
17,549
Ten-thousand RMB

Total safety input
14,556
Ten-thousand RMB

Work-Related Fatalities
0
persons

Volunteer service hours
1,618
hours

Safety Training Attendee
69,037
Attendees



2023 Honors and Awards

Awards Recipients	Honors and Awards
XTC	311th on Fortune China 500
XTC	267th on Fortune China 500 (Listed Companies)
XTC	"2023 Top 500 Enterprises of China" jointly awarded by China Enterprise Confederation and China Entrepreneur Association
XTC	86th on "2023 China Top 100 Leading Enterprises in Strategic Emerging Industries" jointly awarded by China Enterprise Confederation and China Entrepreneur Association
XTC	“2023 Best Practices for Corporate Governance” awarded by CAPCO
XTC	"Benchmark Enterprise" for 2023 Integrated Development Program of New Generation Information Technology and Manufacturing in Fujian Province
XTC	7th in Fujian's first Top 100 Brand Value List
XTC	"Benchmarking Enterprise with System Management Improvement" awarded by Fujian Provincial SASAC
Golden Dragon Rare-earth	2023 Smart Manufacturing Demonstration Factory
Golden Dragon Rare-earth	Included in the “Establish a world-class, specialized, high-end and innovation-driven demonstration enterprise”
Ninghua Xingluokeng	"Benchmark Enterprise" of the Integration Development Project of New Generation Information Technology and Manufacturing Industry in Fujian Province in 2023
XWXN	73th in the "2023 Global Top 500 Rankings of New Energy Enterprises " awarded by China Energy News and China Institute of Energy Economics Research
XWXN	"2023 Most Valuable Listed Company on the Science and Technology Innovation Board" awarded by Shanghai Securities News and Financial News and "Science and Technology Innovation Board Daily"
XWXN	"Benchmark Enterprise" of the Integration Development Project of New Generation Information Technology and Manufacturing Industry in Fujian Province in 2023.

Environmental

- Addressing Climate Change
- Pollution Control and Ecosystem Protection
- Resource Utilization and Circular Economy

Addressing Climate Change

We are committed to becoming a respected world-class enterprise, profoundly aware that protecting the Earth, a common heritage of humanity, and ensuring that everyone equally enjoys the benefits brought by technological advancement, are essential for the sustainable development of the company. Throughout our development, we have always adhered to the concept of "making XTC a place for society to benefit from," strictly complying with relevant laws, regulations, and policies related to environmental protection in the countries and regions where we operate. We release a public "Environmental Protection Statement," pledging to strengthen safety and green production, prioritize pollution prevention and control, enhance ecological protection, and continuously reinforce the management of our business activities under the guidance and supervision of the Environmental Protection Committee. We create green production models with potential for promotion and strive to reduce the negative impact of our operations on climate change, water resources, and land. Currently, 22 of our subordinate enterprises have obtained ISO 14001 environmental management system certification, covering 61% of the production-oriented enterprises under the company.

2023 GHG Emission Management Goals

1	Establish strategic objectives of carbon peaking and net zero emissions for the group: Commit to managing Scope 1 and Scope 2 GHG emissions, aiming to reach carbon peaking by 2030 and achieve net zero emissions by 2050.
2	Obtain PAS2060 certification: Commit to achieving ne zero for Scope 1 and Scope 2 emissions in organizational operations from January 1, 2023, to December 31, 2050, in accordance with PAS2060 standards.
3	Continuously increase the proportion of clean energy usage.
4	Gradually phase out high-energy-consuming equipment and improve energy efficiency.
5	Complete the annual GHG inventory and verification for subordinate production-oriented enterprises in operation.

Strategy

We focus on three core businesses: tungsten and molybdenum, new energy materials, and rare earths. Adhering to the corporate policy of "advance steadily, endeavor to enhance the market share, and focus on long-term interests," we drive our growth with technological, managerial, and institutional innovations. We strengthen our position through the rapid development of hard alloy and tool businesses, expand our presence by deep processing of our three major businesses and developing application products, enhance our competitiveness through technological innovation to increase sales revenue and profit contribution of new products, and ensure our stability through institutional construction and corporate culture development. We strive to build XTC into "A platform for talent gathering, technology innovation, and industrial development" through institutional and mechanistic innovation.

We commit to achieving net zero for Scope 1 and Scope 2 emissions in organizational operations from January 1, 2023, to December 31, 2050, in accordance with PAS2060 standards, and to reaching carbon peaking by 2030 and achieving net zero emissions by 2050.

Carbon Emission Management Plan

We are dedicated to managing Scope 1 and Scope 2 GHG emissions, setting GHG reduction targets with the 2022 GHG emissions as the baseline, and establishing the following carbon emission reduction objectives:

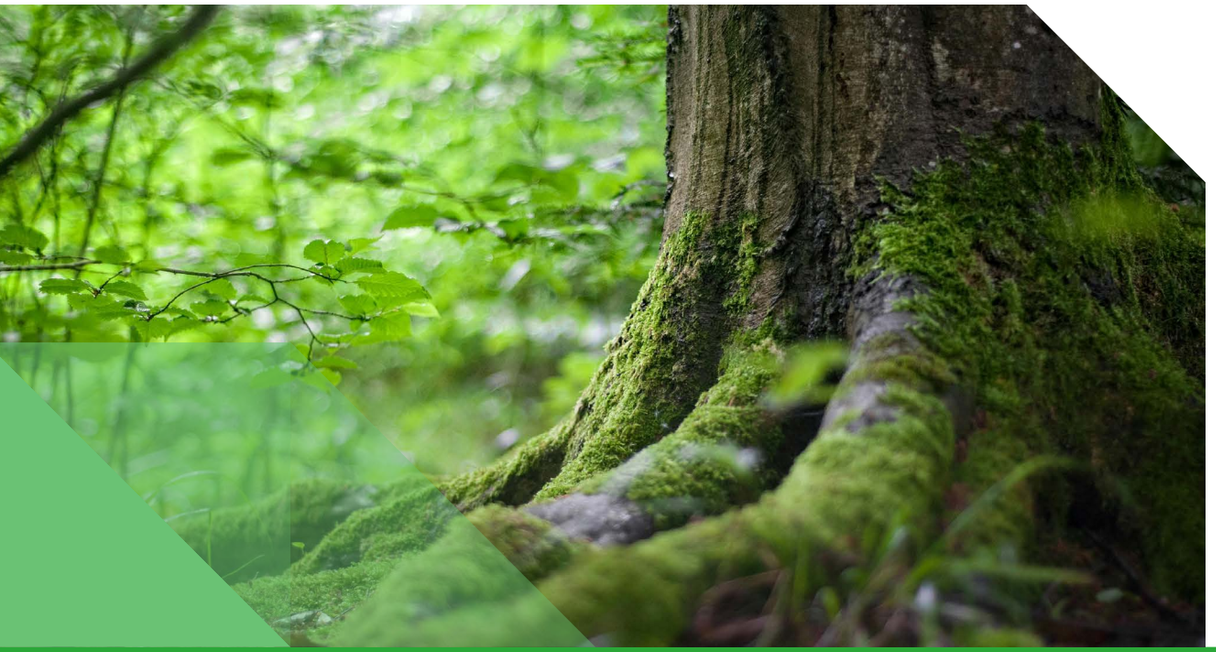
2023 -2030

Reach emission peak by 2030

Carbon Peaking Phase

2031 -2050

Utilize 100% green electricity and offset the remaining carbon emissions through carbon sinks to achieve net zero emissions by 2050.



Management Initiatives for Carbon Emission Reduction

Climate change poses a serious threat to the global economy, society, and environment, presenting a common challenge for humanity. From January 1, 2023, to December 31, 2050, our Scope 1 and Scope 2 GHG emissions will achieve net zero emissions in accordance with PAS2060 standards. We plan to achieve corporate net zero goal through a series of emission reduction initiatives, and contribute to the global temperature control objectives under the Paris Agreement.

Advance Energy Efficiency for High-Energy-Consuming Equipment

Gradually phase out high-energy-consuming equipment during the production process, improve energy efficiency, reduce the consumption of electricity and other fossil fuels, and decrease emissions resulting from fossil fuel consumption.

Promote Electrification Transformation

Progressively electrify production equipment, replace coal-fired boilers and natural gas boilers with electric boilers, switch gasoline and diesel vehicles to electric vehicles, and utilize green electricity. This can significantly reduce GHG emissions from such fossil fuels. Alternatively, utilize biofuels instead of fossil fuels, such as using biomass pellets and biodiesel as boiler fuels.

Increase the Proportion of Clean Energy Usage

Actively invest in or purchase low-carbon and clean energy sources such as photovoltaic power, wind power, and nuclear power. Increase the proportion of green electricity usage through national green power trading platforms.

Offset through Carbon Trading

Since there are process emissions sources in the production process of some of our products (e.g., lithium batteries) that cannot realize net zero emissions through green electricity, net zero emissions can be achieved through carbon trading methods such as purchasing a small amount of carbon credits or offsets.

Sustainability Risk Management

In response to the long-term and severe challenges posed by climate change to human society, we integrate sustainability risk management into our corporate risk management system. Drawing upon scenario models proposed by the Intergovernmental Panel on Climate Change (IPCC), we identify and assess the physical risks the company faces in the near, medium, and long term. Additionally, we reference scenario models from the International Energy Agency (IEA) to identify and assess the transition risks and opportunities the company may encounter in the short, medium, and long term. Based on these analyses, we formulate corresponding risk response measures and strategies for adaptation, continually enhancing the company's strategic resilience to sustainability risks and driving the company's sustainable development forward.

Physical Risks

Based on the formulated strategic goals of sustainable development and business development plans, we have selected the very low emissions scenario (SSP1-1.9)[①] and the very high GHG emissions (SSP5-8.5)[②] to conduct near-term, medium-term, and long-term assessments of physical risks and climate disaster risks to the company's business development.

① The very low emissions scenario SSP1-1.9: Assuming that global greenhouse gas emissions peak around 2030 and then gradually decline, ultimately achieving net-zero emissions around 2050.

② The very high GHG emissions scenario SSP5-8.5: Global greenhouse gas emissions are projected to continue increasing through the end of the 21st century. Compared to 1850–1900, global surface temperature averaged over 2081–2100 is very likely to be higher by 3.3° C to 5.7° C.

Physical Risk Assessment

Extreme Low Impact | Low Impact | Medium Impact | High Impact | High Impact

Physical Risk Assessment		Current Status	2030		2050	
			SSP1-1.9	SSP5-8.5	SSP1-1.9	SSP5-8.5
Floods and Typhoons	Asia: Typhoon may bring strong winds, heavy rain, storm surges, and flooding, causing serious damage to the buildings, equipment, and inventory of businesses. Flooding can also lead to urban infrastructure destruction and impact human well-being and health, particularly in coastal cities and residential areas. Europe: Coastal and inland flooding pose risks to residents, economies, and infrastructure.					
Loss of Biodiversity and Habitat Displacement	Asia: Loss of key species and ecological habitat types may occur, affecting ecosystem functions such as soil fertility, water circulation, and climate regulation. Europe: Potential destruction of marine and terrestrial ecosystems.					
Sea Level Rise	Asia: Reduced coastal fisheries resources, decreased precipitation, and increased temperatures in some areas may result from rising sea levels. Ocean warming, acidification, and rising sea levels may lead to more frequent and widespread coral bleaching and subsequent coral mortality. Europe: Risks to coastal economies and infrastructure.					
Extreme Weather	Asia: Potential extreme temperature increases, changes in rainfall frequency, and droughts, posing risks to food and water security. Europe: Potential temperature rises and extreme heat, causing stress and fatalities on humans.					
Drought	Asia: May encounter risks to food and water security. Europe: May encounter water scarcity across multiple interrelated sectors. Crop production losses due to the combination of heat and drought conditions and crop production losses caused by extreme weather.					
Landslides	Asia: Likely to experience destruction of houses, buildings, and infrastructure, resulting in casualties and property damage. Landslides may lead to the interruption of roads, railways, and other transportation routes, affecting normal transportation operations. Europe: May face collapses, landslides, mudslides, debris flows, and other hazards affecting people's lives and work safety.					

Physical Risk Management

Physical Risks		Impact Period	Responses
Floods and Typhoons	Asia: Typhoon may bring strong winds, heavy rain, storm surges, and flooding, causing serious damage to the buildings, equipment, and inventory of businesses. Flooding can also lead to urban infrastructure destruction and impact human well-being and health, particularly in coastal cities and residential areas. Europe: Coastal and inland flooding pose risks to residents, economies, and infrastructure.	Near term, medium term, and long term	Monitor and promptly release typhoon warning information, adjust production schedules reasonably, and stock up on necessary production materials and raw materials in advance to cope with supply chain disruptions, reducing the impact of typhoons on normal production operations. Reinforce buildings, warehouses, and other facilities, and timely transfer vulnerable inventory items before the arrival of typhoons or heavy rainfall. Standardize the company's emergency management, enhance internal management systems such as the "Emergency Response Plan for Sudden Environmental Incidents," and regularly organize emergency drills for typhoon and flood prevention.
Loss of Biodiversity and Habitat Displacement	Asia: Loss of key species and ecological habitat types may occur, affecting ecosystem functions such as soil fertility, water circulation, and climate regulation. Europe: Potential destruction of marine and terrestrial ecosystems.	Medium term and long term	Avoid business development in natural reserves, ecologically sensitive, and fragile areas, and conduct environmental impact assessments before investing in new projects. Implement ecological restoration measures such as afforestation and land reclamation in areas affected by mining activities to minimize the impact on local ecosystems. Regularly monitor the biodiversity status of operational facilities and surrounding areas, conduct biodiversity assessments, and implement corresponding measures to address potential ecological risks.
Sea Level Rise	Asia: Reduced coastal fisheries resources, decreased precipitation, and increased temperatures in some areas may result from rising sea levels. Ocean warming, acidification, and rising sea levels may lead to more frequent and widespread coral bleaching and subsequent coral mortality. Europe: Risks to coastal economies and infrastructure.	Medium term and long term	Carefully evaluate new investments or construction in low-lying areas or regions vulnerable to sea-level rise, relocate or rebuild assets prone to impact, or implement appropriate protection measures to mitigate the effects of sea-level rise. Establish a diversified supply chain to reduce the supply chain risks associated with sea-level rise.
Extreme Weather	Asia: Potential extreme temperature increases, changes in rainfall frequency, and droughts, posing risks to food and water security. Europe: Potential temperature rises and extreme heat, causing stress and fatalities on humans.	Near term, medium term, and long term	Schedule employees' working hours reasonably to avoid outdoor work or heavy physical labor during the hottest periods. Manage the temperature in production workshops and storage facilities, ensuring that goods are stored in suitable environments by installing shading facilities, using insulation materials, and setting up ventilation equipment. Optimize office environment design, utilize natural ventilation and shading measures to reduce air conditioning load.
Drought	Asia: May encounter risks to food and water security. Europe: May encounter water scarcity across multiple interrelated sectors. Crop production losses due to the combination of heat and drought conditions and crop production losses caused by extreme weather.	Near term, medium term, and long term	Continuously optimize production processes to reduce water usage, and reuse treated wastewater in production processes to increase wastewater recycling rates. Regularly assess water resource risks, avoid conducting project construction or acquisitions in water resource protection areas, establish cooperation with governments and communities, participate in water resource protection and management efforts, and jointly promote the sustainable use of water resources. Organize regular training for employees on water resource protection to enhance water conservation awareness.
Landslides	Asia: Likely to experience destruction of houses, buildings, and infrastructure, resulting in casualties and property damage. Landslides may lead to the interruption of roads, railways, and other transportation routes, affecting normal transportation operations. Europe: May face collapses, landslides, mudslides, debris flows, and other hazards affecting people's lives and work safety.	Medium term and long term	Strengthen vegetation protection and restoration efforts, enhance soil stability, and reduce the occurrence of landslides through measures such as afforestation, windbreak, and sand fixation. Establish landslide warning systems using remote sensing technology, meteorological data, and other means to provide early warnings of landslide risks.

Transition Risks

The International Energy Agency (IEA) conducted in-depth analyses of various aspects of the global energy system to understand how structural changes in the economy and energy usage are altering the ways the world meets growing energy demands, and compiled and published the World Energy Outlook (WEO). In the transition to a low-carbon economy, the scenarios constructed by the IEA are widely applied and extensively discussed. We selected the Net Zero Emissions (NZE)[③] and Stated Policies Scenario (STEPS)[④] under the IEA's five scenario models to conduct short-term, medium-term, and long-term risk and opportunity assessments of our business development and formulated response strategies to enhance strategic resilience and achieve sustainable development.

Physical Risks	Impact Period	Responses
Iteration of industry technology	Near term, medium term, and long term	• Maintain an integrated industrial chain layout, flexibly adjust product combinations based on changes in technology, capacity, market dynamics, and customer preferences along the industrial chain, and focus more on high-value-added business areas. • Build upon the adjustment of past product structures, further clarify the division of product and market responsibilities among each production base. Promote product upgrades, transformation, and structural adjustments at each base.
Pressure from GHG emission-related policies and regulations	Near term, medium term, and long term	• Actively react to the national carbon peaking and net zero emissions policy, formulate corporate net zero goal, and commit to achieving net zero emissions for Scope 1 and Scope 2 GHG emissions in accordance with the PAS2060 standard. Achieve net zero goal through a series of emission reduction measures, including energy-saving and emission reduction of high-energy-consuming equipment, promoting electrification transformation, increasing the proportion of clean energy usage, and offsetting emissions through carbon trading.
Shifts in market preferences	Near term, medium term, and long term	• Delve deeply into the three core areas of tungsten and molybdenum, new energy materials, and rare earths, and emphasize on industrial innovation and development. Oriented by market demand, and with sufficient research and development investment and a comprehensive R&D framework as guarantees to strengthen key core technology breakthroughs to meet the market demand for higher performance, safety, and more energy-efficient products. • Increase energy utilization efficiency and reduce product carbon emissions through measures such as refined energy management, the introduction of non-emission energy, and the application of energy-saving and emission reduction technologies.
Safety of raw material supply and price fluctuations	Near term, medium term, and long term	• Advance the construction and development of mines, and security of rare earth raw material supply. • Strengthen the control system for raw material supply chain, promote supply chain risk management, and improve risk response measures. • To enhance metal resource recycling capabilities, further expand domestic and international supply channels, improve resource recovery technology, expand recycling fields and channels, and build an industrial ecological chain.

③ Net Zero Emissions by 2050 (NZE) Scenario: Global energy-related carbon emissions reach net zero by 2050, limiting the rise in global temperatures to 1.5 ° C.

④ The Stated Policies Scenario (STEPS): Considers only specific policies already enacted or announced by governments, annual carbon emissions from energy and industrial processes will increase from 34 gigatonnes in 2020 to 36 gigatonnes in 2030, remaining at roughly the same level until 2050. If emissions continue along this trajectory and non-energy-related greenhouse gas emissions follow a similar trend, the temperature will rise by approximately 2.7 ° C by 2100 (with a 50% probability). By 2050, the share of renewable energy in global electricity generation will be close to 55%. Between 2020 and 2050, global coal consumption is projected to decrease by 15%, while oil consumption is expected to increase by 15%, and natural gas consumption is anticipated to increase by nearly 50%.

GHG Emissions Management

We conduct organizational carbon inventories in accordance with the ISO 14064-1:2018 standard, using operational control-based approaches to inventory activities and facilities of our company and our operated production enterprises both domestically and internationally. The operational boundary includes direct GHG emissions (Scope 1), indirect GHG emissions (Scope 2), and partial indirect GHG emissions (Scope 3).

According to ISO 14064-1:2018, there are three conventional methods for carbon inventories, which are categorized as calculation, measurement, and a combination of measurement and calculation. Since we currently do not have direct measurement instruments, we primarily utilize the calculation method. The calculation of GHG emissions from various sources mainly involves multiplying activity data by emission factors, including emission coefficients and mass balances. Emissions of various greenhouse gases are converted into consistent weight and volume units based on their sources. Different emission sources follow calculation methods outlined in the "2006 IPCC Guidelines for National Greenhouse Gas Inventories," as well as the "General rules for calculation of the comprehensive energy consumption (GB/T2589-2020)" and the 2022 average carbon emission factors for China's regional power grids released by the Ministry of Ecology and Environment (with foreign enterprises using local grid factors). After selecting emission factors, the calculated values are then converted to CO_2e (carbon dioxide equivalent) based on the global warming potential (GWP) of various greenhouse gases, with units expressed in tons per year. GWP used in the calculation process are sourced from the IPCC's 2021 AR6 report.

Operational Boundary

The operational boundary for our 2023 GHG inventory includes the Scope 1: Direct emissions; Scope 2: Indirect emissions from purchased energy (location-based), indirect emissions from purchased energy (market-based); Scope 3: Indirect emissions from transportation.

During the reporting period, our subsidiary XWXN independently conducted GHG inventories. The operational boundary for its 2023 GHG inventory includes Scope 1: Direct emissions; Scope 2: Indirect emissions from purchased energy; Scope 3: Indirect emissions from transportation, indirect emissions from the use of products and services.

GHG Types

The GHG emissions accounting scope includes seven types of greenhouse gases: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3).

Exclusion Items[5]

Other indirect greenhouse gas emissions (Scope 3) excluding emissions from transportation refer to emissions generated from activities not directly owned or controlled by the company. These emissions originate from sources owned or controlled by other companies. Due to the inability to control the activities and greenhouse gas emissions associated with these sources, they are not included in the accounting. Below are the identified sources of Scope 3 emissions and the reasons for their exclusion.

GHG Sources(other indirect greenhouse gas emissions - Scope 3)	GHG Types	Reasons for Exclusion
Indirect GHG emissions from organization's products	$CO_2/CH_4/N_20$	Key data is incomplete, making it difficult to quantify the generated CO_2e
Indirect GHG emissions associated with the use of organization's products	$CO_2/CH_4/N_20$	Key data is incomplete, making it difficult to quantify the generated CO_2e
Indirect GHG emissions from other sources	$CO_2/CH_4/N_20$	Key data is incomplete, making it difficult to quantify the generated CO_2e

GHG Emissions

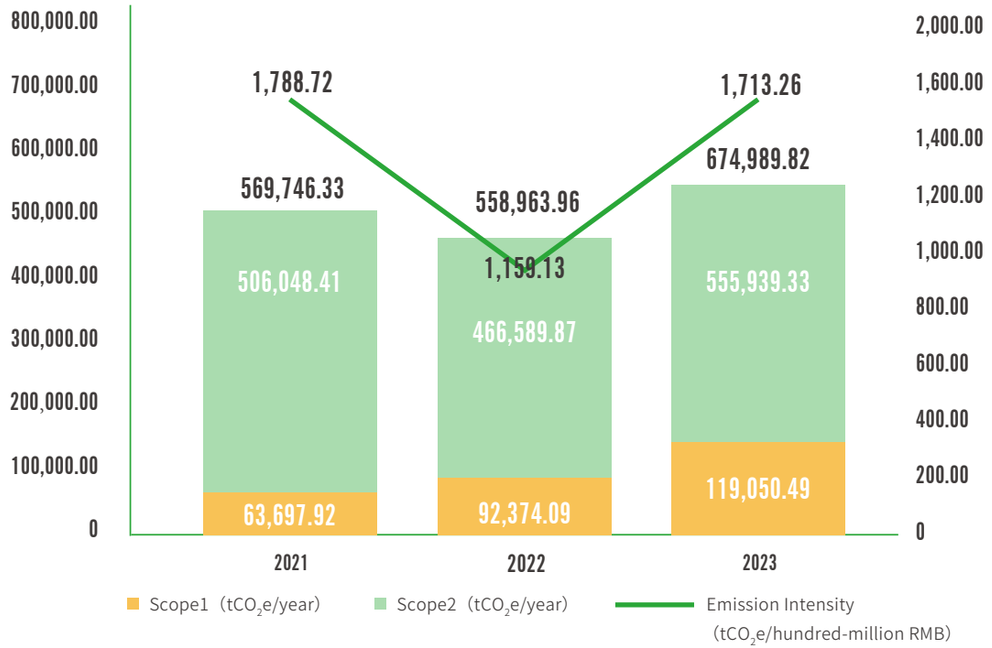
During the reporting period, the total GHG emissions from Scope 1 and Scope 2 sources amounted to 674,989.82 tCO_2e. The main source of GHG emissions was the indirect emissions from Scope 2 purchased energy sources, accounting for 82.36% of the total emissions. Due to increased production capacity, our consumption of natural gas, liquefied petroleum gas, diesel, and coal all increased compared to 2022, resulting in a 26,676.4 tCO_2e increase in Scope 1 emissions compared to 2022. Additionally, there was an increase in emissions from electricity consumption, leading to 89,349.46 tCO_2e increase in Scope 2 emissions compared to 2022. Overall, the total GHG emissions increased by 116,025.86 tCO_2e compared to 2022, primarily due to the increase of our production output and the inclusion of Jinglu New Energy, Guangdong Youlu Tools, and Golden Egret Hard Alloy (Thailand) into the scope of greenhouse gas inventory.

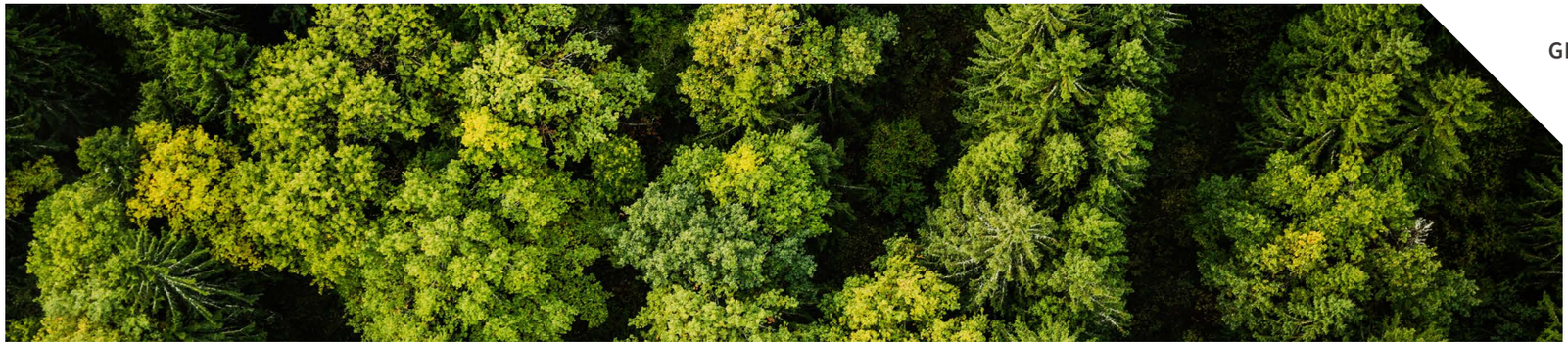
2023 GHG Emissions

Year	Scope 1 GHG Emissions (tCO_2e/year)	Scope 2 GHG Emissions (tCO_2e/year)	Scope1& 2 GHG Emissions (tCO_2e/year)	Scope3 GHG Emissions (tCO_2e/year)	Intensity of emissions per hundred-million RMB of output (tCO_2e/hundred-million RMB)
2023	119,050.49	555,939.33	674,989.82	1,426,485.46	1,713.26
2022	92,374.09	466,589.87	558,963.96	/	1,159.13
2021	63,697.92	506,048.41	569,746.33	/	1,788.72

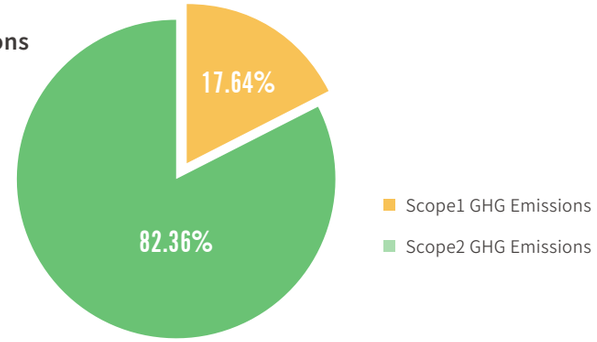
Note: Scope 2 above represents indirect greenhouse gas emissions from purchased energy (market-based).

GHG Emissions





GHG Emissions



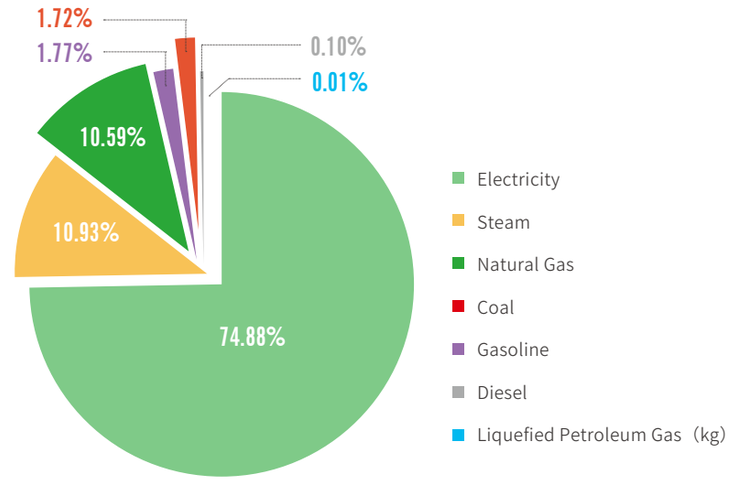
Energy Consumption

We have established annual energy targets and indicators, linking them to the performance of the company's general manager and relevant management personnel. Through the implementation of responsibility management, we decompose the target indicators to various departments and production processes, monitor progress on a monthly basis, analyze the reasons for any unmet targets, and propose management plans and improvement measures. We continuously follow up until the targets are achieved. Our main production-oriented enterprises have formulated the "Energy Management System," continuously promoting technological innovation, optimizing equipment and processes, and striving to achieve energy conservation and transformation goals. During the reporting period, we continued to improve our energy management system, with 15 affiliated enterprises obtaining ISO50001 energy management system certification, covering 42% of our production enterprises.

2023 Energy Structure

Energy Type	2023 年	2022 年	2023 Comprehensive Energy consumption (metric tons of coal equivalent)	2022 Comprehensive Energy consumption (metric tons of coal equivalent)	2023 Proportion of energy consumption
Electricity（kWh）	1,631,612,744.27	1,306,800,564.19	200,525.21	160,605.79	74.88
Steam（t）	282,283.46	327,082.90	29,262.63	33,906.72	10.93
Natural Gas（m3）	21,329,644.73	13,788,147.96	28,368.43	18,338.24	10.59
Diesel（L）	3,764,841.67	3,611,015.08	4,717.75	4,524.98	1.77
Coal（t）	6,453.55	5,752.66	4,609.77	4,109.13	1.72
Gasoline（L）	254,199.65	256,157.90	273.04	275.14	0.10
Liquefied Petroleum Gas（kg）	17,999.54	16,780.00	30.86	28.77	0.01

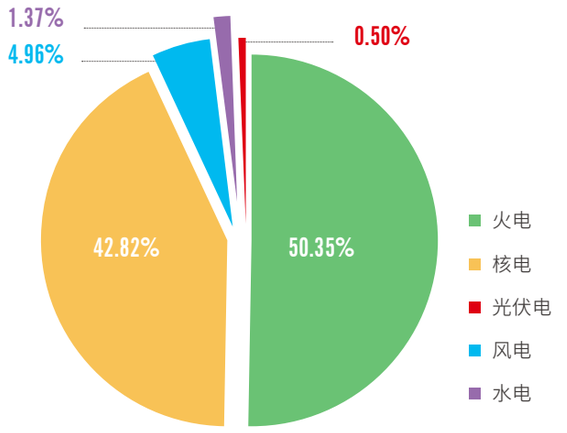
2023 Energy Consumption Structure



Proportion of Types of Electricity in 2023

2023 Green electricity ratio 49.65%

49.65%



Action to Reduce GHG Emissions

We deeply understand the challenges and opportunities brought about by energy transition, actively explore innovations in green manufacturing and low-carbon sectors, and strive to create new models of green production with significant promotion potential. We are committed to advancing energy conservation and emission reduction by promoting innovation in green products and technologies, implementing energy-saving measures for high-energy-consuming equipment, promoting electrification upgrades, increasing the proportion of clean energy usage, offsetting emissions through carbon trading. Our focus is on advancing energy efficiency, reducing carbon emissions, and ensuring the achievement of carbon peaking and net zero emissions goals, contributing to global climate change solutions.

Green Product and R&D and Innovation in Technology

Through R&D and innovation investment, we proactively develop products in the field of new energy, including cutting tools, photovoltaic tungsten wires, rare earth permanent magnet materials, and new energy materials, which meet the development needs of "peak carbon emissions and reach net zero emissions", thereby contributing to achieve the national carbon peaking and net zero emissions goals.

新能源领域切削工具

Highlight | **Gear Milling Tools**

Given the complexities of gear machining such as intricate motion trajectories, tool overlap design, and high precision tool assembly requirements, the cutting tools have long been dominated by imported products from Europe and the United States, which come with high prices. Through in-depth research on the characteristics and requirements of gear machining, we have developed high-performance, high-efficiency gear milling tools. Our developed gear milling tools were subjected to promotional tests in the processing of 20M wind turbine gear rings at the user end. By combining actual working conditions and the design features of the tools, reasonable cutting parameters were set. As a result, the processing efficiency increased by 50% compared to imported brands, while maintaining similar processing lifespans, earning high recognition from users.

The successful development of our gear milling tools significantly shortens the production time and reduces the tooling costs for downstream manufacturing companies, helping users achieve energy savings and efficiency improvements. This ensures the high-quality and high-efficiency processing of core components in the wind power industry, safeguarding the supply chain of the wind power industry and effectively supporting the implementation of national policies on "carbon peaking" and "net zero."

Highlight | **Aluminum Alloy Machining Tools**

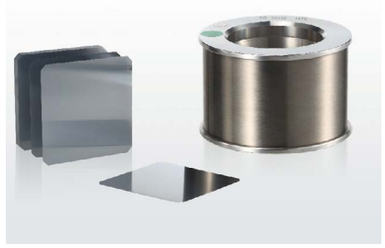
We independently develop and produce the AL groove + GN* series aluminum alloy turning tools, D966 series aluminum alloy special processing drills, UA100 series aluminum alloy universal processing end mills, and PCD aluminum alloy precision processing milling cutters. In the user-end new energy motor shaft slot milling process, the service life of the slot milling cutter has been increased by 133%, achieving cost reduction and efficiency improvement. The successful development of aluminum alloy machining tools provides assurance for the efficient and high-quality processing of core components of new energy vehicles, contributing to the development of the new energy industry.

Photovoltaic High-Strength Tungsten Wire

Driven by "carbon peaking" and "net zero" policies, the global photovoltaic installed capacity is rapidly increasing, and diamond wire cutting has become the mainstream cutting method for solar cell silicon wafers. Traditional carbon steel wires (diamond wires) have shown insignificant overall strength improvement with the refinement of specifications, while tungsten wire can serve as an upgraded alternative product to carbon steel wire due to its high strength and toughness. As the world's largest tungsten wire production enterprise, we have independently developed and produced photovoltaic high-strength tungsten wire products with advanced technological expertise. These products feature fine wire diameter, wear resistance, and high strength.

√ Tungsten wire with a fine diameter results in smaller cutting saw seams and less silicon material loss during slicing, allowing for more ingots per unit volume of silicon material and thus saving raw materials.

√ High-strength tungsten wire enables fast cutting speeds and low breakage rates, greatly improving the efficiency of silicon wafer production.

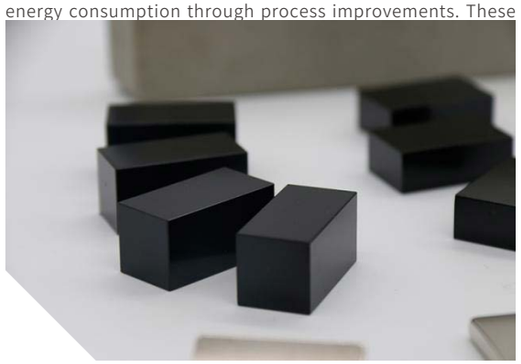


The used Tungsten wire can be recycled, promoting the effective utilization of resources and facilitating the sustainable development of the industry chain. During the reporting period, the photovoltaic high-strength tungsten wire achieved a production scale of over 7.60 million kilometers, contributing to the improvement of silicon wafer processing efficiency and the quality and efficiency enhancement of the photovoltaic industry.

Rare Earth Permanent Magnet Materials

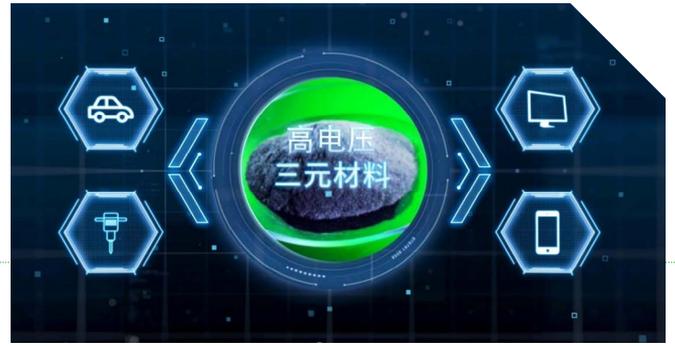
In the era of net zero, benefiting from the comprehensive release of demand in fields such as new energy vehicles, wind power, and variable frequency air conditioning, the demand for rare earth permanent magnets (neodymium iron boron) has significantly increased, boosting the usage of rare earths. Among the downstream demand structure of rare earths, the usage of permanent magnet materials is overwhelmingly leading. Sintered neodymium iron boron permanent magnet materials, with their high magnetic performance, excellent mechanical properties, stable thermal performance, and chemical properties, have been widely used in various fields such as new energy vehicles, wind power generation, servo motors, and variable frequency air conditioning. As a leading enterprise that has already formed a complete rare earth industry chain for production and processing, we vigorously develop and produce high-performance rare earth permanent magnet materials, which are used in core components of new energy vehicle drive motors, permanent magnet direct drive and semi-direct drive wind turbine generators in the wind power sector, and core materials for compressors in the variable frequency air conditioning sector.

In the production process, we primarily use materials such as neodymium metal, praseodymium-neodymium metal, boron iron, and pure iron, and employ advanced domestic and international production equipment and technology to ensure the outstanding quality of our products. The performance of the sintered neodymium-iron-boron permanent magnet materials we produce meets the requirements of the "Technical Specification for Green Design Product Evaluation - Sintered neodymium iron boron permanent magnets": the industrial water reuse rate reaches as high as 99.4%, far exceeding the standard requirement of 95%; the comprehensive energy consumption per unit product (neodymium-iron-boron rapid solidification thin strip alloy) is 0.112 tons of coal equivalent/ton, lower than the specified standard value of 0.12 tons of coal equivalent/ton; the actual emission concentration of particulate matter is 27.9 mg/m^3, lower than the specified standard value of 100 mg/m^3; and the disposal rates for hazardous waste and neodymium-iron-boron waste both reach 100%. Additionally, we have conducted in-depth analyses of the potential environmental impacts of the product at different stages of its lifecycle and proposed improvement measures, including reducing the use of non-renewable rare earth resources in raw materials, developing magnetic materials with high rare earth abundance, increasing the use of pipeline recycling devices to reduce particulate emissions, and reducing comprehensive energy consumption through process improvements. These



New Energy Materials

Green, safe, and recyclable new energy sources are becoming the core driving force of the carbon-neutral era. We promote energy revolution through material innovation, providing advanced material solutions to achieve net zero. Since 2004, when we began developing cathode materials, we have continuously invested in their research and development. We have successfully overcome several key core technologies in the field of 3C lithium batteries and power lithium battery cathode materials. We have introduced high-voltage lithium cobaltate, high-rate Ni3 series, high-voltage monocrystalline Ni5 series, high-voltage monocrystalline Ni6 series, Ni8 series, and Ni9 series NCM ternary materials and other high-end products. Collaborating with multiple domestic battery customers, we have developed various generations of new lithium batteries, facilitating the development in the fields of 3C electronics, vehicle power, and energy storage, which has ushered in a new era of development for China's new energy materials.



Highlight | Ternary Materials

Our newly developed Ni6 series 4.45V high-voltage ternary material has further reduced nickel content while ensuring performance, resulting in an improved cost-effectiveness. The product has been finalized and is currently undergoing trial production. A new Ni6 series 4.4V high-voltage ternary material developed for hybrid and extended-range applications combines high energy density with high power performance and has been certified by customers. Batch supply of Ni3 series ultra-high-power ternary material has commenced to overseas customers. Samples of Ni8 series high-safety ternary material exhibit excellent performance, meeting customer requirements, and are currently undergoing production line amplification verification. Ni9 series ultra-high-nickel ternary material has successfully obtained certification from overseas automotive manufacturers. The Ni6 series high-voltage ternary product developed for the drone field has completed mass production transfer and is continuously supplied in batches. Our next-generation product under development utilizes a new external surface refinement technology, significantly improving material interface stability. Key parameters such as gravimetric capacity, high-temperature cycling performance, and storage performance of the product have been improved. It has already passed customer trials and is expected to be applied to low-altitude flight battery terminals in 2024.

Highlight | Hydrogen Energy Materials

During the reporting period, our third-generation hydrogen storage alloy materials for vehicle use were stably supplied to internationally renowned automotive companies for hybrid power new models.

Highlight | Phosphate Materials

The solid-liquid mixing technology of lithium iron phosphate has been validated through customer projects and is currently undergoing stable batch implementation. The liquid-phase method is used for the process development of lithium iron manganese phosphate. By optimizing the elemental composition and enhancing doping and coating technologies, the material's capacity and kinetic performance have been significantly improved, expanding the application areas of battery cells.

Implement Energy-saving and Emission Reduction Measures for High-energy-consuming Equipment

In the production process, we gradually phase out high-energy-consuming equipment, improve energy efficiency, reduce the consumption of electricity and other fossil fuels, and minimize emissions resulting from fossil fuel consumption.

In the mining phase:

We rely on technological innovation to build a digitalized, technologically advanced, and automated mining management system, aiming to promote the construction of smart mines. Through our independently developed comprehensive energy consumption accounting system, we precisely manage energy consumption to ensure effective monitoring and optimization of energy use in all processes. Meanwhile, we actively introduce advanced technology and equipment to continuously improve the comprehensive utilization of energy resources, achieving the goal of energy conservation and emission reduction.

At the green mine in Ninghua Xingluokeng, we have formulated the "Carbon Emission Reduction and Carbon Asset Management Regulations" and the "Energy Metering Management System," established an energy metering management working group, and set energy metering work targets to ensure the reduction of energy consumption. We are gradually phasing out outdated motors, replacing them with permanent magnet motors to continuously improve motor efficiency. By constructing high-pressure roller mills, we crush more and grind less ore to reduce production energy consumption.

At the green mines of Duchang, we have established a leadership group for clean production audits and an energy management team. We have also entrusted a third-party to regularly track and promote clean production audits. Additionally, we have commissioned the power company to participate in direct electricity trading on behalf of us to further optimize the allocation of electric power resources. Adhering to the development concept of energy conservation, emission reduction, and resource recycling, we have incorporated the smart mine construction plan into the annual production and operation plan of the enterprise. We continuously optimize information systems such as the automated mining system, automatic acid addition system, intelligent weighing system, automated monitoring and alarm system for explosives depot, automated system for medium and fine crushing cone crushers, flotation column liquid level control system, tungsten-molybdenum automatic packaging machine, resource reserve management system, and online environmental monitoring system for the mining area. We actively promote strategies such as mechanization to reduce labor and automation to strengthen the mechanization of mining and the automation of beneficiation processes. We continuously improve the intelligent management level of mine operation, striving to achieve the goal of sustainable development with low consumption, low emissions, and high efficiency.

In the Advanced Materials Production Stage:

We have established an energy management system and continuously promote energy conservation and emission reduction through technological innovation, process technology transformation, equipment upgrades, and capacity building in energy management.

在钨冶炼生产基地，我们通过工艺技术及设备改进，有效减少钨冶炼环节中的温室气体排放：

√ We have innovatively retrofitted the evaporation pots in the factory to be energy-efficient. By preheating the liquid material using evaporated condensate water and operating the evaporation pots under high vacuum and low steam pressure conditions, we have achieved a steam saving of 1.2 tons per product ton. Calculated for an annual production of 3,200 tons of APT, this retrofit can save approximately 3,840 tons of steam per year, resulting in a reduction of 2,545 tons of CO_2e emissions.

√ We optimized the process of the ammonia dissolution pots, reducing the distance of the steam pipeline for tungsten-molybdenum separation and lowering the steam pipeline's process losses. This optimization saves 0.4328 tons of steam per product ton. Calculated for an annual production of 8,400 tons of APT, this optimization can save approximately 3,595 tons of steam per year, resulting in a reduction of 2,850 tons of CO_2e emissions.

√ We conducted energy-saving retrofits on the insulation systems of the #1 and #2 lanthanum oxygen furnaces. By replacing old materials with new furnace bricks and insulation cotton, we improved the overall insulation effect of the furnace body, leading to a decrease in electricity consumption per product ton. This retrofit achieved a reduction of 137 kWh per product ton. Calculated for an annual production of 1,440 tons of APT from the #1 and #2 lanthanum oxygen furnaces, this retrofit can save approximately 197,280 kWh of electricity per year, resulting in a reduction of 98 tons of CO_2e emissions.

Calculated for an annual production of
1,440
tons of APT from the #1 and #2 lanthanum oxygen furnaces

retrofit can save approximately
197,280
kWh of electricity/year

reduced
98
tons of CO_2e emissions

At the rare earth smelting, separation, and material production base in Changting, we adhere to the carbon reduction policy of "endogenous power, self-reliance; energy conservation, consumption reduction, carbon reduction, and efficiency enhancement; seizing opportunities, leading the industry." We have established a Carbon Emission Management Committee and strictly implement internal regulations such as the "Energy Operation Management Regulations" and the "Carbon Emission Management Manual" to standardize energy use and carbon emission management. By continuously optimizing product structures and production processes, replacing traditional gas boilers with more environmentally friendly energy alternatives, we aim to reduce carbon emissions during the production process.

Energy Targets and Achievements of Golden Dragon Rare-earth in 2023

No.	Indicators	Unit	2023 Target	2023 Actual	Completion Status
1	Electricity Consumption per Unit in the Extraction Process	kWh/t	1,687.082	1,598.047	Completed
2	Water Consumption per Unit in the Extraction Process	m^3/t	45.954	42.967	Completed
3	Electricity Consumption per Unit in Wastewater Treatment	kWh/t	292.749	178.963	Completed
4	Natural Gas Consumption per Unit for the Hot Water Boiler	m^3/t	46.680	40.333	Completed
5	Argon Consumption per Unit in the Smelting Process	m^3/t	154.620	153.970	Completed
6	Electricity Consumption per Unit in the Reduction Process	kWh/t	13,960.742	13,897.571	Completed

During the reporting period, we actively promoted various energy-saving renovation projects at the rare earth smelting, separation, and material production base in Changting. Each year, we can save 837,729 kWh of electricity consumption, reducing greenhouse gas emissions by approximately 477.76 tCO_2e.

- √ Completed energy-saving renovation of 37 single-chamber sintering furnace mechanical pumps for magnetic materials, saving approximately 207,835 kWh of electricity consumption annually, with a direct electricity cost savings of 135.10 thousand RMB and a reduction in greenhouse gas emissions of approximately 118.53 tCO_2e.
- √ Optimized the carbonate calcination and positive pressure processes, eliminated sintering diffusion pumps, improved the temperature uniformity of the M furnace, shortened the overall process cycle, increased current efficiency by 3%, increased production capacity by 10%, and achieved a reduction in unit metal electricity consumption by 300 kWh per ton.
- √ Renovated a 10kV high-voltage line extending over tens of kilometers, solving issues such as overloading, unstable power supply, frequent tripping, and severe pressure drop. After the renovation, the single-line loss decreased, with an annual benefit of up to 1.1 million RMB, significantly improving power supply stability and efficiency.
- √ Implemented valve control measures by adjusting the opening of equipment valves reasonably and setting corresponding standard water consumption for equipment. The water consumption of circulating water decreased by 151.7 m^3/h, saving electricity consumption of 280,203 kWh annually, with pump group electricity cost savings of 182,100 RMB per year and a reduction in greenhouse gas emissions of approximately 159.80 tCO_2e.
- √ Renovated the heating system of the furnace chamber for five single-chamber furnaces for magnetic materials and improved its insulation performance, directly reducing heating electricity consumption by 13.6% to 20%.
- √ Upgraded the 12 vacuum pump motors of the metal reduction furnace with permanent magnet frequency conversion technology, saving 96,096 kWh of electricity consumption annually and reducing greenhouse gas emissions by approximately 54.80 tCO_2e.

save
837,729 kWh
of electricity consumption per year

reduce GHG emissions by approximately
477.76 tCO_2e

At the battery material production base, we encourage each production base to optimize production processes and carry out energy-saving renovations of production equipment in accordance with the actual business operations. Each base strives to catch up and surpass others, actively promoting energy-saving and consumption-reduction efforts. We require each production workshop to monitor project progress monthly, achieve refined energy management, and ensure effective achievement of annual energy-saving goals.

- √ We extensively promote the use of energy-saving lighting fixtures in office areas, workshops, public areas, and other areas.
- √ We conduct energy consumption investigations on workshop appliances, compile a list of high-energy-consuming appliances, and selectively replace them to reduce energy consumption.
- √ We actively promote energy-saving renovation projects such as steam recovery from ammonia towers and waste heat recovery from sintering furnaces to further improve energy utilization efficiency and achieve green and sustainable development.

At the battery material production base in Xiamen, we have established clear energy-saving targets. Using a baseline of 10,708 kWh per ton of product in 2020, we have set the following short-term goal: to reduce electricity consumption to 10,200 kWh per ton of product by 2023, and the long-term goal: to reduce electricity consumption to 10,000 kWh per ton of product by 2025. Additionally, we have implemented the following energy-saving measures, resulting in a total electricity saving of 1,429,504 kWh and a reduction in greenhouse gas emissions of approximately 814.82 tCO_2e.

Introduced stone grinding equipment to replace the original mechanical grinding equipment, converted the line speed of mechanical grinding disc into the rotation speed of stone grinding disc, and determined the optimal process through DOE experiments to meet production requirements, resulting in an annual electricity saving of 838,200 kWh.
Replaced the air blast drying box with a continuous oven, resulting in an annual electricity saving of 544,000 kWh.

- √ Changed the aging tank in the precursor workshop to stirring with permanent magnet motors, resulting in an annual electricity saving of 47,304 kWh.
- √ Required the scheduling department to arrange production schedules reasonably, concentrated production, and scheduled processes with lower output for night production to stagger electricity usage.

At the battery material production base in Ningde, we are actively promoting energy-saving technological transformation measures. In total, we can save 1,448.5 tons of standard coal and reduce greenhouse gas emissions by approximately 3,824.04 tCO_2e.

- √ In the workshop, we use LED lighting and intelligent emergency lighting, equipped with automatic switches and other smart control systems, saving energy and reducing maintenance costs. This results in an annual saving of 84.87 tons of standard coal.
- √ We have conducted energy-saving transformations on the compressed air system, developing a compressed air linkage control system to reduce manual judgment of equipment start and stop. This system also increases the loading rate of screw compressors and reduces the venting rate of small compressors. After the transformation, gas quality meets usage requirements, and gas consumption per unit decreases from 0.136 kWh/m^3 to 0.108 kWh/m^3, a 20% reduction, saving 738 tons of standard coal annually.
- √ The workshop's air supply fans have been redesigned, with an automatic control logic model developed for their operation. The fans are linked with associated roller furnaces, and the number of fans opened corresponds to the temperature measured by associated temperature and humidity sensors. The exhaust fan quantity is adjusted based on on-site pressure difference. After the transformation, 194.34 tons of standard coal are saved annually.
- √ We utilize waste heat recovery from the air compressor to heat hot water, reducing the energy consumption of the dehumidification system. This is expected to save 111.44 tons of standard coal per year.
- √ We improve the primary and secondary powder production processes, reducing the compressed air usage in the powder production process, saving 310.07 tons of standard coal annually.
- √ While ensuring product quality, we reasonably reduce the mixing time of the process, lowering energy consumption by 8%, and saving 9.78 tons of standard coal annually.

reduce GHG emissions by approximately

3,824.04

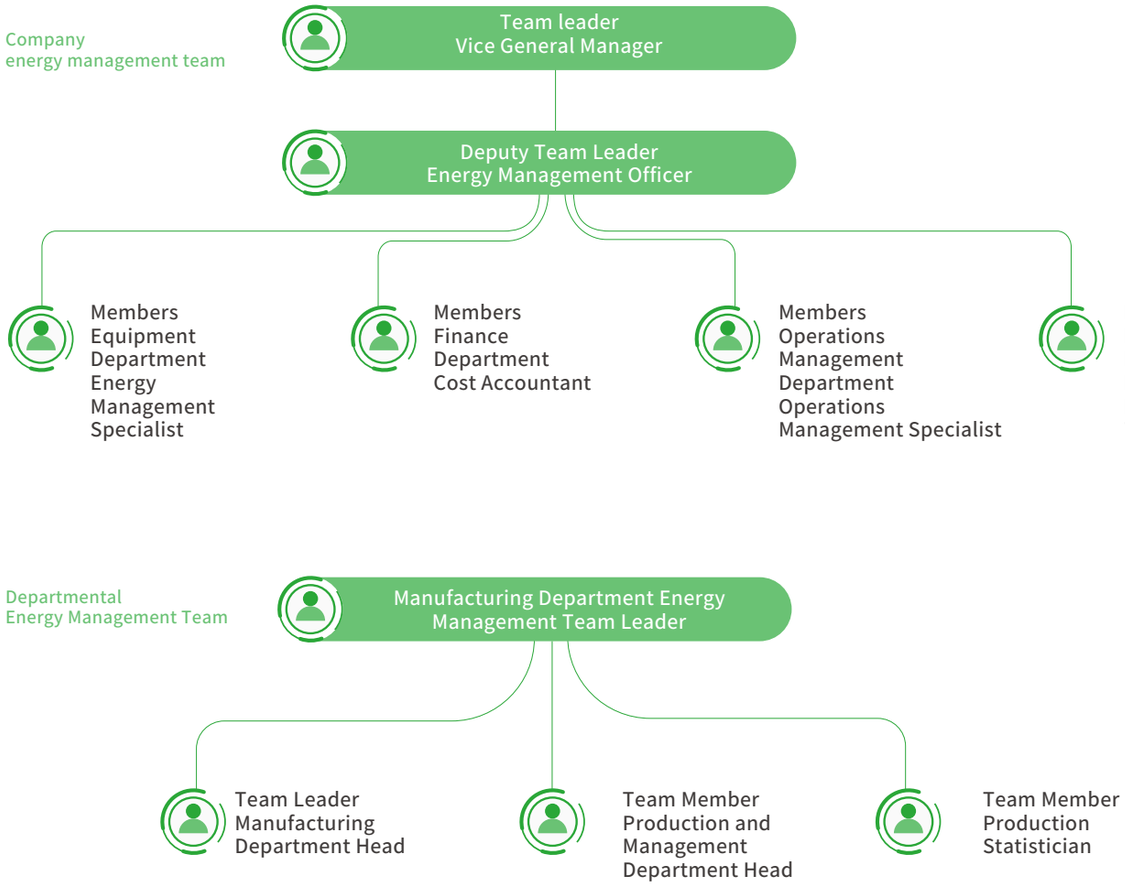
tCO_2e

In the deep processing stage:

We strictly adhere to energy-related laws and regulations and have formulated systems such as the "Energy Management System," "Energy Management Manual," and "Energy Audit Management Regulations" in accordance with the requirements of ISO50001 Energy Management System to standardize the energy management work. Leveraging lean production as a cornerstone, we consolidate manufacturing fundamentals and enhance the level of manufacturing for scaled products through automation and digitization, continuously improving production efficiency and energy usage efficiency, and advancing the construction of the International Advanced Manufacturing Management System (IAM). Currently, the main tungsten production bases, including XTC Haicang Branch, Xiamen Jialu, Jiujiang Golden Egret, Xiamen Golden Egret, Xiamen Honglu and Luoyang Golden Egret have all passed the ISO50001 Energy Management System certification. During the reporting period, we conducted a new round of clean production audit projects and invited third-party companies to train all members of the audit team, continuously improving the level of clean production.

In the Cutting Tools Division, we implement a three-tier management mechanism of "company-department-team," ensuring the concept of energy conservation and emission reduction is implemented from top to bottom. This ensures that energy management is integrated into various aspects of enterprise production and operation. Through the production energy information statistical reporting system, we conduct monthly analysis of energy consumption to provide reliable data support for achieving energy conservation and emission reduction goals.

Xiamen Golden Egret Energy Management Structure



During the reporting period, our Cutting Tools Division carried out the following energy-saving and emission reduction projects for high-energy-consuming equipment:

2023 Energy-saving and emission reduction projects for high-energy-consuming equipment

Projects	Annual Emission Reduction (tCO_2e)
Development of powder pressing and sintering technology for carbides	262.48
Reduction in unit energy consumption of cobalt powder in the four-pipe furnace	17.10
Conversion of the oil-heating spray tower into an electric heating tower	64.00
Increase of the loading capacity of the road milling teeth furnace and the change of 8-stack sintering to 9-stack sintering for the road milling teeth.	41.63
Use of natural daylight in the sintering hall tour passage in daytime to reduce lighting fixtures use, and utilization of the large space to reduce the use of exhaust fans	77.98
Optimizing workshop layout to reduce the electricity consumption of centralized oil supply equipment.	244.32
Phasing-out inefficient motors and vigorously promoting the use of high-efficiency permanent magnet synchronous motor products.	76.17
Total	783.68

In the Tungsten Molybdenum Wire Division, we effectively reduce energy consumption in the processing of tungsten-molybdenum wire through process technology and equipment improvements:

Speeding up production in the drawing process to reduce idle time during shift changes, implementing equipment TPM to reduce time waste, and trialing and promoting the consolidation of small turns and seven-mode positions to increase equipment efficiency and individual productivity per unit time.

Implementing sequential start-up of drawing equipment, reforming furnace insulation structures to reduce surface heat dissipation, ensuring that the furnace shell surface temperature is below 50 ° C, resulting in an annual energy savings of approximately 470 tons of standard coal.

Optimizing the medium-frequency furnace process, reducing the cooling hydrogen flow rate, and increasing the loading capacity, resulting in an annual energy savings of approximately 252 tons of standard coal.

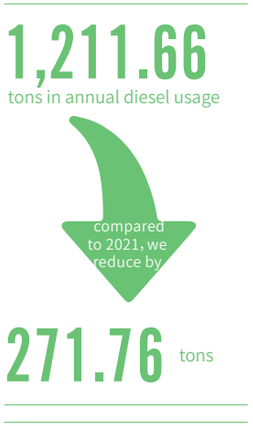
Upgrading the insulation of the small rolling mill furnace, adding an additional furnace, extending the life of accessories, reducing equipment failures, resulting in an annual energy savings of approximately 64 tons of standard coal.

Adding an ultrasonic cleaning machine, regularly cleaning the drawing machine fire trough, increasing the drawing speed, and reducing natural gas consumption, resulting in an annual energy savings of approximately 837 tons of standard coal.

Promotion on Electrification Transformation

We are gradually advancing towards the electrification transformation of our production equipment, replacing coal-fired boilers and natural gas boilers with electric boilers, and replacing gasoline and diesel vehicles with electric ones, while using green electricity. This can significantly reduce the GHG emissions associated with fossil fuels. Additionally, we are utilizing biofuels to replace fossil fuels, such as using biomass pellets and biodiesel as boiler fuels.

At our Ninghua Xingluokeng site, we are gradually phasing out diesel vehicles and switching to new energy vehicles for transporting mining waste rock, significantly reducing energy consumption during the transportation of ore. During the reporting period, at Ninghua Xingluokeng mine, we replaced four diesel vehicles with new energy vehicles, resulting in 1,211.66 tons of annual diesel usage and a reduction of 271.76 tons compared to 2021, with a total GHG emissions reduction of 272.58 tCO_2e.



The emission reduction achieved by replacing diesel vehicles with new energy vehicles in Ninghua Xingluokeng in 2023

类别	2021	2022	2023	The volume saved compared to 2021
Number of diesel vehicles	28	25	21	/
Total fuel consumption（t）	1,483.42	1,276.48	1,211.66	271.76
Number of new energy vehicles	7	11	15	/
Total electricity consumption（kWh）	188,120	974,360	1,373,800	-1,185,680
GHG emissions - fuel consumption (tCO_2e)	5,181.21	4,459.28	4,232.84	948.37
GHG emissions - electricity consumption (tCO_2e)	107.28	555.68	783.07	-675.79
Total GHG emission reduction（tCO_2e）				272.58

At the rare earth smelting, separation, and material production base in Changting, we actively promote the use of electric vehicles, encouraging employees and partners to adopt more environmentally friendly means of transportation, thereby reducing carbon emissions generated during the use of gasoline and diesel.

Increase the Proportion of Clean Energy Usage

We actively invest in or purchase low-carbon clean energy such as photovoltaic power, wind power, and nuclear power. Through the national green electricity trading platform, we continuously increase the proportion of green electricity usage.

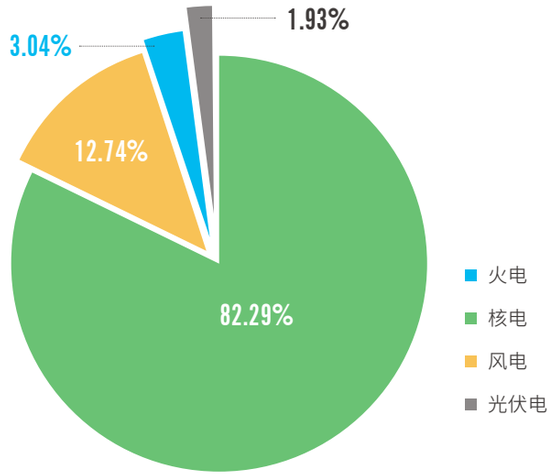
At our rare earth smelting, separation, and material production base in Changting, we adhere to the development concept of clean energy and have introduced nuclear power as the primary source of electricity for production. In 2023, we purchased approximately 200 million kW・h electricity from the Fujian Provincial Power Trading Platform for our rare earth smelting, separation, and material production base in Changting. Additionally, we actively promoted the construction of photovoltaic power generation projects. In 2023, we completed the grid connection of a 12,000-square-meter parking lot photovoltaic system in the Gongmao New Town factory area, significantly reducing greenhouse gas emissions generated by electricity consumption. As of now, the total area of photovoltaic panels at our rare earth smelting, separation, and material production base in Changting has expanded to 41,977 square meters, with a decentralized photovoltaic installed capacity of 3.584 MW. During the reporting period, our photovoltaic power generation reached 3,632,777.97 kWh, resulting in a reduction of approximately 2,071.78 tons of CO2 emissions. Additionally, the proportion of non-emission electricity has increased to over 90%.

photovoltaic panels area expanded to
41,977 square meters

photovoltaic power generation reached
3,632,777.97 kWh

reduced approximately
2,071.78
tons of CO_2 emissions

2023 Electricity composition ratio at the Changting Rare Earth Smelting and Separation Material Production Base

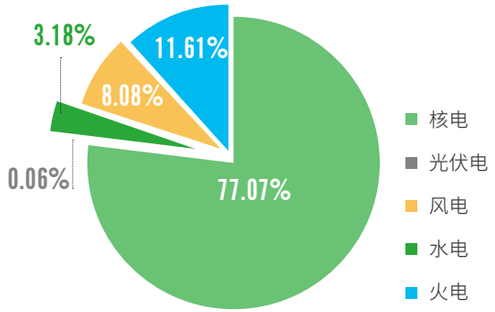


At our battery material production base, we actively introduced the use of clean energy sources such as solar, wind, and nuclear power. Through the construction of rooftop photovoltaic systems, direct purchase of green electricity, and other measures, we promoted the transformation of energy structure and reduced greenhouse gas emissions. During the reporting period, the proportion of clean energy sources including solar, wind, and nuclear power used at our battery material production base reached 88.39%.

2023 Electricity Consumption at the Battery Material Production Base

Category	Consumption（kWh）
Nuclear Power	543,235,909.99
Photovoltaic Power	452,074.50
Wind Power	56,969,657.07
Hydropower	22,394,980.00
Thermal Power	81,831,990.14
Total Consumption	704,884,611.70

Electricity composition by type at the battery materials production base in 2023



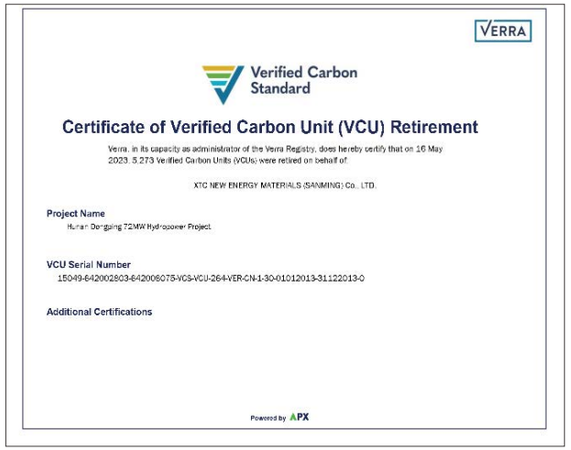
In the Cutting Tools Business Unit, we are constructing distributed solar photovoltaic power generation, actively promoting the use of renewable energy, reducing greenhouse gas emissions, and alleviating global climate change issues. At Jiujian Golden Egret, we have newly built a distributed photovoltaic power generation project with a roof area of approximately 50,000 square meters, with a designed capacity of 5.1MW. After the project is completed, we are expected to generate an annual electricity output of around 5 million kWh, reducing greenhouse gas emissions by approximately 2,850 tCO_2e per year.

Offset through Carbon Trading

Due to the emissions generated during the production process of products (such as lithium batteries, etc.), which cannot realize net zero emissions through green energy methods, we will achieve net zero through carbon offsetting, such as purchasing a small amount of carbon credits or engaging in carbon trading.

Highlight | Participation in VCS Carbon Sink Trading

Participating in carbon sink trading combines a company's carbon emissions with carbon credits trading to effectively offset carbon emissions and reduce their negative impact on the environment. In 2023, our battery material production base in Sanming participated in VCS carbon sink trading and purchased carbon credits generated from the Hunan Dongping 72MW hydropower project to offset the carbon emissions from the production base.


VERRA

Verified Carbon Standard

Certificate of Verified Carbon Unit (VCU) Retirement

Verra, in its capacity as administrator of the Verra Registry, does hereby certify that on 16 May 2023, 5,273 Verified Carbon Units (VCUs) were retired on behalf of:

XTC NEW ENERGY MATERIALS (SANMING) Co., LTD.

Project Name

Hunan Dongping 72MW Hydropower Project

VCU Serial Number

15049-642002803-642006075-VCS-VCU-264-VER-CN-1-30-01012013-31122013-0

Additional Certifications

Powered by APX

Carbon Offset Certificate

Highlight | Net Zero Emissions Factory

Our battery materials production base implements the "The 14th Five-Year Plan for Green Industrial Development" and the "Implementation Plan for Carbon Peaking in the Industrial Sector", continuously improving the green manufacturing management system. The battery materials production base in Sanming passed the PAS2060:2014 certification in 2022 and became a net zero emissions factory.


SGS

声明编码 CN23/00002654

达成碳中和宣告核证声明

以下实体的组织层级经营活动

三明厦钨新能源材料有限公司

中国福建省三明经济开发区吉口产业园金明路 1 号

已由 SGS 依据 ISO 14064-3:2019 进行了核查，
证实自 2022.01.01 开始，已于 2022.12.31 达成碳中和并符合以下标准要求

PAS 2060:2014

温室气体减排量 0 tCO2e
温室气体抵消量 5,272.74 tCO2e

签发日期：2023 年 5 月 23 日
版本号 1

签署
David Xin
Sr. Director - Knowledge

Highlight | Purchasing Carbon Sink

At the rare earth smelting, separation, and materials production base in Changting, we actively procure green electricity and purchase carbon offsets to neutralize the remaining carbon emissions, helping to achieve net zero goals.


碳中和证书

Carbon Neutralization Certificate

No. XMCE-CNC-2023-1682733

福建省金龙稀土股份有限公司：

根据第三方出具的温室气体核查声明，你司2022年度直接温室气体排放为9711.81吨二氧化碳当量，通过厦门产权交易中心（厦门市碳和排污权交易中心）购买龙岩市长汀县罗地河水土保持碳汇进行抵消，实现碳中和。

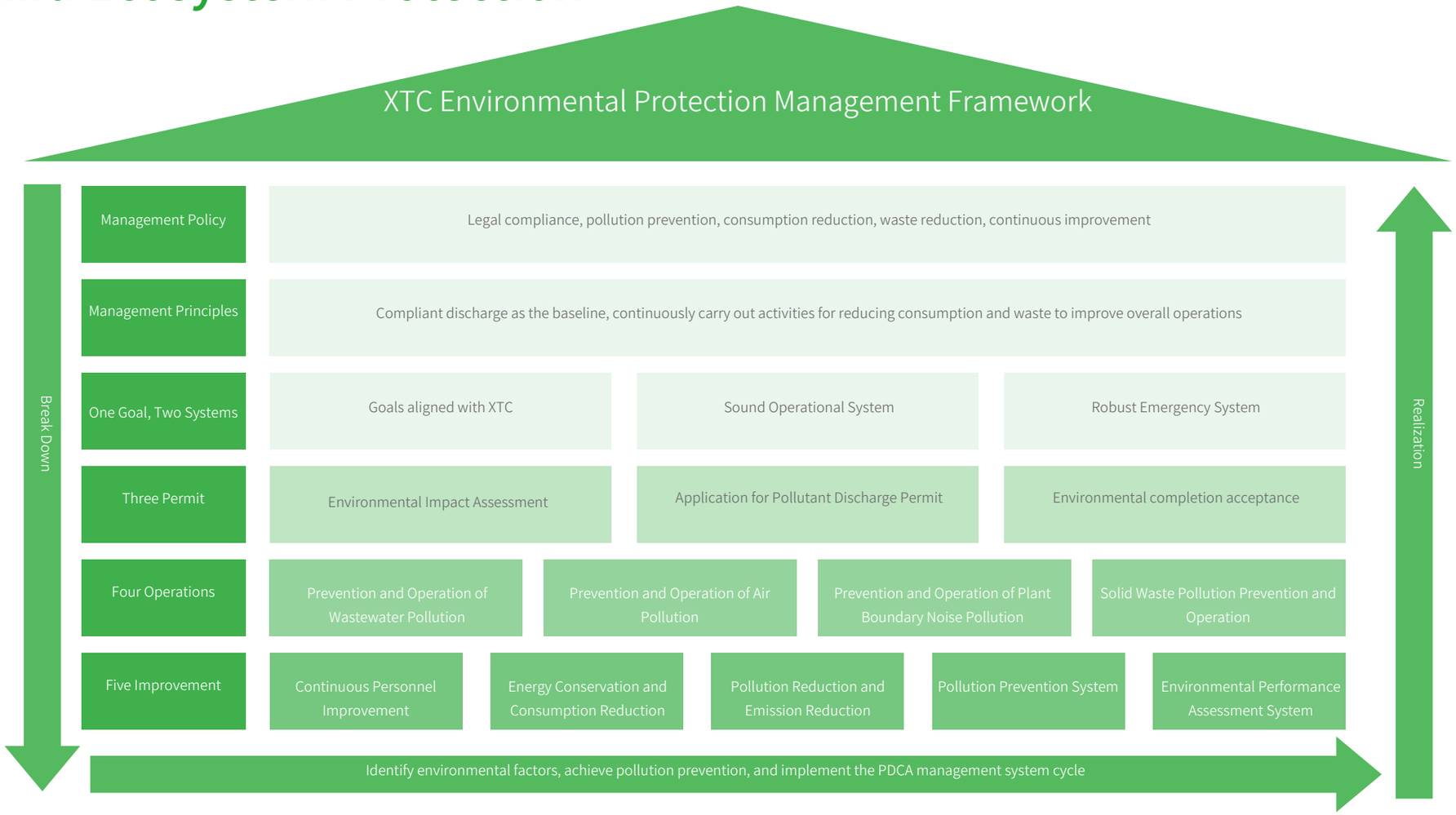
特发此证！

厦门产权交易中心
厦门市碳和排污权交易中心

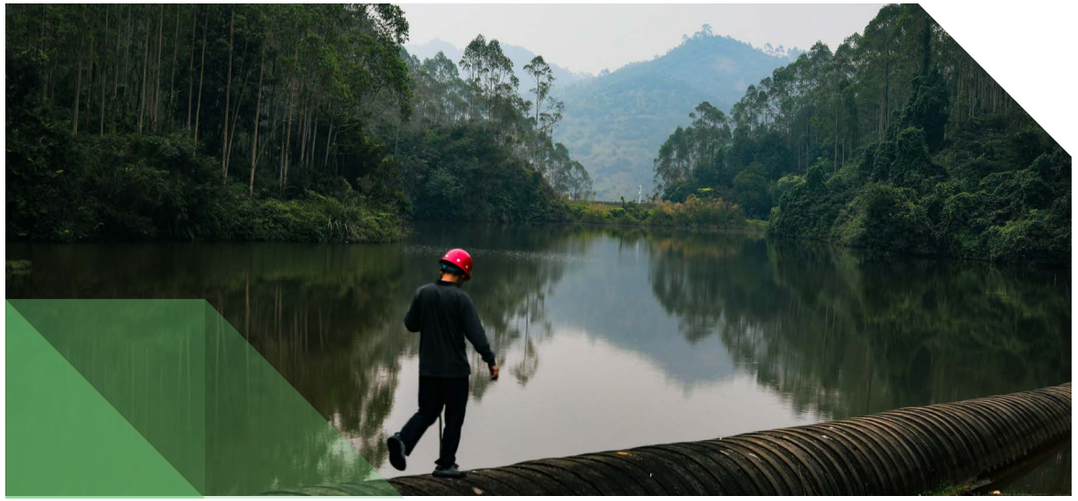
发证机构：厦门市碳和排污权交易中心
发证日期：2023年12月

Pollution Control and Ecosystem Protection

Our environmental management policy revolves around "legality and compliance, pollution prevention, consumption reduction and waste reduction, and continuous improvement". We adhere to the principle of "compliance with regulations as the bottom line, continuous efforts in reducing consumption and waste, and comprehensive improvement activities". We have established a sound environmental management system, set environmental management objectives, and delegated them to each subsidiary. We require each subsidiary to conduct environmental impact assessments, apply for pollution discharge permits, and complete environmental protection acceptance inspections in accordance with laws and regulations. We standardize the management of water resource protection, emissions of waste gases, wastewater, and solid waste, and utilize the PDCA management system to continuously improve environmental management performance. During the reporting period, Jiujing Golden Egret was awarded the title of National Green Demonstration Factory, Hongbo Industrial and Basic Electronic Materials were awarded the title of Fujian Green Factory. In addition, XTC Haicang Branch, Golden Dragon Rare-earth, XWXN(Xiamen), XWXN (Sanming), XWXN (Ningde), and GANPOWER are all national-level green factories. We own a total of 9 green factories.



2023 Management Objectives for Pollution Control and Ecosystem Protection	
1	To continuously improve the construction of the environmental management system. Twenty-two affiliated enterprises need to obtain ISO14001 environmental management system certification, covering 61% of the company.
2	To continuously improve the construction of the energy management system. Fifteen affiliated enterprises need to obtain ISO50001 energy management system certification, covering 42% of the company.
3	0 environmental violations throughout the year
4	Gradually increase the proportion of recycled water
5	Comprehensively strengthen soil pollution risk management and control work, gradually reducing the potential impact of business operations on the soil environment.
6	All affiliated enterprises need to achieve standard emissions and disposal of exhaust gases, wastewater, and waste throughout the year, with the recycling rates of wastewater and waste gradually increasing
7	To establish a sound tailings pond management mechanism and collaborate to promote biodiversity conservation and green development, all affiliated enterprises need to accumulate a revegetation covering of at least 88,278 square meters.



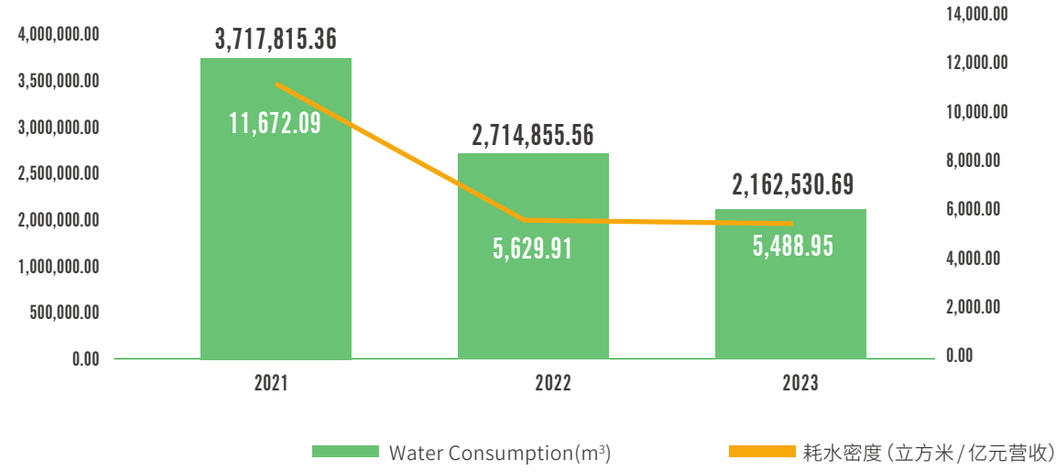
Water Conservation

We attach great importance to water resources management and strictly adhere to the requirements of relevant laws and regulations such as the Environmental Protection Law of the People' s Republic of China, the Water Law of the People's Republic of China, and the Water Pollution Prevention and Control Law of the People's Republic of China. In accordance with the requirements of the Environmental Protection Declaration, we have formulated corresponding regulations and systems such as the Environmental Protection Management System, Environmental Protection Basic Norms, and Water Resources Management Declaration to strengthen the protection and management of water resources in our business operations. Through technological innovation and equipment upgrading, we achieve the recycling of water resources, minimize external water intake, and reduce emissions to the external environment, thereby minimizing the negative impact on local water resources.

Water Consumption

During the reporting period, our water consumption was 2,162,530.69 cubic meters, a decrease of 552,324.87 cubic meters compared to 2022. The water consumption intensity was 5,488.95 cubic meters per 100 million RMB of revenue, a decrease of 140.96 cubic meters per 100 million RMB of revenue compared to 2022.

Water Consumption



Water Resource Protection Measures

In the mining extraction phase:

At the mining site in Ninghua Xingluokeng, we achieved 100% water recycling for beneficiation production by constructing front-end water recycling systems, tailings pond water recycling systems, seepage interception pond water recycling systems, and wastewater discharge treatment systems.

- √ The front-end water recycling system mainly consists of one 53-meter diameter thickener and two 30-meter diameter thickeners. The clarified overflow water is collected and then pumped to a 2,000 cubic meter front-end water tank for recycling.
- √ The tailings pond water recycling system treats tailings wastewater through coagulation, neutralization, self-purification, aeration, adsorption, and precipitation before it flows back to the beneficiation plant for reuse via siphon pipes.
- √ The seepage interception pond water recycling system collects seepage water from the early-stage dam, surface seepage, and runoff water in a 12,000 cubic meter interception pond. After being pumped to the high-level water tank of the tailings pond, the water flows back to the beneficiation plant for recycling.
- √ The wastewater discharge treatment system is a sewage treatment facility built with an investment of over 5.3 million RMB, based on the principle of caring for, cherishing, and protecting water. It treats excess water from the tailings pond due to rainfall to meet surface water Class III standards before discharging it externally, fulfilling our responsibility to preserve the pristine environment of Ninghua.

In addition, we have collaborated closely with the Ninghua County government and participated in the River Overseer System, becoming a corporate river overseer. We have implemented the "Enterprise River Overseer Inspection System" to regulate the inspection work of corporate river chiefs according to requirements, effectively fulfilling corporate river chief responsibilities, strengthening river protection and management, and promptly identifying, addressing, and resolving water pollution issues. We conduct weekly inspections of the rivers, increasing inspection frequency in sections with more problems. Simultaneously, we maintain a "River Overseer Log," which records inspections covering various aspects such as the presence of garbage in the river, obstacles in the river, violations on the riverbank, abnormal water conditions, damage to aquatic ecosystems, compliance with signage regulations, and any other issues affecting water safety, aquatic ecology, and water environment, ensuring the effective protection of local water resources.




water recycling for beneficiation production

100%

In Duchang, the water recycling rate in our mines exceeds 90%, and we have achieved 100% recovery and utilization of mine water. We have established a comprehensive wastewater management system and sewage treatment system, and implemented integrated utilization of production and domestic wastewater:

In residential areas, we have installed underground drainage ditches. Domestic sewage flows into the drainage ditches and then enters the domestic sewage pool. After harmless treatment in the underground treatment facility, we enter the tailings system for recycling. Most of the tailings pond wastewater enters the beneficiation plant's high-level water tank through the return water system and is eventually reused as production water. The wastewater, after aeration and sedimentation, undergoes COD degradation and pH neutralization before meeting discharge standards. The entire process achieves a wastewater recycling rate of over 90%.

To address water inflow during mining, we have implemented deep mining technology for ore resources and formulated the "Mine Water Inflow Management System," achieving 100% recovery and utilization of mine water.

water recycling rate in mines exceeds

90%

recovery and utilization rate of mine water

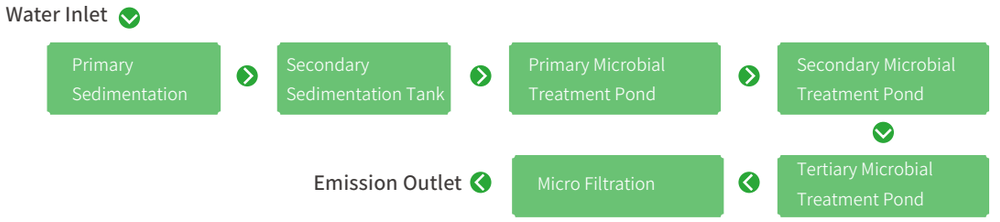
100%

In the mining activities at Longyan Rare-earth Mine, our wastewater recycling rate exceeds 100%, achieving zero discharge of wastewater. The external sources of water for rare earth mining activities mainly consist of two parts: one part comes from surrounding rivers, and the other part comes from groundwater and natural water, serving as drinking water for on-site personnel. We attach great importance to water resource protection, adhering to the "Water Environment Tracking and Monitoring Plan for the Overlying Rare Earth Resources Recovery Project in Hetian Jinjiang Industrial Park, Changting County, Fujian Province," to monitor potential environmental pollution risks arising from rare earth mining processes. We have obtained a "Water Taking Permit" issued by the water authorities and managed water intake according to the scale specified in the "Water Taking Report."

We adhere to the " Water Environment Tracking and Monitoring Plan for the Overlying Rare Earth Resources Recovery Project in Hetian Jinjiang Industrial Park, Changting County, Fujian Province" for environmental pollution monitoring. We have signed a water supply contract with Changting County Taihangshan Water Supply Co., Ltd., to ensure that the water supply meets the contractual requirements. Currently, the water supply within the base remains stable. To maintain a consistent water supply, we regularly visit or contact the water supply company by phone to understand the reservoir capacity and the operation status of water supply equipment, and assess the impact of water resources on the company's production.

Regarding the tailings water treatment in the mine, we have jointly developed a new technology for rare earth tailings water ammonia nitrogen microbiological treatment with Fujian Normal University. This technology cultivates photoautotrophic microorganisms, which fix carbon dioxide from the air as a carbon source and absorb a large amount of ammonia nitrogen using sunlight as an energy source to synthesize organic carbon sources and biomass for the growth of nitrifying and denitrifying microorganisms to remove ammonia nitrogen. After treatment with this technology, the concentration of ammonia nitrogen in the rare earth tailings water can be reduced to 15mg/L as stipulated in the "Pollutant Discharge Standards for Rare Earth Industry," meeting the discharge standards and forming normal inflow and outflow water. The rare earth tailings water ammonia nitrogen microbiological treatment technology is one of the most efficient technologies for treating ammonia nitrogen wastewater from ion-type rare earth mines in the southern region. Based on this, we have developed a comprehensive solution from high-concentration wastewater from closed mines to achieving ammonia nitrogen standards in mountain bodies and small watersheds, overcoming significant technical challenges in rare earth mining.

Microbial Treatment Process



在先进材料生产环节：

At the tungsten smelting production base, we collaborated with Central South University to develop and industrialize the innovative "Sulfur-Phosphorus Mixed Acid System Tungsten Green Smelting Technology," achieving near-zero discharge of wastewater. This technology has been included in the "Action Plan for Promoting Clean Production Technologies in Key Industries for Water Pollution Prevention and Control," jointly issued by the Ministry of Industry and Information Technology and the Ministry of Ecology and Environment.

At the tungsten smelting production base in Wenshan Prefecture, Yunnan Province, we actively explored ammonia nitrogen management by introducing advanced stripping and ammonia removal technology. We replaced the existing blow-off tower with advanced stripping towers to improve the efficiency of ammonia removal from the intermediate materials containing ammonia. This allowed for the recycling and reuse of ammonia water, effectively improving the internal environment of the workshop and reducing the ammonia nitrogen content in wastewater discharge.

At the Haicang tungsten smelting production base, we established a water-saving leadership group and designated water-saving management positions. We developed a series of institutional documents, including the "Simultaneous Three and In-place Four Management System," "Water-saving Work Meeting System," "Responsibility System for Water-saving Managers," and "Water-saving Management System and Reward and Punishment Measures." Through continuous technological innovation, strengthened management of wastewater discharge, and advocacy for water-saving concepts, we ensured the comprehensive implementation of water resource protection measures.

Technical Innovation

In the ion exchange operation, through technological breakthroughs and process improvements, the adsorption process has transitioned from low-concentration adsorption to high-concentration adsorption. With the process improvements, the water consumption per ton of ammonium paratungstate (APT) has decreased from 70 tons to 30 tons, resulting in water savings of 40 tons per ton of product, approximately 200,000 tons of water saved annually.

Water Conservation Philosophy

We fully utilize the OA platform, WeChat public account platform, bulletin boards, and other platforms for water conservation publicity and education, continuously enhancing employees' awareness of water conservation. Prominently display water conservation signage at water use points in the factory area to remind employees to conserve water and create a water-saving atmosphere. In addition, conduct themed education activities such as "Water Conservation" during monthly factory meetings and biannual meetings themed "Accompanying Water Conservation". Distribute promotional materials on the theme of water conservation to employees during World Water Day, and regularly promote the concept of water conservation to employees.

Monitoring and Testing

As a municipal-level key soil monitoring enterprise, we carry out annual self-monitoring of soil and groundwater, hazard investigation, and risk prevention work according to requirements. With the assistance of third parties, we develop self-monitoring plans for soil and groundwater, conduct hazard investigations, and formulate "Soil and Groundwater Self-Monitoring Plans" and "Soil and Groundwater Hazard Investigation Reports", all of which have passed expert review.

At the Rare Earth Smelting, Separation, and Materials Production Base in Changting, we have established a water-saving management leadership group and working group and formulated multiple water-saving management systems, implementing a four-level management system of company, department, workshop, and team to strengthen water-saving management. Meanwhile, we conduct monthly statistical analysis of water usage by each department, conducts at least one weekly supervision and inspection of water facilities, identify and rectify abnormal water usage, promptly detect and resolve potential problems and waste, and achieve the rational use of water resources.

The recycling water system

We have implemented an efficient recycling water system at our rare earth smelting and material production base in Changting. This system is mainly responsible for providing circulating cooling water to 45 pieces of equipment used in magnet production processes. The system consists of 6 cold water pumps with capacities of 55KW and 370m³/h, 6 hot water pumps with capacities of 37KW and 320m³/h, 6 cooling fans with capacities of 7.5KW, cold and hot water tanks, overflow devices, and an automatic control system. During operation, the cold water pumps supply cooling water to each water-using equipment based on the set pressure. The water, heated by the equipment, flows back to the hot water tank and is then pumped by the hot water pumps to the spray tower for cooling treatment before returning to the cold water tank for recycling. Additionally, the number of cooling fans activated is automatically calculated by the PLC control module based on temperature sensor signals inside the cold water tank to achieve energy-saving effects. This system saves approximately 16,052,390 m³ of water annually. Currently, all equipment cooling water is recycled water, with a water recycling rate of about 98%.

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m³ water annually

water recycling rate of about
98%

Wastewater Treatment System

For electroplating wastewater, we have introduced an advanced wastewater treatment system, which includes several subsystems such as organic wastewater treatment system, comprehensive wastewater treatment and recycling system, nickel-containing wastewater online recovery system, RO concentrate treatment system, and the broken circuit system for copper smelting wastewater. These subsystems work together to effectively remove organic substances from wastewater, ensure compliance with discharge standards, reduce environmental impact, and achieve wastewater recycling, thus improving water resource utilization efficiency.

During the reporting period, at our rare earth smelting and material production base in Changting, we compared the water consumption of major products such as rare earth oxides, magnetic materials, and rare earth metals with the unit product water consumption in 2022: In 2023, the unit product water consumption for rare earth oxides decreased to 0.03661 tons of standard coal per ton of product, a decrease of 0.6959% year-on-year; the unit product water consumption for magnetic materials was 0.01343 tons of standard coal per ton of product, a decrease of 0.9657% year-on-year; the unit product water consumption for rare earth metals sharply decreased to 0.00452 tons of standard coal per ton of product, with a significant reduction of 6.8110%.

At the battery material production base, we have continuously standardized sewage treatment to achieve compliant discharge. We have formulated regulations on resource and energy conservation to regulate water management. Through water-saving publicity, monitoring water usage, and comparing with historical data, we ensure water conservation. We have also formulated regulations on wastewater management and rainwater management to strengthen wastewater management, prevent water pollution, protect and improve the environment, and ensure the effective utilization of water resources.

The main pollutants in the wastewater emitted during the battery material production process include chemical oxygen demand (COD), ammonia nitrogen, total cobalt, total nickel, total manganese, etc. We treat the wastewater by conveying it to the factory sewage treatment station and using methods such as neutralization and coagulation sedimentation. Finally, the wastewater is discharged into the sewage treatment plant. We have set up two sets of sewage treatment systems to correspond to the treatment of cobalt trioxide production wastewater and precursor production wastewater for ternary materials. The workshop wastewater first undergoes gas-liquid separation in the ammonia removal tower, and after the ammonia gas is vaporized and removed, it is recycled to form ammonia water for reuse. The bottom liquid from the tower is treated through equipment such as pressure filtration and filtration, and finally, after pH adjustment by the acid-base regulation system, it is discharged up to standard. Additionally, we utilize a purified reverse osmosis system to treat MVR evaporation condensate water. The rinsing and regenerative wastewater is reused after multi-bag filtration and then sent to the distilled water tank for secondary use, with a recovery rate of over 90%.

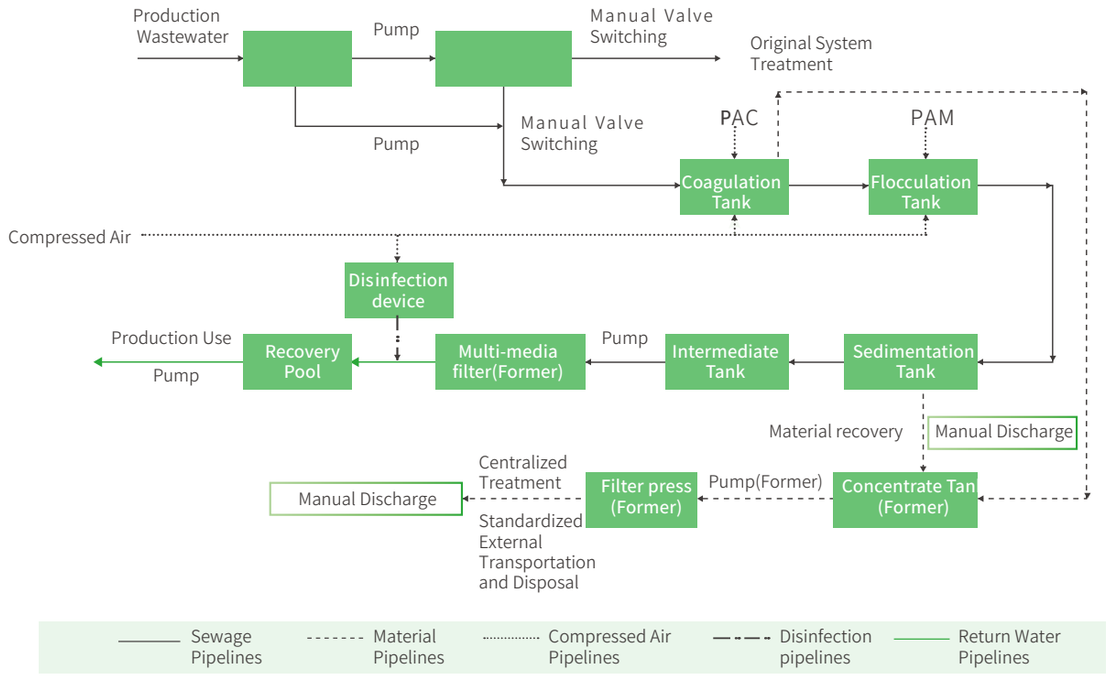
At the battery material production base in Xiamen, we have set clear water conservation goals based on actual production and operation conditions. The near-term goal for 2023 is to reduce water consumption per unit product to 30 tons of water per ton of product from the 2022 baseline of 33.01 tons of water per ton of product, with the goal for 2025 being further reduced to 26 tons of water per ton of product. The aim is to continuously improve water resource utilization efficiency and achieve sustainable development.

At the battery material production base in Sanming, we have developed a water-saving checklist and continuously tracked improvements. Facilities such as sinks and urinals in the factory area are equipped with inductive switches to effectively avoid unnecessary water waste. We conduct monthly water consumption statistics and analyze any anomalies to ensure timely detection and resolution of potential water waste issues. Additionally, we pay attention to detecting leaks in factory pipelines, regularly inspecting and identifying leakage points in the factory area to take corrective measures promptly and ensure the rational use of water resources.

Highlight | **Wastewater Reuse and Retrofit Project**

At the battery material production base in Sanming, we have been continuously improving the process flow for wastewater reuse, comprehensively utilizing production wastewater to effectively conserve water resources. After the implementation of this process flow, it is estimated that the use of tap water can be reduced by 40 tons per day, and wastewater discharge can be reduced by 40 tons per day.

Reused Water Process Flow Diagram



In the deep processing phase:

We strictly adhere to relevant laws and regulations, implement the concept of water conservation, strengthen water management, and use and protect water resources reasonably. Guided by the "Environmental Protection Declaration," each production base has formulated corresponding "Basic Environmental Protection Norms" and "Wastewater Management Systems," stipulating that the wastewater discharged from production must be effectively treated and meet the standard for discharge. Different types of wastewater are subject to different specifications for discharge treatment according to their characteristics.

Internal water usage targets are established during the production process. Each workshop and department devises monthly internal plans for new water usage based on the actual demand for water intake. After verification, these water usage targets are further decomposed and managed.

In terms of production water usage, recycling is fully considered, such as establishing water recycling tanks to avoid direct discharge of usable "secondary water."

Emphasis is placed on water conservation efforts. Any damaged or leaking pipelines and faucets are promptly reported to the relevant departments for repairs to eliminate any instances of leakage.

For communal area water usage, the "Management System for Energy Saving and Consumption Reduction in Public Areas" has been formulated, with relevant departments conducting regular inspections to effectively implement water conservation measures.

Efforts are actively made to cultivate employees' awareness of water conservation. Water-saving education is carried out through pre-shift and post-shift meetings, safety awareness days, and dissemination via WeChat platforms to encourage employees to develop good habits of water conservation.

The carbide pump room and sintering pump room of the Cutting Tools Division utilize plate heat exchangers for internal circulation water systems. The plate heat exchangers significantly reduce the amount of cooling water used, thereby conserving water resources. Additionally, the circulating water cooling method employs deionized water or distilled water, preventing scale formation in the equipment's water circuit, thus prolonging equipment lifespan and enhancing equipment stability.

In the Tungsten-Molybdenum Wire Materials Division, water resources are recycled through the reuse of gravity melting cooling water and comprehensive cooling water in the production process, greatly reducing water consumption intensity. Regarding the discharge of cleaning water in the white wire workshop, discussions were held among relevant personnel to explore the feasibility of water reuse. Consequently, a 200-ton/day reclaimed water system was constructed in the white wire workshop, achieving a reuse rate of over 80%.

In the secondary resource utilization phase:

In GANPOWER, due to the abundant water resources in the region, we adapt to local conditions by collecting rainwater for reuse in production, striving to achieve water conservation goals.

Pollutants Emissions Control

We rely on the XTC National-level Technology Center to promote the establishment of environmental monitoring systems in eligible subsidiary enterprises. These systems conduct real-time online monitoring of environmental indicators such as air quality, water quality, and noise within the plant area. Additionally, we hire third-party testing agencies to conduct periodic inspections on all subsidiary enterprises, ensuring that they adhere to standard emissions.

Waste Gas Emissions Managemen

Atmospheric quality is crucial to safeguarding the environment of the surrounding communities where we operate. We prioritize waste gas emissions management as a key environmental governance task in our business operations. We strictly abide by relevant laws and regulations such as the "Law of the People's Republic of China on the Prevention and Control of Atmospheric Pollution" and local policies, and ensure that the concentration and total amount of atmospheric pollutants emitted comply with national and local emission standards in the areas where we operate.

Exhaust Emissions

During the reporting period, all subsidiaries of our company achieved standard discharge of exhaust emissions.

The emissions of air pollutants from key environmental monitoring units of the company in 2023

Enterprise Name	Main Pollutants and Characteristic Pollutants	Emission Concentration	Name of Implemented Pollutant Emission Standard	Total Annual Emissions (tons)	Approved Emission Volume of Pollutant Discharge Permit (tons/year)	Emission Method	Number of Discharge Outlets	Distribution of Discharge Outlets	Excessive Emission
Xiamen Tungsten Co., Ltd. Haicang Branch	Particulate matter	8.325666mg/m³	Xiamen Atmospheric Pollutant Emission Control Standard (DB35/323-2018)	0.62125	7.13	Organized emission after meeting the standards	3	Workshop roof exhaust stack, ball mill roof exhaust stack, southwest exhaust stack of the technical center	None
	Ammonia	12.445mg/m³	Emission Standard of Odor Pollutants (GB 14554-93)	1.468127	68.904				
	Cobalt and its compounds	0.000277mg/m³	Emission Standard of Pollutants for Inorganic Chemical Industry (GB 31573-2015)	0.000002	/				
Chengdu Dingtai New Material Co., Ltd.	Nitrogen oxides	/	Comprehensive Emission Standards for Air Pollutants (GB16297-1996)、Emission Standard of Pollutants for Inorganic Chemical Industry (GB 31573-2015)	0.063	/	Organized emission after meeting the standards	8	Workshop 1, Workshop 2, Workshop 3, Workshop 4, Boiler room in the factory area	
	Sulfur dioxide	3mg/m³		0.12	/				
	Particulate Matter	4.5mg/m³		0.19	/				
	Molybdenum	0.0152mg/m³		0.002059	/				
	Ammonia	0.0311kg/h	Emission Standard of Odor Pollutants (GB 14554-93)	2.25	/				

Enterprise Name	Main Pollutants and Characteristic Pollutants	Emission Concentration	Name of Implemented Pollutant Emission Standard	Total Annual Emissions (tons)	Approved Emission Volume of Pollutant Discharge Permit (tons/year)	Emission Method	Number of Discharge Outlets	Distribution of Discharge Outlets	Excessive Emission
Chengdu Hongbo Industrial Co., Ltd.	Nitrogen oxides	5mg/m³	Comprehensive Emission Standards for Air Pollutants (GB16297-1996) Table 2: Secondary Standards for Maximum Permissible Emission Concentration and Maximum Permissible Emission Rate	0.0072	/	Organized emission after meeting the standards	2	Four-furnace emission port, vacuum quenching furnace emission port	None
	Particulate matter	24.3mg/m³	Emission standard of air pollutants for industrial kiln and furnace (GB9078-1996) Table 2: Emission Limits for Other Furnaces and Kilns	1.164	/				
	Ammonia	0.013kg/h	Emission Standard of Odor Pollutants (GB 14554-93) Table 2: Standards	0.114	/				
Fujian Changting Golden Dragon Rare-earth Co., Ltd.(Plant of New Industrial District)	Nitrogen oxides	2.94mg/m³	Emission standard of pollutants for electroplating (GB 21900-2008) Table 5: Standards	2.296125	14.45	Organized emission after meeting the standards	16	One emission port for hot water boiler, one emission port for steam boiler, three emission ports for precipitation, one emission port for hydrochloric acid tank, two emission ports for extraction, one emission port for acid dissolution, five emission ports for magnet, and two emission ports for smelting	
	Sulfur dioxide	3.377321mg/m³	Emission standard of air pollutants for boiler (GB13271-2014) Table 2: Emission Limits for Gas Boilers	0.142424	6.59				
	Particulate matter	2.6mg/m³	Emission Standards for Pollutants in the Rare Earth Industry (GB26451-2011) Table 5: Emission Limits	0.064875	/				
	Non-methane hydrocarbons	9.163348mg/m³	Emission standards of volatile organic compounds for industrial enterprises (DB35/1782-2018) Table 1: Emission Limits for Other Industries	0.505667	/				
Fujian Changting Golden Dragon Rare-earth Co., Ltd(Plant of Rare Earth Industrial Park)	Nitrogen oxides	2.94mg/m³	Emission standard of pollutants for electroplating (GB 21900-2008) Table 5: Standards	2.296125	5.77	Organized emission after meeting the standards	19	Three emission ports for electrolysis, two emission ports for spraying, one emission port for plating and electrophoresis, three emission ports for phosphating, two emission ports for electrolysis, one emission port for galvanizing, and one emission port for shot blasting	
	Sulfuric acid mist	0.3538mg/m³	Emission standard of pollutants for electroplating (GB 21900-2008) Table 5: Standards	0.836592	/				
	Particulate matter	2.6mg/m³	Emission Standards for Pollutants in the Rare Earth Industry (GB26451-2011) Table 5: Emission Limits	0.064875	/				
	Volatile organic compounds (VOCs)	1.593mg/m³	Emission standards of volatile organic compounds for industrial enterprises (DB35/1782-2018) Table 1: Emission Limits for Other Industries	0.446015	/				
Fujian Xinlu Tungsten Industry Co., Ltd.	Particulate matter	12.96mg/m³	Comprehensive Emission Standards for Air Pollutants (GB16297-1996) Table 2: Secondary Standards	0.1055	0.948	Organized emission after meeting the standards	5	Dust removal exhaust duct for alloy, exhaust duct for APT waste gas, exhaust duct for leaching alkali spray, exhaust duct for tungstic acid drying, and exhaust duct for tungstic acid waste gas	
	Non-methane hydrocarbons	82.55mg/m³	Emission standards of volatile organic compounds for industrial enterprises (DB35/1782-2018) Table 1	0.627	/				
Ganzhou Highpower Technology Co., Ltd.	Nitrogen oxides	98mg/m³	Comprehensive Emission Standards for Air Pollutants (GB16297-1996) Table 2: Limit Values; Standard for pollution control on hazardous waste incineration (GB 18484-2020) Table 3: Limit Values; Emission standard of air pollutants for industrial kiln and furnace (GB 9078-1996) Table 2 and Table 4: Secondary Standard Limits; (GB13271-2014) Emission standard of air pollutants for boiler (GB13271-2014) Table 2: Limit Values	0.1371	/	Organized emission after meeting the standards	4	Exhaust outlet for natural gas boiler, exhaust outlet for crushing and sorting, exhaust outlet for roasting furnace, and exhaust outlet for leaching	
	Sulfur dioxide	24mg/m³		0.1705	/				
	Particulate matter	10mg/m³		0.7556	/				
	Nickel and its compounds	0.00045mg/m³		0.00000785	/				

Enterprise Name	Main Pollutants and Characteristic Pollutants	Emission Concentration	Name of Implemented Pollutant Emission Standard	Total Annual Emissions (tons)	Approved Emission Volume of Pollutant Discharge Permit (tons/year)	Emission Method	Number of Discharge Outlets	Distribution of Discharge Outlets	Excessive Emission
Jiangxi Duchang Jinding Tungsten Co., Ltd.	Nitrogen oxides	59.756963mg/m^3	Emission standard of air pollutants for boiler （GB13271-2014）	0.817989	/	Organized emission after meeting the standards	1	Internal areas of the factory premises	None
	Sulfur dioxide	6.028852mg/m^3		0.082526	/				
Luoyang Yulu Tungsten Mining Co., Ltd.	Nitrogen oxides	11.38mg/m^3	Local Standard for Boiler Atmospheric Pollutant Emission in Henan Province (DB41/2089-2021)	0.526	1.972	Organized emission after meeting the standards	2	Boiler room roof	
	Sulfur dioxide	0.35mg/m^3		0.014	0.394				
	Particulate matter	0.21mg/m^3		0.008	0.197				
Malipo Haiyu Tungsten (H.C) Co., Ltd.	Nitrogen oxides	167.08mg/m^3	Emission standard of air pollutants for boiler （GB13271-2014） Table 1: Standard Limits	7.4854	11.6275	Organized emission after meeting the standards	2	East side of the factory area	
	Sulfur dioxide	41.028mg/m^3		1.9079	9.302				
	Particulate matter	48.856mg/m^3		2.2245	2.326				
Xiamen Tungsten (H.C) Co., Ltd.	Nitrogen oxides	65.3mg/m^3	Xiamen Atmospheric Pollutant Emission Control Standard (DB35/323-2018)	3.081	/	Organized emission after meeting the standards	4	Ammonia emission outlet, exhaust outlet 1, exhaust outlet 2, and exhaust stack 4#	
	Sulfur dioxide	4mg/m^3		0.117	/				
	Particulate matter	3.87mg/m^3		0.1558	4.37				
XTC New Energy Materials (Xiamen) Co., Ltd. (Haicang Base)	Particulate matter	5.766mg/m^3	Xiamen Atmospheric Pollutant Emission Control Standard (DB35/323-2018)	2.582	3.14996	Organized emission after meeting the standards	26	Roof of the workshop building within the factory area	
	Ammonia	6.8265mg/m^3	Emission Standard of Odor Pollutants (GB 14554-93)	1.232	17.56				
	Nickel and its compounds	0.084mg/m^3	Comprehensive Emission Standards for Air Pollutants (GB16297-1996)	0.0087	1.51				
	Cobalt and its compounds	0.031mg/m^3	Emission Standard of Pollutants for Inorganic Chemical Industry (GB 31573-2015)	0.0134	1.08				
	Manganese and its compounds	0.044mg/m^3	Integrate emission standards of air pollutants （DB31/933-2015）	0.0045	0.55				
Xiamen Golden Egret Special Alloy Co., Ltd. (Tongan Plant)	Particulate matter	10mg/m^3	Xiamen Atmospheric Pollutant Emission Control Standard (DB35/323-2018)	5.6952	/	Organized emission after meeting the standards	8	Six dust emission outlets, one organic waste gas emission outlet, and one hydrogen chloride emission outlet	
	Non-methane hydrocarbons	0.24mg/m^3		0.01008	/				
	Hydrochloric acid	0.45mg/m^3		0.0840	/				
Chengdu Lianhong Molybdenum Industry Co., Ltd.	Particulate matter	4.14mg/m^3	Comprehensive Emission Standards for Air Pollutants (GB16297-1996)	0.5509	/	Organized emission after meeting the standards	6	Surrounding the factory building	
	Nitrogen oxides	13.66mg/m^3		0.0546	/				
	Hydrochloric acid	1.06mg/m^3		0.0162	/				

Emission Management Measures

In the mining phase:

The primary exhaust emissions generated during mining activities are dust and nitrogen oxides. We strictly comply with relevant laws and regulations such as the "Environmental Protection Law of the People's Republic of China" and industry regulatory standards such as the "Comprehensive Emission Standards for Air Pollutants" (GB16297-1996). Our Mining Business Unit has developed internal rules and regulations such as the "Environmental Protection Management System" and the "Environmental Protection Assessment Management System." We continue to increase investment in environmental protection, introduce clean production technology and efficient waste gas treatment technology, vigorously promote clean production, and reduce the impact of mining activities on the atmospheric environment.

Mining

The mine adopts advanced mining blasting technology, which significantly reduces vibration, noise, and dust generated during blasting. The down-the-hole drill rigs used in the mine come with dust collection facilities, effectively capturing dust generated during operations and reducing dust emissions at the source. Additionally, mobile spray facilities and intelligent dust suppression monitoring equipment are installed during blasting and mining operations to minimize dust impact as much as possible.

Mineral processing

Dust removal systems are installed at locations prone to dust generation, such as the discharge points of crushers, vibrating screens, and belt conveyors. In addition, dust suppression equipment is installed in the crusher's crushing chamber and at the belt's discharge opening. The dust control efficiency of the mineral processing process is over 99%. In our Luoyang mineral processing plant, each workshop is equipped with efficient wet dust collectors, and the drying workshop adopts high-voltage electrostatic wet dust removal technology. The dust removal efficiency of mineral processing and drying processes can reach over 99%.

Transportation

Dedicated sprinkler devices and vehicle water sprinkling dust prevention facilities are set up on both sides of the road, effectively reducing dust generation during transportation. The plant area is equipped with an induction-type automatic car washing platform, and dust reduction is effectively carried out on the transportation road working surface through spray cannons and water trucks. Fog cannons are installed at the raw ore storage yard and the raw ore bin discharge ports, supplemented by spray dust suppression measures. Sealed vehicles are used for outbound product transportation, effectively avoiding dust generation along the route and achieving excellent dust removal results.

Equipment retrofit

Continuous equipment retrofits are carried out to reduce waste gas emissions. In Duchang, we replace the traditional coal-fired boilers with gas boilers, use clean energy natural gas instead of coal which is more polluting to the environment, and commission professional testing institutions to test boiler emissions every quarter to reduce NOX emissions. In Luoyang, we implemented the coal to gas project, the average NOX emission concentration was 44mg/m3 before the renovation, and upgraded the low-NOX burner, the average NOX emission concentration was 28mg/m3 after the upgrade, the NOX emission concentration decreased by 36% before and after the upgrade, and the particulate matter, SO2 and NOX all achieved ultra-low emission standards.

Establishment of environmental monitoring mechanism

Automatic monitoring and electronic display equipment for air pollutants are set up in the mining area to monitor air pollutants in real time. Every quarter, qualified third parties are commissioned to test the main sources of air pollutants to ensure compliance with emission standards.

In the advanced material production process:

Our tungsten smelting production base has formulated "Implementation Rules for Waste Gas Emission Management" to standardize our waste gas emission management work. For different types of waste gas, corresponding emission limits are formulated regarding relevant industry standards:

√ Industrial waste gas emissions follow the "Emission Standard of Pollutants for Inorganic Chemical Industry" (GB 31573-2015), "Emission Standard of Odor Pollutants" (GB 14554-93), "Pollution Control Standard for Hazardous Waste Incineration" (GB18484-2020), and "Xiamen City Atmospheric Pollutant Emission Standard" (DB35 323-2018);

√ Transportation waste gas emissions follow the "Emission Limits and Measurement Methods for Pollutants from Light-Duty Vehicles (China Phase VI)" (GB18352.6—2016) standard;

√ Domestic waste gas (canteen fume) emissions follow the "Emission Standard for Fume from the Catering Industry" (GB 18483-2001) standard.

We monitor waste gas emission indicators monthly, hire professional third-party institutions to conduct waste gas emission testing and link waste gas testing results with the responsible persons of relevant departments and departmental performance.

Our rare earth smelting, separation, and material production base has formulated the "Environmental Protection Management Regulations" to strictly regulate the management of exhaust emissions. The exhaust gases generated during the rare earth smelting, separation, and material production process mainly include particulate matter, sulfur dioxide, nitrogen oxides, sulfuric acid mist, and non-methane hydrocarbons. The Safety and Environmental Protection Department is responsible for the supervision and management of atmospheric emissions. In accordance with relevant laws and policies, we have developed a self-monitoring plan for enterprise atmospheric emissions and regularly commissioned third-party professional institutions to conduct monitoring of atmospheric pollutant emissions to ensure that the concentration and total emissions of atmospheric pollutants comply with national and local emission requirements. For units and personnel who fail to fulfill their responsibilities or make mistakes in fulfilling their responsibilities, we will conduct assessments based on the contents of the "Environmental Responsibility Bond" and the "Implementation Rules for Safety and Environmental Management Assessment." If accidents resulting in casualties occur, corresponding responsibilities will be pursued in accordance with the law. In 2020, Our rare earth smelting, separation, and material production base purchased a 5-year sulfur dioxide emission quota from Fusheng Recycled Paper Factory, Cangshan District, Fuzhou City and Evonik Wellink Silica (Nanping) Co., Ltd., with transaction quantities of 1.3756 tons/year and 0.2444 tons/year respectively. We also purchased a 5-year nitrogen oxide emission quota from Xiamen Hongyishun Environmental Protection Technology Co., Ltd., with a transaction quantity of 5.94 tons/year.

For the production processes and devices that generate exhaust gas pollutants, we have established efficient gas collection systems and selected appropriate purification treatment devices. All exhaust gases generated by our company must be treated by exhaust gas treatment facilities to meet standards before being discharged. According to the different types of exhaust gas pollutants, we have specific requirements for the height of exhaust stacks and maintain appropriate distances from surrounding buildings to reduce the impact on the surrounding environment. In the plant of new industrial district in this base, we have installed multiple sets of exhaust gas treatment facilities, including acid solution exhaust gas treatment facilities, extraction exhaust gas treatment facilities, hydrochloric acid tank exhaust gas treatment facilities, precipitation exhaust gas treatment facilities, magnet exhaust gas treatment facilities, and shot blasting exhaust gas treatment facilities. We use advanced technology combinations such as water spray + alkali spray + electrostatic dedusting, organic absorption + alkali spray + UV photolysis + activated carbon adsorption, alkali spray, oil mist filter + water spray + dry filtration, and water spray to treat substances such as hydrogen chloride, chlorine, particulate matter, and non-methane hydrocarbons in the exhaust gas before discharging them through the exhaust stack. During the reporting period, our rare earth smelting, separation, and material production base achieved the goal of 100% standard emission of exhaust gases.

Our battery materials production base is committed to continuously reducing waste gas emissions during production. We have formulated internal regulations and systems such as the "Environmental Protection Management System" and "Waste Gas Management Regulations", adhering to reducing emissions and implementing waste gas emission control from the source. We continue to promote and optimize the application of real-time monitoring systems for exhaust gases to ensure that effective treatment and control measures can be implemented promptly upon detection of harmful gases, thereby avoiding atmospheric pollution.

The waste gas pollutants generated during the battery materials production process mainly include particulate matter, ammonia, nickel and its compounds, cobalt and its compounds, manganese and its compounds, and others. We combined the emission limits of "GB16297-1996 Comprehensive Emission Standard for Atmospheric Pollutants", "GB31573-2015 Emission Standard for Pollutants from Inorganic Chemical Industry", and "DB35/323-2018 Xiamen Atmospheric Pollutant Emission Control Standard" to formulate our internal waste gas emission indicators. We have taken the following measures to manage waste gas emissions to ensure compliance with the standards:

Real-time online monitoring

- Install particulate matter online monitoring facilities at all particulate matter waste gas emission points for real-time monitoring of particulate matter concentration changes.
- Install ammonia online monitoring devices in the factory boundary, sewage treatment stations, around MVR, and inside some workshops.

Standardized emission standards

- IThe environmental regulations require that particulate matter emission concentration does not exceed 30mg/m3. However, our internal management sets a higher standard for exhaust gas emissions, requiring that they do not exceed 15mg/m3.

Additional treatment facilities

- IWhen purchasing new equipment and conducting technological upgrades, we prioritize the use of equipment and processes with high resource utilization rates and low pollutant emissions.
- IIncrease the capacity to recover unorganized ammonia in the workshop operating environment and strengthen the ammonia treatment capacity in the workshop. Add an ammonia spray absorption tower in the precursor workshop to reduce ammonia emissions.
- IImprove the filtering facilities at the exhaust ports to ensure that all production emissions pass through them, thereby achieving emissions that comply with standards.
- IThe canteen is equipped with an oil fume purification device, and during the daily operation of the canteen, the oil fume purification device must be turned on simultaneously. Regular cleaning and maintenance of the purification device are conducted to prevent blockage or oil leakage. The waste oil generated during the purification process should be directed into a grease trap and external discharge is prohibited.

Prevention of harmful gases

- ISuppliers and other relevant parties must ensure the quality of the chemicals they provide. Upon receipt of chemicals, responsible personnel should carefully inspect and accept them, and take measures to store and protect them properly to prevent chemical leaks and the generation of toxic and harmful gases.
- IDuring the use of volatile chemicals, the packaging (or container) of the chemicals should be checked for integrity. Measures such as keeping volatile gas, oil, and paint storage areas away from light, maintaining low temperatures (room temperature), and ensuring ventilation should be implemented. In case of spills, leaks, or volatile chemicals, the "Emergency Preparedness and Response Management Procedures" should be followed to prevent large amounts of chemical gases from being released, causing harm to human health and environmental pollution.
- IBurning of garbage, waste, and other refuse is strictly prohibited both within and outside the company premises.

In the deep processing:

We strictly abide by laws and regulations such as the "Law of the Peoples Republic of China on the Prevention and Control of Atmospheric Pollution" and relevant policies in the areas where our business is located. Each production base has formulated internal regulations and systems such as the "Three Wastes Management System", "Hazardous Waste Chemicals Management System", "Environmental Protection Management System", "The Measures for the Management of Wastewater, Waste Gas, and Noise", and "Regulations on Air Pollution Management" according to the requirements of our "Basic Environmental Protection Regulations" and in conjunction with their actual situation, ensuring that waste gas emissions meet the environmental standards of the areas where our business is located. We continue to increase investment in environmental protection, promote the application of real-time waste gas monitoring equipment, and advance clean production to reduce the negative impact of production and operation activities on the environment:

The emissions from the production and operation of the Alloy and Cutting Tools Division mainly include particulate matter, non-methane hydrocarbons, ammonia, hydrogen chloride, etc. We implement a series of measures to reduce emissions of air pollutants as much as possible. Every quarter, we commission qualified third-party organizations to conduct exhaust gas testing to ensure compliance with emission standards.

Measures for Reducing Air Pollutants:

- √ For particulate matter, cyclone dust removal and bag type dust removal are used.
- √ For non-methane hydrocarbons, adsorption-desorption catalytic combustion equipment is used.
- √ for hydrogen chloride, alkali spray tower is used for neutralization.

- √ For the small amount of dust generated during the production process, which has recycling value, we use a specialized closed multi-stage collection system to effectively eliminate unorganized dust emissions.
- √ For the ammonia-containing waste gas generated in the APT calcination section, we use our patented technology to convert it into nitrogen and water through decomposition and combustion treatment.
- √ For the organic waste gas generated in the sintering process, we treat it to meet standards through adsorption concentration + catalytic combustion.
- √ For the degreasing and vacuum sintering waste gas, we use an advanced sintering machine system imported from abroad, which comes with a paraffin condensation recovery system. The waste gas is discharged after condensation recovery + rooftop axial flow fan exhaust.
- √ For the tail gas from methanol production, it is discharged along with the flue gas from the thermal oil furnace after combustion.
- √ For the waste gas generated from the natural gas combustion in the thermal oil furnace, it is discharged through a 15-meter-high exhaust pipe.

For canteen fume, it is treated to meet standards before being discharged by the fume purification facility, and oil mist is treated by an oil mist separator and not discharged externally.

合金及切削工具事业部集美厂区

Highlight

In 2023, the RTP Manufacturing Department of Xiamen Golden Egret Jimei Factory added two sets of water spray towers to reduce the emission of alcohol fumes. Additionally, all short exhaust stacks in the factory area were appropriately regulated to ensure standard emission of exhaust gases.

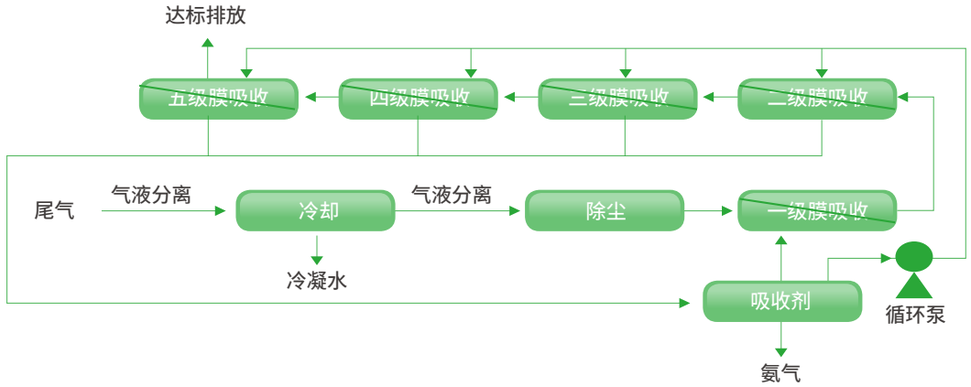
The waste gases emitted during the production and operation of the Tungsten and Molybdenum Wire Materials Division mainly include ammonia, hydrochloric acid, dust, sulfur dioxide, and hydrogen fluoride. We collect and recycle the ammonia gas generated during the production process, converting it into ammonia water for external sales. We use bag filter dust collectors to collect metal dust such as tungsten oxide and molybdenum oxide, thereby reducing the emission of air pollutants. Additionally, we conduct annual exhaust gas testing through qualified third-party organizations to ensure compliance with emission standards.

Highlight | Electromagnetic decolonization to remove waste gas

We use a combustible gas detector and a mixing box to ensure uniform mixing of the flue gas. The mixed gas then enters the electromagnetic decolorizer after passing through two-stage cooling and scrubbing towers for purification before discharge. The electromagnetic decolorizer controls the intensity and density of the electromagnetic field by adjusting the electromagnetic energy to affect the mist capture and water retention properties. It achieves a mist capture rate of over 97%. The electromagnetic decolorizer can remove dust and solid particles from the flue gas, as well as water and aerosols, meeting dust emission standards and recovering water resources for recycling.

Highlight | Ammonia Recovery Process

We introduce waste gases from the production process into absorption components for ammonia absorption. The absorber is a fiber microporous membrane, with waste gas and absorbent on opposite sides of the membrane. Ammonia gas permeates through the membrane pores and is absorbed by the absorbent on the other side into the liquid phase. This process selectively absorbs ammonia and other gases from industrial waste gases, producing a certain purity of commercial ammonia solution. This process has the following advantages: the absorption component selectively absorbs ammonia and other gases from waste gases. Ammonia gas dissolves in circulating water to produce a certain concentration of ammonia solution after passing through the component, achieving the purpose of ammonia recovery and utilization. After the ammonia-containing waste gas is absorbed by the system, it can meet the national emission standards, and the exhaust gas can be directly discharged without further treatment. Ammonia gas enters the circulating water through the membrane component to form ammonia solution. By controlling the process parameters, the concentration of ammonia solution can meet the standard of commercial ammonia solution, which can be sold or used for self-use, saving processing costs and realizing the resource utilization of ammonia gas in industrial waste gases, turning waste into treasure. Currently, this process can absorb 187.52 kg of ammonia per day, producing 750 kg of ammonia solution (ammonia solution concentration ⩾ 25%).



Wastewater Discharge Management

We have formulated and strictly implemented the "Environmental Protection Management System," "Pollutant Emission Management Regulations," "Wastewater Management Regulations," "Rainwater Management Regulations," and other related regulations for wastewater discharge. These regulations standardize the requirements for wastewater treatment and discharge, ensuring that wastewater is discharged in compliance with standards.

Wastewater Discharge

Our wastewater primarily originates from production process wastewater, domestic sewage, and workshop cleaning wastewater. The pollutants in the wastewater mainly include Chemical Oxygen Demand (COD), Ammonia Nitrogen, Total Nitrogen, Total Phosphorus, etc. During the reporting period, all subsidiaries of our company achieved standard discharge of wastewater.

The wastewater pollutant discharge for key environmental monitoring units of the company in 2023

Enterprise Name	Main Pollutants and Characteristic Pollutants	Emission Concentration	Name of Implemented Pollutant Emission Standard	Total Annual Emissions (tons)	Approved Emission Volume of Pollutant Discharge Permit (tons/year)	Emission Method	Number of Discharge Outlets	Distribution of Discharge Outlets	Excessive Emission
Xiamen Tungsten Co., Ltd. Haicang Branch	Chemical Oxygen Demand	110.00mg/L	Integrated Wastewater Discharge Standards (GB8978-1996)	63.463809	468.39	Emission after reaching the standard	1	The southwest side waste water total discharge outlet of the factory area	None
	Ammonia Nitrogen	18.13mg/L		9.782024	42.155				
	Total Lead	0.036875mg/L		0.026494	0.9368				
	Total Arsenic	0.142333mg/L		0.113657	0.4684				
	Total Mercury	0.000129mg/L		0.000093	0.0469				
	Total Nickel	0.148333mg/L		0.114961	0.9368				
	Total Chromium	0.03mg/L		0.02319	/				
	Total Cadmium	0.003mg/L		0.006237	/				
	Total Cobalt	0.384583mg/L	Integrated Wastewater Discharge Standard (DB31/199-2018)	0.306598	/				
	Total Nitrogen	23.5mg/L	Wastewater quality standards for discharge to municipal sewers (GB/T31962-2015)	15.055954	65.575				
Chengdu Hongbo Industrial Co., Ltd	Chemical Oxygen Demand	90mg/L	Integrated Wastewater Discharge Standards (GB8978-1996) Table 4: Tier 3 Standards	10.9356	/	Emission after reaching the standard	2	Factory South Discharge Outlet, Factory North Discharge Outlet	None
	Ammonia Nitrogen	16.2mg/L	Wastewater quality standards for discharge to municipal sewers (GB/T31962-2015) Table 1: Class B Standard Values	1.968	/				
	Total Nitrogen	46.4mg/L		5.6376	/				
Fujian Changting Golden Dragon Rare-earth Co., Ltd. (Plant of New Industrial District))	Chemical Oxygen Demand	5.667mg/L	Emission Standards for Pollutants in the Rare Earth Industry （GB26451-2011） Table 2: Direct Discharge; Wastewater quality standards for discharge to municipal sewers (GB/T31962-2015) Table 1: Class A Standard Values	2.352997	11.043	Emission after reaching the standard	2	Main wastewater discharge outlet and domestic sewage discharge outlet in the factory area	None
	Ammonia Nitrogen	0.753mg/L		0.312878	4.02				
	Total Nitrogen	1.54208mg/L		0.640345	/				
	Total Phosphorus	0.03406mg/L		0.014144	/				
	Total Zinc	0.05mg/L		0.020762	/				
	Total Lead	0.00159mg/L		0.000264	0.0017				

Enterprise Name	Main Pollutants and Characteristic Pollutants	Emission Concentration	Name of Implemented Pollutant Emission Standard	Total Annual Emissions (tons)	Approved Emission Volume of Pollutant Discharge Permit (tons/year)	Emission Method	Number of Discharge Outlets	Distribution of Discharge Outlets	Excessive Emission
Fujian Changting Golden Dragon Rare-earth Co., Ltd (Plant of Rare Earth Industrial Park)	Chemical Oxygen Demand	5.667mg/L	Emission Standards for Pollutants in the Rare Earth Industry （GB26451-2011） Table 2: Direct Discharge;	2.352997	11.18	Emission after reaching the standard	2	Main wastewater discharge outlet and domestic sewage discharge outlet in the factory area	None
	Total Nitrogen	1.54208mg/L	Wastewater quality standards for discharge to municipal sewers (GB/T31962-2015) Table 1: Class A Standard Values	0.640345	/				
	Total Nickel	0.012mg/L	Wastewater quality standards for discharge to municipal sewers (GB/T31962-2015) Table 1: Class A Standard Values (Domestic Sewage)	0.000028	0.00112				
	Total Copper	0.022mg/L	Emission standard of pollutants for electroplating （GB 21900-2008） Table 2: Standards	0.001339	0.01184				
	Ammonia Nitrogen	0.753mg/L	Wastewater quality standards for discharge to municipal sewers (GB/T31962-2015) Table 1: Class A Standard Values (Domestic Sewage)	0.312878	1.048				
	Total Zinc	0.05mg/L		0.020762	0.0216				
	Total Phosphorus	0.03406mg/L		0.014144	/				
Fujian Xinlu Tungsten Industry Co., Ltd.	Chemical Oxygen Demand	34.9374mg/L	Wastewater quality standards for discharge to municipal sewers (GB/T31962-2015) Table 1: Class B Standard Values	2.5517	4.51	Emission after reaching the standard	1	Wastewater main discharge outlet on the northeast side of the factory area	None
	Ammonia Nitrogen	0.2373mg/L		0.0149	0.601				
	Total Lead	0.3503mg/L	Integrated Wastewater Discharge Standards (GB8978-1996) Table 1: Standards	0.0302	0.0502				
	Total Arsenic	0.0048mg/L		0.0003	0.0314				
	Total Chromium	0.0625mg/L		0.0048	0.0314				
	Total Cadmium	0.0422mg/L		0.0033	0.0062				
	Total Cobalt	0.01mg/L	Emission Standard of Pollutants for Inorganic Chemical Industry (GB 31573-2015) Table 1	0.0007	/				
Ganzhou Highpower Technology Co., Ltd.	Chemical Oxygen Demand	6.147mg/l	Integrated Wastewater Discharge Standards (GB8978-1996) Table 4: Tier 3 Standard Limits	0.0514	1.977	Emission after reaching the standard	1	Northeast corner of the factory area	None
	Ammonia Nitrogen	0.181mg/L		0.0032	0.036				
	Total Nickel	0.01mg/L		0.000061	/				
	Total Cobalt	0.28mg/L		0.00164	/				
Jiangxi Duchang Jinding Tungsten Co., Ltd.	Chemical Oxygen Demand	34.799053mg/L	Integrated Wastewater Discharge Standards (GB8978-1996) Table 4: Standard Upgrade from Level 1	30.023	100.48	Emission after reaching the standard	1	North side of the factory area	None
	Ammonia Nitrogen	0.156128mg/L		0.1347	5.98				
	Total Phosphorus	0.327879mg/L	Integrated Wastewater Discharge Standards (GB8978-1996) Table 4: Level 1 Standard	0.282879	0.598				
	Total Nitrogen	1.782392mg/L	Wastewater discharge standard of Poyang Lake eco-economic district in Jiangxi Province (DB 36/ 852—2015) Upgrade	1.537765	14.35				
	Total Lead	0.000591mg/L	Integrated Wastewater Discharge Standards (GB8978-1996) Table 1	0.00051	1.2				
	Total Arsenic	0.333646mg/L		0.287854	0.6				
	Total Mercury	0.000668mg/L		0.000576	0.06				
	Total Cadmium	0.005049mg/L		0.004356	0.12				

Enterprise Name	Main Pollutants and Characteristic Pollutants	Emission Concentration	Name of Implemented Pollutant Emission Standard	Total Annual Emissions (tons)	Approved Emission Volume of Pollutant Discharge Permit (tons/year)	Emission Method	Number of Discharge Outlets	Distribution of Discharge Outlets	Excessive Emission
Malipo Haiyu Tungsten (H.C) Co., Ltd.	Chemical Oxygen Demand	25.333mg/L	Emission Standard of Pollutants for Inorganic Chemical Industry (GB 31573-2015) Table 1	1.0939	2.274	Emission after reaching the standard	1	West side of the factory area	None
	Ammonia Nitrogen	1.345mg/L		0.0574	0.455				
	Total Lead	0.002555mg/L		0.000104	/				
	Total Arsenic	0.00055mg/L		0.000023	/				
	Total Cadmium	0.013675mg/L		0.000552	/				
	Total Nitrogen	9.184mg/L		0.385825	/				
Ninghua Xingluokeng Tungsten Mining Co., Ltd	Chemical Oxygen Demand	24.913861mg/L	Integrated Wastewater Discharge Standards (GB8978-1996)	2.6128	/	Emission after reaching the standard	5	Discharge outlet for domestic sewage, discharge outlet for tailings pond during the rainy season, 2 discharge outlets for sedimentation tanks, discharge outlet for leaching water from waste rock area	None
	Ammonia Nitrogen	0.323572mg/L		0.0339	/				
	Total Arsenic	0.001626mg/L		0.0001	/				
	Total Cadmium	0.000813mg/L		0.000043	/				
	Total Molybdenum	0.272958mg/L		0.028	/				
Xiamen Tungsten (H.C) Co., Ltd	Chemical Oxygen Demand	57.19mg/L	Integrated Wastewater Discharge Standards (GB8978-1996)	7.804	12.9	Emission after reaching the standard	1	Main sewage discharge outlet in the factory area	None
	Ammonia Nitrogen	7.37mg/L		1.9332	2.3				
	Total Lead	0.0069mg/L		0.000582	0.148				
	Total Arsenic	0.11mg/L		0.009064	0.01				
	Total Nitrogen	23.4mg/L	Wastewater quality standards for discharge to municipal sewers (GB/T31962-2015)	2.04866	10.326				
XTC New Energy Materials (Xiamen) Co., Ltd. (Haicang Base)	Chemical Oxygen Demand	42.250000mg/L	Discharge standard of water pollutants for Xiamen (DB35/322-2018)	5.9714	45.9557	Emission after reaching the standard	1	Discharge outlet on the northwest side of the factory area	None
	Ammonia Nitrogen	4.853mg/L		1.7932	6.1274				
	Total Nickel	0.101mg/L		0.0374	0.0383				
	Total Manganese	0.076mg/L		0.0282	1.5319				
	Total Cobalt	0.199mg/L		0.0734	/				
Xiamen Golden Egret Special Alloy Co., Ltd. (Tongan Plant)	Chemical Oxygen Demand	12mg/L	Discharge standard of water pollutants for Xiamen (DB35/322-2018)	/	/	Emission after reaching the standard	1	Factory production wastewater and domestic sewage discharge outlet	None
	Ammonia Nitrogen	0.043mg/L		0.003	/				
Chengdu Lianhong Molybdenum Industry Co., Ltd.	Chemical Oxygen Demand	32.25mg/L	Integrated Wastewater Discharge Standards (GB8978-1996)	0.242290	/	Emission after reaching the standard	1	South outlet of the factory	None
	Ammonia Nitrogen	0.681mg/L	Wastewater quality standards for discharge to municipal sewers (GB/T31962-2015)	0.005116	/				

Emission Management Measures

In the mining phase:

In Ninghua Xingluokeng, we have established an "Environmental Protection Management System" with clear provisions for wastewater monitoring and treatment to ensure compliance with discharge standards:

- √ All production wastewater is recycled for reuse.
- √ During the rainy season, tailings pond wastewater is treated to meet Class III surface water standards before discharge.
- √ All discharge outlets generating wastewater during industrial production and daily activities must undergo monitoring. Parameters monitored include flow rate, pH, COD (Chemical Oxygen Demand), and suspended solids. The monitoring frequency for all wastewater discharge points should not be less than three times per month, and for discharge points included in environmental assessments, it should not be less than ten times per month.
- √ In the event of pollution incidents caused by wastewater, prompt investigation and monitoring should be conducted, and an investigation and monitoring report should be submitted.

Professional third-party inspections of wastewater discharge are conducted monthly.

In Duchang, we have established the "Basic Norms for Environmental Protection," which clearly stipulate that wastewater discharged from production processes must be effectively treated to meet discharge standards:

- √ We conduct monthly online monitoring at the main wastewater discharge points, where parameters such as pH value, Chemical Oxygen Demand, Ammonia Nitrogen, and flow rate are monitored. Additionally, qualified units are commissioned to test harmful factors in the total wastewater discharge and leachate from the disposal site to ensure compliance with standards.
- √ Key areas prone to rainwater and sewage mixing within the plant and damaged sections of sewage diversion structures are being renovated to achieve sewage diversion.
- √ We have installed drainage ditches in the plant area, mining areas, tailings ponds, and disposal sites. Furthermore, we have implemented measures such as dams, sedimentation tanks, and backflushing facilities at the disposal site, with all leachate being pumped back to elevated water tanks for reuse in production.

In the rare earth mining operations in Longyan, we implement a zero-discharge policy for wastewater by treating domestic wastewater and wastewater generated during mining processes together for recycling. We achieve this by establishing water treatment facilities and employing a three-stage treatment process: chemical dosing at the front end, microbial degradation in the middle, and anti-seepage measures at the back end. Additionally, we use vegetation such as water plants for wastewater treatment. The treated wastewater meets surface water quality standards for Class III water bodies.

In the Advanced Materials Production Stage:

At the Haicang tungsten smelting and production base, we have formulated "Implementation Rules for Wastewater Discharge Management" in accordance with the " Law of the People's Republic of China on the Prevention and Control of Water Pollution", "Integrated Wastewater Discharge Standards" (GB8978-1996), and "Wastewater quality standards for discharge to municipal sewers" (GB/T31962-2015), to implement water pollution prevention and control measures and standardize wastewater discharge management to ensure compliance with regulations.

- √ We require all manufacturing departments to treat wastewater generated during production processes and surface cleaning before it can be discharged into the company's wastewater treatment center.
- √ Wastewater containing oil from equipment cleaning and site cleaning must be collected, pretreated for oil removal, and then processed in the wastewater treatment center, and must not be discharged at will or cause soil contaminated.
- √ Wastewater from control rooms and laboratories should be treated in the wastewater treatment center, and if it contains hazardous waste, it should be managed as hazardous waste and not discharged externally.
- √ Domestic wastewater should be treated in three-stage septic tanks before being discharged. Rainwater during the initial stage should be collected in rainwater collection tanks before being processed and discharged in the wastewater treatment center.

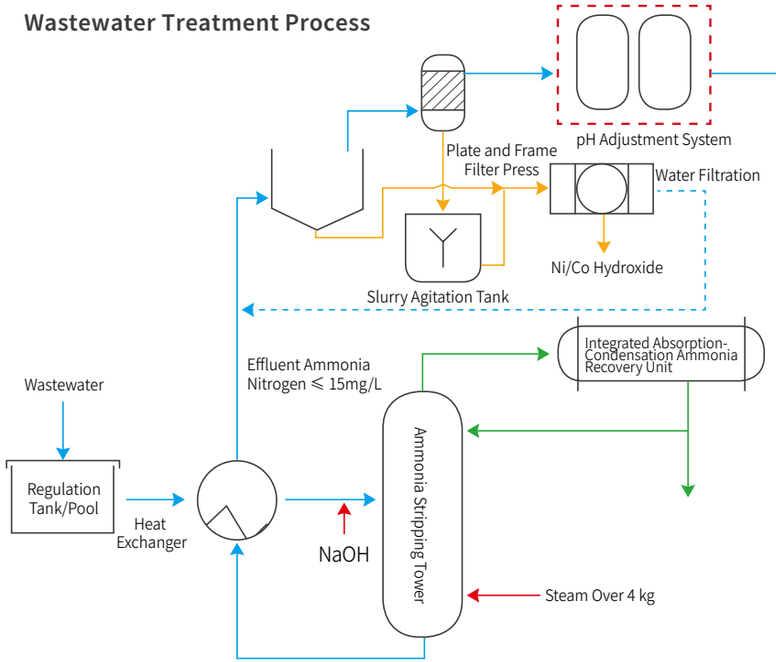
We conduct monthly inspections of wastewater discharge indicators and engage professional third-party organizations for testing. During the reporting period, the wastewater from the tungsten smelting production base met the discharge standards.

At our rare earth smelting, separation, and material production base in Changting, we have established the "Environmental Protection Management Regulations" to regulate wastewater discharge management. We have also set a target for a 60% water reuse rate. Since 2020, we have purchased the Chemical Oxygen Demand (COD) emission rights for a period of 5 years from Fuzhou Jiuding New Era Technology Co., Ltd..and Fujian Sanming Steel (GROUP) Sanming Chemical Industrial Co., Ltd., with transaction quantities of 0.1862 tons/year and 0.2014 tons/year, respectively.

At our battery material production base, we have developed a series of environmental indicators for wastewater based on standards such as "Discharge standard of water pollutants for Xiamen" (DB35/322-2018) and "Integrated Wastewater Discharge Standards" (GB8978-1996). We require our company's testing center to conduct weekly monitoring of pH, ammonia nitrogen, heavy metals (nickel, cobalt, manganese, etc.) in wastewater discharge. We have established a water quality online monitoring system that complies with national standards and has been accepted by government departments to monitor the real-time levels of ammonia nitrogen and Chemical Oxygen Demand (COD) in wastewater discharge. Additionally, we hire qualified environmental monitoring agencies annually to conduct environmental monitoring of the company's wastewater discharge.

Our battery material production base has installed two wastewater treatment systems, each dedicated to treating wastewater from the production of cobalt trioxide and precursor for ternary materials, respectively. The two wastewater treatment systems have similar processes, with treatment capacities of 1,000m3/d and 850m3/d, respectively. The workshop wastewater enters the distillation tower via a heat exchanger from the regulating tank to increase the temperature. Within the distillation tower, gas-liquid separation is completed, and the ammonia gas is recovered to form ammonia water. The bottom liquid from the tower undergoes filtration through plate and frame filters, precise filters, and other equipment. Finally, after pH adjustment through an acid-base regulation system, the wastewater meets the discharge standards.

Wastewater Treatment Process



During the reporting period, the wastewater from the battery material production base met the standard for discharge. In 2020, our battery production base in Xiamen Haijing purchased a 5-year discharge permit from the Xiamen Pollution Rights Trading Center, including 3.587 tons/year of COD and 0.3587 tons/year of ammonia nitrogen, at a transaction price of 10,000 RMB/ton・year for COD and 10,000 RMB/ton・year for ammonia nitrogen, with a total transaction price of 197,285 RMB.

In Deep Processing Stage:

In the Cutting Tools Division, we direct the domestic wastewater from offices and workshops into septic tanks, which are regularly cleaned. After passing through the septic tanks, the domestic wastewater is discharged into the sewage treatment plant, where it is treated along with industrial wastewater before being discharged in compliance with standards. The wastewater from canteen washing is treated through an oil-water separator to remove solids and oil before being discharged into the city's sewage network. Production wastewater from cleaning and coating processes is treated at the sewage treatment plant before being discharged into the city's sewage network. Additionally, for cooling water from equipment such as reduction furnaces and carbon tube furnaces, we periodically discharge a portion of the cooling water to maintain the balance of salt content in the circulating water. This discharged water is considered as hot polluted water (i.e., water with a temperature higher than normal water) and does not contain wastewater pollutants, so it can be discharged directly into the stormwater drainage network.

In 2021, Haicang Golden Egret purchased a 5-year pollution discharge permit from the Xiamen Pollution Rights Center, with a chemical oxygen demand of 0.0743 tons/year and ammonia nitrogen of 0.0075 tons/year.

Waste Management

We adhere to the "Law of the People's Republic of China on Prevention and Control of Environmental Pollution by Solid Waste," "General Industrial Solid Waste Storage and Disposal Site Pollution Control Standards," "Hazardous Waste Storage Pollution Control Standards," and other relevant laws and regulations. Our aim is to reduce the generation of various types of waste, enhance the reuse of waste, and minimize the adverse impact on the environment and personnel during the storage and handling of hazardous waste.

Waste Disposal

The waste disposal of our environmentally regulated key units in 2023

Company Name	Company Performance
Xiamen Tungsten Co., Ltd. (Haicang Subsidiary)	Waste includes 5,851.52 tons of smelting slag and 57.7742 tons of hazardous waste. Smelting slag is entrusted to third parties for comprehensive utilization, and hazardous waste is handled by qualified entities.
Chengdu Dingtai New Material Co., Ltd.	In 2023, a total of 0.3 tons of hazardous waste was transferred; 80.599 tons of general industrial waste were produced.
Chengdu Hongbo Industrial Co., Ltd.	Waste includes general industrial waste such as waste furnace bricks and scrap iron, totaling 86.44 tons; the total amount of hazardous waste transferred for disposal was 33.647 tons.
Fujian Changting Golden Dragon Rare-earth Co., Ltd. (Plant of New Industrial District)	Waste includes 128.91 tons of acid leaching slag and 3,435.4 tons of neutralization slag, with a hazardous waste generation of 419.58 tons. Acid leaching slag and neutralization slag are entrusted to third-party qualified entities for disposal, and hazardous waste is handled by qualified units.
Fujian Changting Golden Dragon Rare-earth Co., Ltd. (Rare Earth Industrial Park Factory)	The generation of neutralization slag was 25.883 tons, and hazardous waste was 307.78 tons, all entrusted to qualified entities for disposal.
Fujian Xinlu Tungsten Industry Co., Ltd.	Waste includes 34,866.692 tons of general solid waste and 7.8945 tons of hazardous waste. Both smelting slag and other general solid waste are entrusted to third parties for processing, and hazardous waste is handled by qualified units.
Ganzhou Highpower Technology Co., Ltd.	Waste includes 28.98 tons of hazardous waste, all disposed of by qualified third parties.
Jiangxi Duchang Jinding Tungsten Co., Ltd.	Waste includes 3,380,666.543 tons of slag, including 1,737,660.196 tons of waste rock and 1,643,006.348 tons of tailings; 50.62 tons of industrial waste; the total amount of hazardous waste transferred for disposal was 26.868 tons. The annual recycled amount of slag used for manufactured sand was 539,437.7066 tons.
Malipo Haiyu Tungsten (H.C) Co., Ltd.	Waste includes 15,063.64 tons of smelting slag, 13,087.22 tons of lime slag, and 2,770.34 tons of coal slag; the total amount of hazardous waste transferred for disposal was 0.64 tons. Industrial waste recycling was 8.748 tons, external transport of industrial waste was 14.7 tons, totaling 30,944.648 tons. Tungsten slag, lime slag, and coal slag are processed by third-party companies, and hazardous waste is handled by qualified units.
Ninghua Xingluokeng Tungsten Mining Co., Ltd.	Waste includes 6,907,600 tons of waste rock, 1,707,292.7399 tons of tailings, totaling 8,614,892.7399 tons of slag; the total amount of hazardous waste transferred for disposal was 2.7 tons. The total amount of slag recycled in 2023 was 1,162,063.2245 tons.
Xiamen Tungsten (H.C) Co., Ltd.	Waste includes general industrial solid waste and hazardous waste; general industrial solid waste consists of smelting slag, totaling 761.23 tons; the total amount of hazardous waste transferred for disposal was 22.8999 tons. General industrial solid waste is entrusted to third parties for comprehensive utilization, and hazardous waste is handled by qualified entities.
XTC New Energy Materials (Xiamen) Co., Ltd. (Haicang Base)	Waste includes industrial waste such as used crucibles and ton bags, totaling 1,764.9870 tons; the total amount of hazardous waste transferred for disposal was 19.5907 tons. General industrial waste is recycled by third parties, and hazardous waste is handled by qualified units.
Xiamen Golden Egret Special Alloy Co., Ltd. (Tongan Factory)	General industrial solid waste such as waste wood and scrap iron (SW99) was disposed of at 98.81 tons, and hazardous waste at 70.285 tons, all handled by qualified entities.
Chengdu Hongbo Molybdenum Co., Ltd.	Hazardous waste disposed of amounted to 129.79 tons, all handled by qualified entities.

General Waste

We comply with the laws, regulations, and policies related to general waste discharge in the countries and regions where we operate, take measures to reduce the amount of general waste generated during production activities, and strengthen the reuse of general waste to lessen its environmental impact.

In the mining phase:

The general waste generated by mining activities mainly includes tailings and waste rock. Through technological innovation, we continually enhance the recycling of waste to reduce its environmental impact.

For general wastes like tailings, we have established a manufactured sand workshop at the end of the ore dressing process, where coarse-grained tail sand is screened and sold as manufactured sand, with the remaining tail sand stored in the tailings dam. We continually improve waste rock separation recovery technology and waste enrichment technology in the ore processing system. During the ore dressing plant screening process, waste enrichment is carried out, and the discarded waste rock is sold as building aggregate. The remainder is stored at the waste dump, reducing the emission of waste rock and improving the comprehensive utilization rate of mineral resources. Other general wastes, such as domestic garbage, are handled by third-party professional disposal units.

In the Advanced Materials Production Stage:

We follow the "Environmental Protection Law of the People's Republic of China," "Law of the People's Republic of China on Prevention and Control of Environmental Pollution by Solid Waste," and other laws and regulations to formulate general waste management measures, focusing on reducing and resourcefully managing general waste.

At the rare earth smelting and separation, and materials production base, we require departments to sort and place production workshop waste into designated bins or locations. For recyclable waste, it is recycled promptly. The Environmental and Safety Management Department is responsible for supervising the management of all waste disposal sites, urging departments to sort and store waste properly and handle domestic waste regularly. Each month, the classification and storage status of each solid waste storage point are inspected. The domestic waste generated by base operations is processed by sanitation companies, and valuable solid waste such as iron drums and scrap iron is auctioned off. Low-value materials such as cardboard boxes and wooden boxes are used to offset transportation costs and are recycled by waste transport personnel.

At the battery materials production base, the general waste generated during production operations primarily consists of industrial waste, including spent crucibles, used ton bags, paper, and pallets. We undertake the following management measures to reduce general waste discharge:

- √ Maintain a management ledger to accurately record the type, quantity, flow, storage, use, and disposal of general waste, ensuring that general waste is traceable and searchable.
- √ Entrust professional third parties to transport, utilize, and dispose of general waste, with contracts legally signed that specify pollution control requirements.
- √ Maintain general waste storage facilities within the plant area, adopting measures to prevent dispersion, loss, and leakage, or other measures to prevent environmental pollution.

In Deep Processing Stage:

We follow national standards such as "Standard for pollution control on the non-hazardous industrial solid waste storage and landfill," and production bases have accordingly established "Waste Management Methods," "Waste Management Systems," and "Solid Waste Disposal Management Regulations." According to the principles of "reduction, resource utilization, and harmlessness," we manage our general waste to ensure compliance with relevant laws and regulations.

The general solid waste generated during the deep processing stage mainly includes dust collected by dust removal devices, dust collected by sedimentation tanks, non-conforming products, waste graphite products, and domestic waste. We recycle dust collected by dust removal devices, dust collected by sedimentation tanks, non-conforming products, paraffin recovered during the sintering process, waste blanks, and residues back into production; waste graphite products are directly recycled by the manufacturer; grinding waste materials are sold to tungsten smelting plants for recycling; and domestic waste is handled by the sanitation department.

Hazardous Waste Management

We comply with the laws, regulations, and policies related to hazardous waste discharge in the countries and regions where we operate, take measures to reduce the generation of hazardous waste in production activities, and mitigate the adverse impacts on the environment and personnel during the storage and processing of hazardous waste.

In the mining phase:

We have established various systems such as the "Hazardous Waste Environmental Management System," "Hazardous Waste Management System," "Hazardous Waste Storage Site Management Regulations," "Hazardous Waste Warehouse Management System," and "Hazardous Waste Pollution Prevention Responsibility System." These systems manage hazardous waste according to the principles of "reduction, resource recovery, and harmlessness." The company has set up a dedicated hazardous waste warehouse managed by appointed personnel and ultimately disposes of the waste through a qualified third-party agency.

In the Advanced Materials Production Stage:

We have established the "Hazardous Waste Management Methods" in accordance with the "Environmental Protection Law of the People's Republic of China," the "Law of the People's Republic of China on Prevention and Control of Environmental Pollution by Solid Waste," and the "Directory of National Hazardous Wastes," to manage hazardous waste.

During the tungsten smelting process, the hazardous waste generated mainly includes waste resin, waste mineral oil, wastewater sludge, paint waste, chemical reagent bottles, waste acid, waste alkali, etc. We strive to minimize the generation of hazardous waste and have established a hazardous waste management ledger. The Environmental and Safety Management Department reports monthly on the generation time, type, quantity, and disposal of hazardous waste to enhance its management. Apart from comprehensively recycling waste acids, waste alkalis, and cobalt-nickel-containing wastewater sludge, other types of hazardous waste are temporarily stored in the hazardous waste warehouse at the production base and are eventually handled by a qualified third-party organization.

At the rare earth smelting and separation and materials production base, we strictly implement internal rules such as the "Environmental Protection Management Regulations" and "Hazardous Waste Management Regulations." We lawfully and compliantly dispose of hazardous waste, establish a hazardous waste pollution prevention leadership team, and oversee waste discharge management. During the reporting period, the rare earth smelting and separation and materials production base actively organized standardized training on hazardous waste to enhance employees' awareness of environmental protection. The construction of hazardous waste storage facilities in the rare earth park was completed and put into standardized use, ensuring safe storage and handling of hazardous waste. We also completed the reduction work for extracting organic solvents, effectively reducing the negative environmental impact.

At the battery materials production base, we have developed and implemented internal management systems such as the "Hazardous Waste Management System," "Hazardous Waste Management Implementation Rules," and "Company Hazardous Waste and Waste Classification and Disposal Management Detailed Rules" to strengthen waste management. The company includes hazardous waste management in the performance assessments of relevant managers and departments, with the Safety and Environmental Protection Management Department responsible for conducting assessments.

The hazardous waste generated during production operations at the battery materials production base mainly includes waste activated carbon, waste mineral oil, waste organic solvents, paint sludge, and laboratory waste. We have developed systems such as the "Hazardous Waste Management Implementation Rules," regularly updating the hazardous waste list. We maintain a hazardous waste storage warehouse, collecting and storing hazardous waste by category, with isolation facilities and measures to prevent wind, sun, rain, seepage, and fire within the storage site. Cameras are installed inside the hazardous waste warehouse for real-time monitoring to ensure safe and reliable storage of hazardous waste. Regular hazardous waste management training is organized. The Safety and Environmental Protection Department, as the supervisory management department for hazardous waste, is responsible for regularly entrusting the disposal of hazardous waste to a qualified third-party professional organization. Additionally, the management of hazardous waste is included in the performance assessments of relevant managers and departments, executed by the Safety and Environmental Protection Management Department.

Hazardous Waste Reduction Measures at the Battery Materials Production Base:

- √ Use clean energy and materials to reduce the production of harmful substances.
- √ Adopt advanced industry production equipment to reduce energy consumption and hazardous waste generation, such as using stainless steel equipment to reduce the amount of maintenance paint used and increasing the recycling times of equipment lubricating oil to reduce the per product consumption of mineral oil.

In Deep Processing Stage:

We follow national standards such as the "Hazardous Waste Storage Pollution Control Standards," and production bases have accordingly developed "Hazardous Solid Waste Management System," "Hazardous Waste Management System," and "Hazardous Waste Chemicals Management System," managing the company's hazardous waste according to the principles of "reduction, resource recovery, and harmlessness," ensuring compliance with relevant laws and regulations. The hazardous waste generated during the deep processing stage mainly includes waste mineral oil, waste organic solvents, etc., all of which are uniformly disposed of by a qualified third-party organization.

Tailings Dam Management

A tailings dam is a high potential energy hazard formed by the accumulation of tailings. A breach of a tailings dam can have catastrophic consequences for the communities, environment, infrastructure, and economy of the area. We fully recognize the importance of tailings dam management. In accordance with laws and regulations such as the "People's Republic of China Environmental Protection Law," "Safety Technical Regulations for Tailings Dams," "Safety Standardization Guidelines for Metal and Non-Metal Mines," and "Safety Standardization Implementation Guide for Tailings Dams," we have established internal management systems such as the "Tailings Dam Safety Management System," "Ninghua Xingluokeng Tungsten Mine Co., Ltd. Safety Standardization Tailings Dam System Management Manual," "Tailings Dam Environmental Management System," and "Jiangxi Duchang Jinding Tungsten Co., Ltd. Hushan Tailings Dam Work Safety Accident Emergency Plan." These systems cover the entire lifecycle of the tailings dam, including design, construction, operation, maintenance, monitoring, and management post-closure, setting detailed normative requirements to prevent and minimize risks to the surrounding communities and environment as much as possible. Our mine in Duchang has received the "Work Safety Standardization Certificate - Tailings Dam" issued by the Jiangxi Provincial Work Safety Committee.

Intelligent Management

We have established a comprehensive, efficient, sensitive, and reliable work safety network monitoring system that utilizes advanced network technology, measurement and control technology, and modern communication technology for online surveillance, monitoring, and equipment status checks of the tailings dam. The tailings dam safety automation monitoring system consists of an on-site monitoring and early warning system and a subsequent data analysis, publication, and sharing system. Through the intelligent monitoring system, we achieve online monitoring of the tailings dam's initial dam surface displacement, internal vertical displacement, saturation line, water level in the dam, dry beach, rainfall, pH, water quality, and images of the dam area.

Hazard Identification

In response to potential safety hazards at the tailings dam, we conduct daily inspections and observations, flood safety checks, dam safety checks, and area safety checks; personnel are assigned to 24-hour shifts to inspect and record daily; workshops conduct weekly safety inspections of the dam area, flood control structures, online monitoring systems, emergency supplies, and communications; monthly safety and environmental hazard inspections are organized at the departmental and company levels for the tailings dam; and special inspections are organized before the flood season with leadership on 24-hour duty to ensure prompt and effective issue resolution. For identified issues, corrective and preventive measures are promptly proposed and implemented to ensure the safe operation of the tailings dam.

Emergency Management

We have established a comprehensive emergency management mechanism, improved special emergency plans for dam breaches and other accidents, environmental emergency plans, and on-site handling schemes. Site-specific emergency drills are conducted as per regulations, followed by evaluations, summaries, and continuous improvements, integrating emergency management into the annual key tasks with implemented assessments.

Closure Management

For tailings dams that are approaching closure, we will carry out closure remediation design according to relevant laws and regulations and the requirements of the closure safety evaluation report, ensuring that the flood control capacity and stability of the tailings dam meet national legal and regulatory requirements and maintain long-term safety and stability post-closure.

For the currently closed Qipanshan tailings dam, it is included in our flood prevention inspections and company-level monthly safety inspections, with ongoing stability dynamic monitoring and dynamic tracking of the restoration effects on key mining platforms, mine slopes, and tailings dams, ensuring long-term safety and stability after closure. For the Wangtongkeng tailings dam at the Xingluokeng Tungsten Mine, which is approaching the designed total dam height, the company has commissioned a qualified entity to carry out the closure design and will strictly comply with national regulations and design requirements, ensuring proper closure construction and acceptance work.

Biodiversity Conservation

We consistently prioritize biodiversity conservation as a crucial component of our environmental management, strictly adhere to laws and regulations such as the "Regulations of the People's Republic of China on Nature Reserves," "Forest Law of the People's Republic of China," "Regulations on the Protection of Basic Farmland," " Wildlife Protection Law of the People's Republic of China," "Regulations of the People's Republic of China on the Protection of Wild Plants," and the "Kunming-Montreal Global Biodiversity Framework." Embracing the philosophy of "developing within protection and protecting through development," we integrate ecological restoration into our business development processes. We undertake greening efforts in areas impacted by mining activities to reduce soil erosion and dust emissions, thereby minimizing the impact of mining activities on the surrounding environment and creating a suitable ecological environment for local biodiversity conservation. Our tungsten mines in Ninghua Xingluokeng and Duchang have been included in the national list of green mines.

At Ninghua Xingluokeng, we rationally exploit mineral resources based on the "Ninghua Xingluokeng Tungsten Mine Co., Ltd. Xingluokeng Tungsten Mine Geological Environment Protection and Ecological Rehabilitation Restoration Plan Revision" prepared by a third party, aiming for harmonious co-development between the mine and the local ecological environment. We divide the geological environment rehabilitation work of the mine into three phases according to the mining development and utilization plan and actual operating conditions: the current status management period, concurrent production and management period, and the mine closure management period, orderly advancing the implementation of each phase's work.

Current State Management Phase: The main objective is to address the existinggeological and environmental issues in mining areas by implementing measuresto protect the geological and environmental aspects during miningconstruction activities, focusing on the areas affected by current miningactivities. The measures include flatting the steep slopes and reducing the loadin open-pit mining areas, improving drainage systems in waste soil disposalareas, planting trees and grass on both sides of the main haul roads for wasterock transportation, and setting up safety warning signs and fences along ruralroads within the soil disposal site area.

Integrated Production and Management Phase: The approach of concurrentproduction and remediation is adopted for mining operations, with phased andtimed restoration and remediation projects based on the actual progress ofmining.Completed restoration and remediation projects are monitored.maintained, and managed. Real-time improvements are made based on theactual mining conditions to protect the geological environment and preventand control geological hazards during the mining process. Slope collapses andlandslides that may occur are remediated concurrently with production toreduce soil erosion, ensuring harmonious development of mining productionand envronmental protection.

Mine Closure and Restoration Phase: Within one year after the expiration of themining license, comprehensive and thorough measures should be taken toremediate and restore the geological environment of the closed mine. The aim isto significantly improve and reconstruct the geological environment of the entiremining area, addressing the environmental issues caused by mining activities.

For areas prone to soil erosion such as open pits, spoil areas, and tailings dams, we implement multiple protective measures including enhanced greening, setting up runoff interception facilities, and implementing sedimentation treatments. We also adopt a multi-tiered waste disposal approach to minimize the operating surface and maximize the re-greening area, creating a green operation process of "topsoil storage—waste rock compaction—topsoil coverage—land leveling—re-vegetation and reclamation," ensuring the maximum protection of the ecological environment while mining.

In 2023, we actively advanced ecological restoration efforts at Ninghua Xingluokeng, completing approximately 88,278.6 ㎡ of re-greening, including about 57,000 ㎡ in the spoil area, 17,000 ㎡ in the mining area, and 14,278.6 ㎡ in the tailings dam.

about **88,278.6** ㎡
of re-greening

about **57,000** ㎡
of re-greening in the spoil area

about **17,000** ㎡
of re-greening in the mining area

about **14,278.6** ㎡
of re-greening in the tailings dam

In Duchang, from the initial stages of mine construction, we adopted integrated mining techniques of stripping, spoil disposal, and re-greening, adhering to the step-by-step re-greening concept of "mining alongside re-greening." We implement restoration and management measures tailored to the local conditions for the spoil area, open pits, mine-specific roads, mining industrial sites, and Hushan Tailings Dam, and carry out re-greening management for the already closed Qipanshan Tailings Dam according to environmental restoration requirements, achieving a 100% greening rate of the mine and significant ecological restoration effects.
We actively implement mine environmental management and monitoring measures to minimize the potential impact of business operations on the ecological environment:

√ We establish and implement an environmental monitoring mechanism to dynamically monitor surface deformation and geological hazards in areas such as tailings dams, spoil areas, and mining areas, ensuring timely detection and response to potential environmental risks. For the already closed Qipanshan Tailings Dam, we enhance its stability dynamic monitoring, include it in our flood prevention inspections and company-level monthly safety inspections, and dynamically track the restoration and management effects on key mining platforms, mine slopes, and tailings dams.

√ Through the tailings dam safety automated monitoring system, we conduct online monitoring of the initial dam’ s surface displacement, internal displacement (vertical), saturation line, water level of the tailings dam, dry beach, rainfall, pH, water quality, and images of the dam area, providing scientific data for the safe management and decision-making regarding the tailings dam.
In the development of the Longyan rare earth mine, we formulate and strictly follow related systems such as the "Ecological Restoration and Governance Plan" and a "Land Reclamation Plan," and establish a dedicated ecological restoration management fund to specifically support environmental conservation efforts. Before mining, we conduct a comprehensive environmental assessment and implement the "Environmental Protection Plan for the Recovery Project of Overlying Rare Earth Resources in Hetian Jinjiang Industrial Park, Changting County, Fujian Province," ensuring coordinated development of project construction and environmental protection. Moreover, we continue to strengthen the environmental management of the leaching project, striving to minimize the impact of mine construction and production activities on the surrounding environment, achieving a harmonious coexistence between mine development and ecological protection.

We utilize an optimized "in-situ leaching process" for rare earth mining, relying on in-house developed 3D geological visualization software to prepare mining design schemes. In the mining area, we drill injection holes and collection channels/diversion holes at specific intervals, applying precise leaching techniques to inject accurate doses of leaching agents. The leaching agent undergoes ion exchange reactions with rare earth ions to form rare earth mother liquor, which under the influence of gravity, percolates and collects at a collection pool at the base of the hill. After rare earth extraction from the mother liquor in the collection pool, the resultant clear liquid is reconstituted into a leaching solution and pumped back to the mine for recycling. This mining method improves the recovery rate of rare earth resources and does not require mountain excavation, avoiding damage to the mine's surface vegetation and the original topsoil of the rare earth mine, with no external discharge throughout the process.

Resource Utilization and Circular Economy

We have developed a comprehensive industrial chain that encompasses the entire spectrum from front-end tungsten mining operations, mid-end tungsten and molybdenum smelting and powder production, to back-end high-value deep processing applications such as hard alloys, tungsten and molybdenum wire products, cutting tools, and mining engineering tools. We have further optimized the ore dressing process in our existing mines by adding waste disposal and non-metallic mineral sorting processes, reducing ore dressing consumption, and enhancing the level of comprehensive resource utilization. By improving mine efficiency and promoting green development, we vigorously advance resource recycling and utilization, fully leveraging the advantages of hydrometallurgical technology in tungsten, rare earth, and battery materials sectors, enhancing resource recycling, and supporting the development of the circular economy.

2023 Resource Recycling Management Goals

Actively carry out waste disposal projects to enhance resource recycling and reduce tailings emissions.

Gradually increase the proportion of recycled materials used in the production process.

Improve the recycling rate of packaging materials.

In the mining phase:

We have implemented waste disposal projects at Ninghua Xingluokeng, discarding ores that do not meet the grade requirements to reduce energy consumption during the ore dressing process. The discarded ore, after crushing, is sold as construction material. Sand that does not meet production standards is also sold as construction sand, achieving resource recycling while significantly enhancing the company's economic benefits. During the reporting period, we invested in building feldspar and quartz recovery projects, which not only improve resource recovery rates but also help extend the lifespan of tailings dams and reduce their operational costs.

We are actively advancing a comprehensive utilization project of mineral resources in our Duchang mine, which includes key components such as the separation and recovery of ore-containing waste rock and enrichment through the waste disposal system in the crushing plant. The project is constructed in two phases; the first phase is the waste enrichment engineering in the crushing system, processing 1.31 million tons/year and producing 450,000 tons/year of construction aggregate; the second phase is the ore-containing waste rock separation and recovery engineering, processing 1.65 million tons/year of waste rock and producing 670,000 tons/year of construction aggregate. Once implemented, the project is expected to increase the annual output of tungsten metal by 400 tons and molybdenum metal by 80 tons, significantly enhancing the comprehensive recovery efficiency of valuable elements in mineral resources and achieving resource recycling.

In the Advanced Materials Production Stage:

At the Haicang tungsten smelting production base, based on the characteristics of materials at different stages, we have developed a staged separation technology and pioneered a high-energy, high-rate precipitation technology for secondary tungstate salts, achieving efficient recovery of molybdenum resources co-produced in tungsten hydrometallurgy. From January to September 2023, the Haicang base recovered 150 tons of molybdenum metal, contributing a profit of 65 million RMB.
At the Changting rare earth smelting, separation, and materials production base, we have implemented the following measures to achieve resource recycling:

- √ Invested in constructing a project for recycling 15,000 tons of rare earth waste per year (Phase I) to enhance resource recovery efficiency.
- √ Directly recycle and reuse materials such as wind turbine gaskets and Mont pads, and replace traditional injection-molded turnover boxes and tube packaging materials with recycled packaging, significantly reducing resource consumption while greatly enhancing resource utilization efficiency.
- √ Convert the processing of rare earth permanent magnetic material solid waste into by-products compliant with "Recyclable manufacturing scraps of neodymium iron boron" GB/T 23588-2020 standard (including dry powder, magnetic sludge, and chunk materials) for sale, no longer managing it as solid waste. With this initiative, against the backdrop of the company's annual production of nearly 7,600 tons of magnetic materials, we expect to reduce solid waste production by about 4,600 tons per year, with magnetic sludge production decreasing by about 1,927 tons and achieving a recycling rate of about 25.36%.

At the battery material production base, we have implemented the following measures to achieve resource recycling:

- √ Gradually increase the proportion of recycled materials in the raw materials for lithium cobaltate products during production. During the reporting period, recycled materials accounted for about 10% of raw materials. We have set management targets for the content of recycled materials used in production, align with sustainable development needs.
- √ Recycle defective products produced during the precursor production process, extracting relevant reusable metal resources and processing them into primary raw materials.

Install dust collectors in workshops to collect material dust and reuse it.

- √ At the Ningde production base, we process the iron waste generated during the production of ternary materials through a wet iron removal process to eliminate magnetic impurities, and then through three cycles of sintering and mixing, the iron waste is recycled and used to produce different types of products. The recycling of iron waste solves the solid waste disposal issue while also conserving raw materials and reducing pollution issues associated with raw material production, thereby increasing material utilization.
- √ For general industrial solid waste such as iron-containing impurities, waste filter cloths, and cleaned ton bags, they are collected and handed over to a material company for recycling, with transfers occurring 1-3 times per month. It has been calculated that each ton bag can be reused five times, with ton bags used in the process being recycled 30 times and those used in iron calcination being recycled 10 times.
- √ Collaborate with a third-party company to launch a leased pallet project, where plastic pallets are recycled, cleaned, and reused, achieving circular use along the entire supply chain.

In Deep Processing Stage:

In the Cutting Tools Division, we have implemented the following measures to achieve resource recycling:

- √ Recycle waste kraft paper, waste woven bags, waste plastic bags, scrap iron, waste wood, and waste foam padding to utilize resources effectively.
- √ Replace foam filling in wooden boxes with inflatable gourds for packaging.
- √ Promote the use of automatic packaging boxes, effectively reducing the use of packaging materials.
- √ Collect tungsten-containing dust (mud) from dust collectors and sedimentation tanks, non-conforming products, waste blanks, and remnants for reuse in production.
- √ Waste graphite products are directly recycled by the manufacturer.
- √ Grinding waste is sold to tungsten smelting plants for recycling processing.

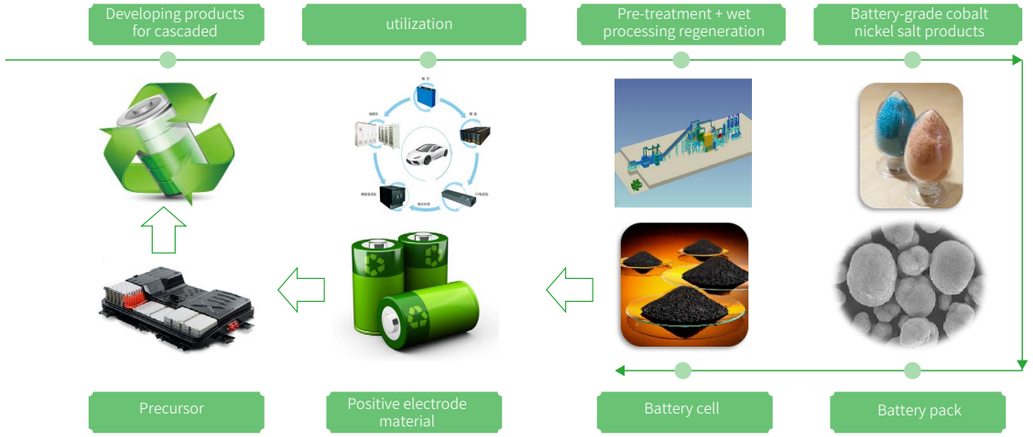
In the Secondary Resource Utilization Stage:

We have long been committed to the research and development of recycling technologies for regenerated tungsten raw materials and high-value metals such as cobalt, nickel, and rare earths. We have independently developed globally leading low-energy, low-emission green clean recycling technologies for tungsten, short process and low-energy recycling technologies for waste batteries, and wastewater zero discharge technologies. We have established three major recycling bases in South Korea, Xiamen, and Longyan and has introduced the world's leading automated production lines to recycle precious metal resources such as tungsten, cobalt, nickel, and rare earths. This promotes the rational use of primary mineral resources and drives the high-quality, sustainable development of the tungsten, new energy, and rare earth industries.

In the cascading utilization stage, through processes such as recycling of used battery packs, full pack charge-discharge testing and evaluation, and classification of new energy battery packs, depending on the quality of the battery packs, they are utilized in energy storage products, backup power products, low-speed vehicle products, solar street lights, and other power products.

In the resource regeneration stage, we possess a comprehensive production line for disassembling, discharging, pyrolyzing, crushing and separating, leaching, extracting and separating, and evaporating and crystallizing used power batteries, with an annual processing capacity of 10,000 tons of used batteries, battery waste, cathode and anode waste, and nickel-cobalt waste.

Recycling of used battery

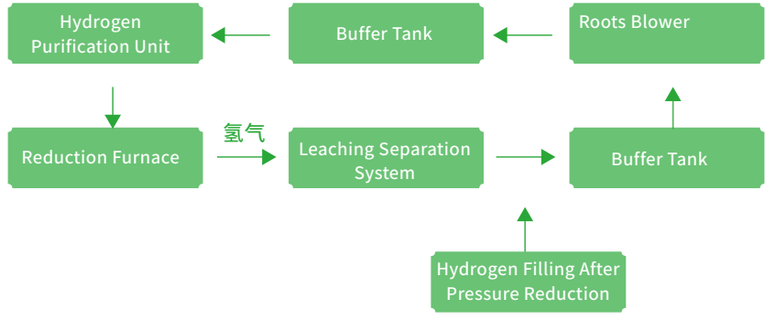


Highlight | **Resource Recycling**

GANPOWER recycles wastewater through an MVR system and produces salt products, achieving resource recycling of production wastewater. Additionally, GANPOWER emphasizes the recycling of packaging materials, actively practicing the concept of the circular economy by recycling plastic pallets, ton bags, ton barrels, and by packaging and selling aluminum foil to reduce material usage.

Highlight | **Hydrogen Recycling**

In the production of pure tungsten powder through hydrogen reduction of tungsten compounds, a large amount of pure hydrogen is required for the reduction reaction at temperatures above 800° C. To fully utilize hydrogen energy and reduce severe energy waste, Xiamen Penglu recycles excess hydrogen, which contains trace water and is at temperatures below 200° C after the reaction. The hydrogen consumed during the reduction process is supplemented by decanting bottled hydrogen.



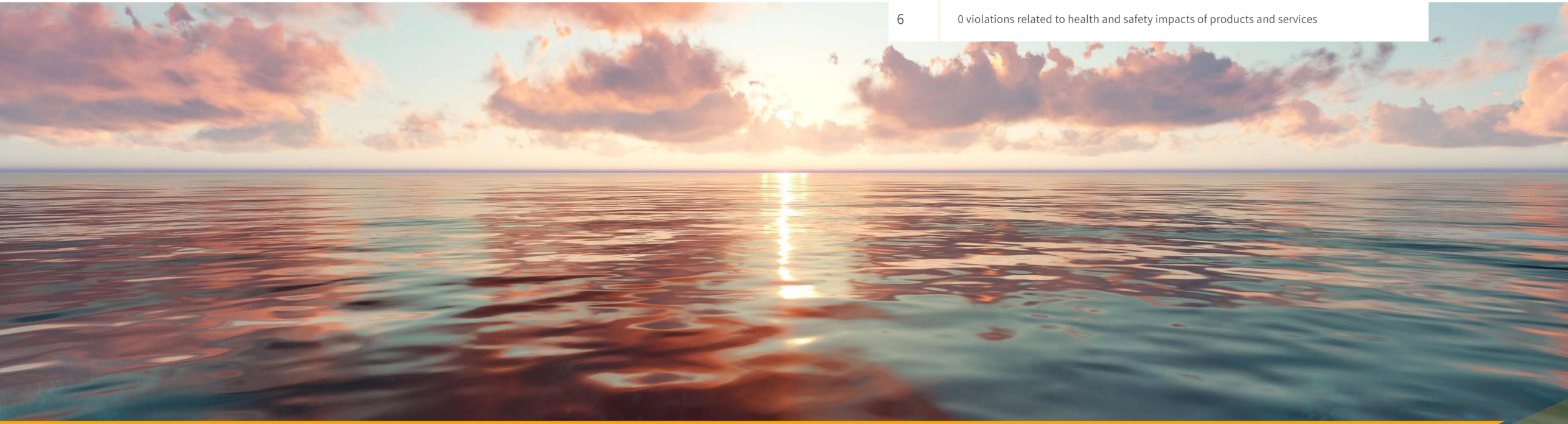
Social

- Innovation-Driven, Suppliers, and Customers
- Rural Revitalization and Public Service
- People

Innovation-Driven, Suppliers, and Customers

At XTC, we adhere to the development policy of " advance steadily, endeavor to enhance the market share, and focus on long-term interests." We actively align ourselves with national strategies and market demands, ensuring sufficient R&D investment and a comprehensive R&D framework. Together with industry partners, we strive to build a responsible supply chain, providing top-notch products and services to global customers. Guided by business growth and value creation, we establish a fair and impartial talent evaluation system, aiming to make XTC a platform for talent aggregation. We are committed to the common development of the community, giving back to society in various ways. We are committed to becoming a respected world-class enterprise that enables employee to realize personal value, a place for customer to find solutions, a place for shareholder to invest in, and also a place for society to benefit from.

Innovation-Driven, Suppliers, and Customers Performance Targets in 2023	
1	Reach 100% completion rate of key R&D projects at the enterprise level and internal commissioned R&D projects
2	File over 200 new patent applications throughout the year
3	Continuously improve supply chain management systems, strengthening ESG assessments of suppliers
4	Continuously conduct mineral due diligence to ensure there are no responsible mineral risks in the supply chain
5	0 information security breaches or infringement of customer privacy incidents throughout the year
6	0 violations related to health and safety impacts of products and services



Innovation-Driven

Innovation-driven development is the core strategy of XTC in enhancing our advantages, creating global influence, and competitiveness in the process of achieving sustainable development. We take independent innovation as the theme, market demand as the technological orientation, and ensure sufficient R&D investment and a comprehensive R&D framework as the guarantee. By doing so, we aim to build a world-class benchmark enterprise, committed to transforming into a platform for talent aggregation, technological innovation, and industrial development.

Innovation System of Research and Development

We take the XTC Research Center as the core, with various subsidiary-level and division-level research institutes as important components. Actively aligning with national strategies and market demands, we form close alliances with industry-leading enterprises, research institutes, and major universities. We establish joint laboratories and off-campus training bases, promote close collaboration in "production, study, research, and application," and take the lead in undertaking key national research and development projects, national science and technology major projects, and technology innovation guidance projects, among others.

We have set up China National R&D Center for Tungsten Technology, National and Local Union R&D Center for High-end Energy Storage Material, and the Fujian Province Rare Earth Materials and Applications Engineering Research Center. By steadily advancing integrated product development (IPD) and international advanced manufacturing (IAM) system construction, we fully leverage the role of these three centers. Mainly focusing on research and development innovation in areas such as hard alloys, refractory metals, optoelectronic crystalline materials, and Permanent magnetic materials and their applications, we continuously enhance R&D innovation capabilities, providing strong technical support for business development and industrial chain layout.

Integrated Product Development

To build a market-oriented continuous product innovation capability, create an efficient product management team that satisfies customers, and establish a world-leading cutting-edge core technology platform, we implement Integrated Product Development (IPD). Through continuous innovation and upgrades in research and development processes, organizational structure, talent pool, and performance tools, we construct four major process systems: demand management, planning management, technology development, and product development. We establish the overall R&D concept of "using funds as incentives and projects as carriers" to achieve scientific and efficient forward-looking R&D, transitioning from past "following" to present "keeping pace," and ultimately achieving "leading."

The IPD system construction covers all divisions and subsidiaries engaged in R&D activities, achieving a combination of industry, academia, research, and application, and promoting collaborative technological breakthroughs. During the reporting period, we continuously deepened the implementation of the IPD system, conducted IPD maturity assessments for 30 implementing units, formulated improvement plans for the next year, and tracked progress continuously. Simultaneously, we compiled an "Case Collection for IPD Improvement Plan" to promote excellent practices within the group, launched a research project management system, and comprehensively promoted it in the technical research center, effectively enhancing the quality and efficiency of R&D project management.

International Advanced Manufacturing

We are steadily advancing the International Advanced Manufacturing (IAM) project, committed to building a manufacturing system characterized by "scientific management, systematic approach; high-end products, stability; strong profitability, sustainability". In the five major professional areas of production process, production equipment, quality management, lean production site, and safety and environmental health, we focus on lean production and Six Sigma as the main means to comprehensively promote manufacturing capacity building. During the reporting period, at the division level, standardized and lean improvement projects were implemented to continuously improve manufacturing business indicators and capabilities such as PQCD（Productive-Quality-Cost-Delivery）.

At the company headquarter level, documents such as the "XTC IAM System Planning Guide" and the "XTC IAM Automation Implementation Guide" were prepared, and annual IAM planning and review work were organized to provide guidance for various manufacturing units to implement and promote IAM-related work.

Cooperative Research and Development Projects

We continue to advance in-depth cooperation with overseas research institutions and domestic superior research institutes, strengthening joint efforts in basic research, frontier technologies, and other areas. At the same time, we have deepened cooperation with higher education institutions such as Xiamen University, Fuzhou University, Wuhan University of Technology, Beijing University of Technology, Guangdong University of Technology, Huaqiao University, and Xiamen University. During the reporting period, we conducted a total of 17 ongoing cross-sectional projects.

Highlight | "Development of Simulation Technology for Pressing and Sintering Process of Cutting Inserts"

We collaborated with Huaqiao University on the project "Development of Simulation Technology for Pressing and Sintering Process of Cutting Inserts", aiming to address the issue of size accuracy control of hard alloy indexable inserts:

- √ We designed a simulation process model for insert pressing, studied the dynamic changes of powder in the mold cavity, and analyzed the influence of parameters such as structure, material, and process on alloy deformation.
- √ Flow Field Control Technology for Rapid Cooling Sintering Process Based on Finite Element Simulation: We designed a simulation model for the sintering process of hard alloy inserts, analyzed the distribution of flow fields during the cooling process, and dynamically analyzed the evolution process of the atmosphere field and temperature field during insert sintering.

This collaborative research and development project ultimately achieved the control effect of high positioning accuracy for hard alloy index-able inserts, effectively improving the cutting stability of hard alloy index-able insert products.

Technology Talent Cultivation

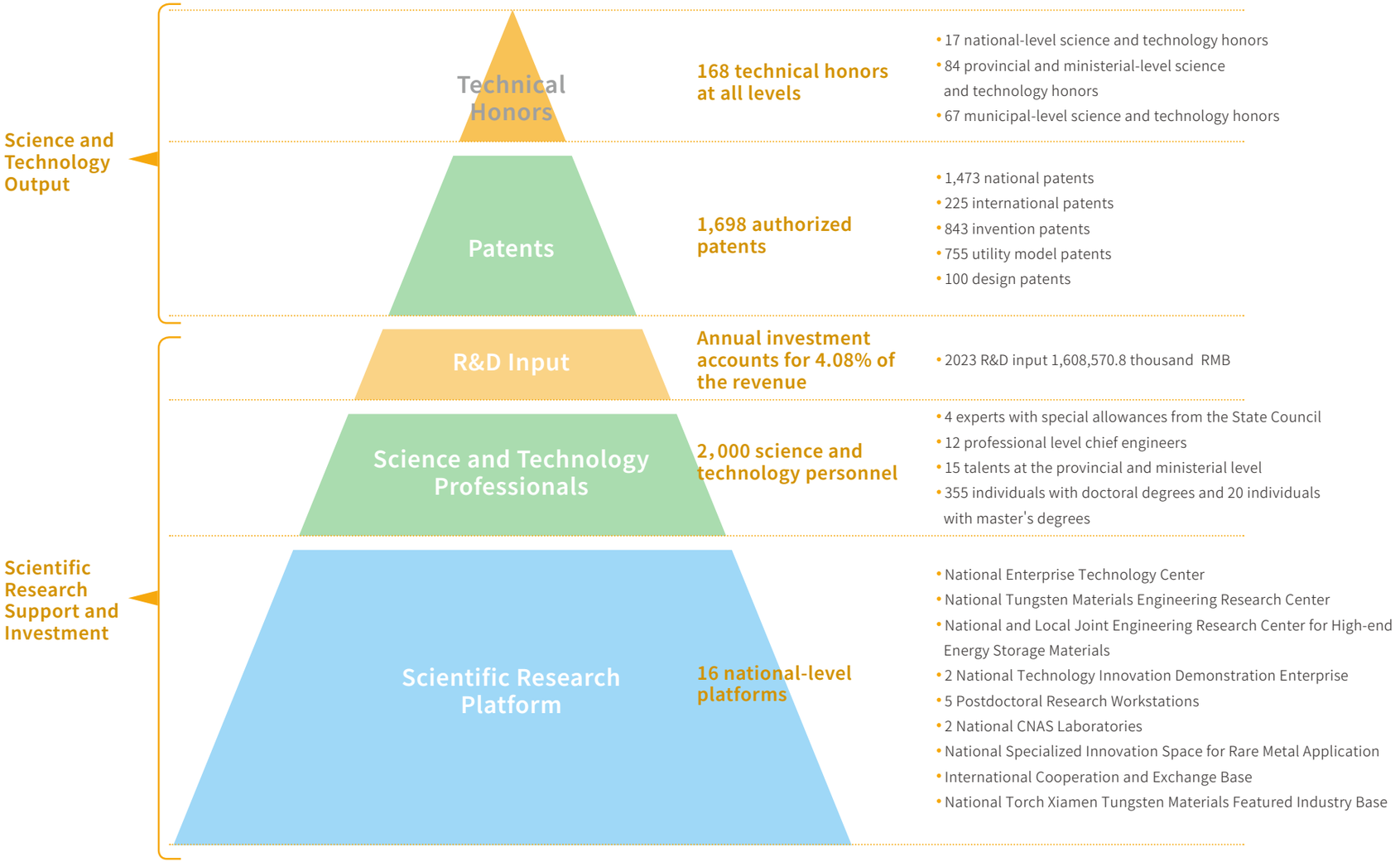
We place great importance on the cultivation of technical talent, continuously building a high-quality and high-level technical workforce. In terms of the technical research and development team, we leverage the advantages of a matrix organizational structure, using research institutes as platforms, and focus on cultivating the basic skills and abilities of research and development personnel. Using projects as carriers, we inspire innovation and breakthroughs among research and development personnel by focusing on task objectives. As for the technical management team, we adhere to the positioning of the group and maintain a global perspective. We train and develop management personnel with a problem-oriented approach, further enhancing the consistency of the technical management team in terms of management ideology, outcome standards, and delivery actions.

To solidify the foundation of technical talent cultivation, we have constructed a technical talent cultivation capability package and improved the mechanism and echelon construction of technical sequence talent. During the reporting period, for different levels of technical positions, we developed 35 capability packages for learning key tasks and further refined the technical sequence education and training outline based on this. Additionally, we actively organized technical talent training. In 2023, we organized a total of 5 sessions of training for IPD advocates and practitioners, training a total of 232 people. We also organized 3 sessions of training for intermediate and junior research project managers, training a total of 123 certified research project managers. Furthermore, we organized training for outstanding product managers, with 9 pilot teams participating.

Research and Development Innovation Incentives

To encourage research and development innovation and promote the continuous improvement of research and development innovation capabilities, we have established a sound innovation incentive mechanism. We have formulated and continuously refined the "Management Measures for Technological Innovation Awards", which include two types of technological innovation awards: scientific and technological innovation achievement awards and outstanding scientific and technological talent awards. These awards are granted to corresponding research and development personnel based on factors such as the degree of technological innovation and economic benefits, following the evaluation process. Additionally, we have improved the "New Product Management Measures", which encouraged the transformation of research results. Upon successful transformation, up to 10% of the net income per year within three years will be allocated as innovation rewards for teams or individuals. The implementation of multi-faceted incentive measures has fully mobilized the initiative and creativity of technical personnel, providing continuous internal impetus for the development of research and development work.

Research and Development Innovation Achievements



We established and obtained approval for 7 research platforms, including 2 national-level research platforms (Postdoctoral Research Workstations), 2 provincial-level research platforms (the Postdoctoral Innovation Practice Base, and the Rare Earth, Optoelectronic, and Crystal Material Collaborative Innovation Platform of Fuzhou-Xiamen-Quanzhou National Independent Innovation Demonstration Zone), and 3 municipal-level research platforms (Xiamen Tungsten Material Research and Application Innovation Consortium, 2 Xiamen Enterprise Technology Centers). As of the end of this reporting period, we had a total of 55 research platforms, including 16 national-level platforms, 16 provincial-level platforms, 20 municipal-level platforms, and 3 district-level platforms.

During the reporting period, we undertook a total of 61 national-level and internal key research and development projects within the group. Among them, we undertook a total of 34 projects, including major projects from the Ministry of Industry and Information Technology, national key research and development projects, provincial "Leading in the 'Battlefield' by Announcing" projects, and major municipal science and technology projects. Additionally, we undertook 27 major projects at the group level. Us and our subsidiaries were honored with a total of 15 national-level science and technology awards, including 1 at the national level, 7 at the provincial and ministerial level, and 7 at the municipal level. They were also honored with 26 awards and qualifications such as the creation of world-class demonstration enterprises with specialized and sophisticated "little giant" firms, national intellectual property superiority enterprise, and science and technology-oriented small and medium-sized enterprises. During this period, we applied for 427 new patents, including 261invention patents, 146 utility model patents, and 20 design patents. Additionally, 337 new patents were granted, including 176 invention patents, 138 utility model patents, and 23 design patents. We also filed 65 new trademark applications, with 28 trademarks registered. Furthermore, 9 new copyright registrations were obtained. There were no incidents of litigation related to infringement of others' intellectual property rights. As of the end of the reporting period, we held a total of 1,698 patents, including 843 invention patents, 755 utility model patents, and 100 design patents. They also held 688 registered trademarks and 118 copyright registrations.

Awards for Research Achievements in 2023

Projects	Awards
"The Doping Method of Powder for Magnetic Control Coils" Project	24th China Patent Excellence Award
"The Key Technology and Industrialization of High-Performance Hard Alloy Top Hammer for Super-hard Material Synthesis" Project	2023 First Prize Henan Province Machinery Industry Science and Technology Award
"Research and Industrialization of Diamond Coated Tools for Machining Carbon Fiber Reinforced Composites" Project	2021 Second Prize for Scientific and Technological Progress in Fujian Province
"The Key Preparation Technology and Application of High-Performance Tungsten-Molybdenum Products" Project	2022 Second Prize for Scientific and Technological Progress in Fujian Province
"Research and Industrialization of Key Technologies for Purification of 5N Grade Ultra-High Purity Lutetium Oxide" Project	2021 Third Prize for Scientific and Technological Progress in Fujian Province
"Key Technologies and Applications for Efficient and Reliable Operation of New Type Electric Vehicle Drive Motor Systems" Project	2021 Third Prize for Scientific and Technological Progress in Fujian Province
"Key Technologies and Applications of Microbial Photosynthetic Purification for Eutrophication Sewage" Project	2021 Third Prize for Scientific and Technological Progress in Fujian Province
"Development and Industrialization of High-Strength Toughness Cutting Tools for Precision Machining of Aerospace Light Alloy Components" Project	2022 Third Prize for Scientific and Technological Progress in Fujian Province

Projects	Awards
"Development of Manufacturing Technology for Complex Structural Components for High-Temperature End of Heavy-Duty Gas Turbines" Project	2022 First Prize for Scientific and Technological Progress in Xiamen City
"Development and Industrialization of Ultra-Precision Optical Molds using Non-Bonded Phase Tungsten Carbide Hard Alloys" Collaborative Project	2023 First Prize for Scientific and Technological Progress in Xiamen City
" Key Technologies and Industrialization of Manufacturing High-Strength Silver Alloy Wire for Electrical Discharge Machining" Collaborative Project	2023 First Prize for Scientific and Technological Progress in Xiamen City
" A Multicomponent Composite Oxide Material and its Industrial Preparation Method" Project	The 9th Xiamen City Patent First Prize
"Key Preparation Technology and Application of High-Performance Functional Tungsten-Molybdenum Products" Project	2022 Second Prize for Scientific and Technological Progress in Xiamen City
"Development and Industrialization of Rare Earth Permanent Magnetic Materials for Ultra-Efficient Variable Frequency Air Conditioners" Project	2022 Second Prize for Scientific and Technological Progress in Xiamen City
"A Particle Size Gradient Cemented Carbide Prepared by Liquid Phase Infiltration and its Preparation Method" Project	The 9th Xiamen City Patent Third Prize

The Main R&D Innovation Honors and Qualifications in 2023

Accredited Entity	Honor/Accreditation Title	Level
XTC	"2023 Top 500 Enterprises of China" jointly awarded by China Enterprise Confederation and China Entrepreneur Association	National
	"2023 China Top 100 Leading Enterprises in Strategic Emerging Industries" jointly awarded by China Enterprise Confederation and China Entrepreneur Association	National
	Fujian Provincial "Benchmark Enterprise" for 2023 New Generation of Integrated Development Program of Information Technology and Manufacturing"	Provincial
XWXN	National Intellectual Property Superiority Enterprise	National
	Fujian Provincial "Benchmark Enterprise" for 2023 New Generation of Integrated Development Program of Information Technology and Manufacturing	Provincial
Golden Dragon Rare-earth	2023 Demonstration Factory of Smart Manufacturing	National
	Establish a world-class, specialized, high-end and innovation-driven demonstration enterprise	National
	National Intellectual Property Superiority Enterprise	National
Changting Zorr	National Specialized and Sophisticated "Little Giant" Firm	National
	Provincial Specialized and Sophisticated "Little Giant" Firm	Provincial
Xiamen Golden Egret	National Intellectual Property Superiority Enterprise	National
Jiujiang Golden Egret	National Specialized and Sophisticated "Little Giant" Firm	National
Luoyang Golden Egret	National Specialized and Sophisticated "Little Giant" Firm	National
Basic Electronic Materials	Technology-oriented Small and Medium-sized Enterprises	National
Ninghua Xingluokeng	Fujian Provincial "Benchmark Enterprise" for 2023 New Generation of Integrated Development Program of Information Technology and Manufacturing	Provincial

Responsible Sourcing

We advocate and practice responsible sourcing principles, integrating the concept of sustainable development into supply chain management. We have formulated and continuously improved the Supplier Code of Conduct, which includes requirements for suppliers in areas such as human rights protection, business ethics, environmental protection, occupational health and safety, etc. We incorporate ESG-related requirements into contracts or commitment statements signed with suppliers. Each affiliated enterprise conducts targeted supplier lifecycle management, including screening, admission, supervision, evaluation, and withdrawal, according to its business reality and risk assessment, and responsibly carries out procurement activities.

Supplier Admission

We include corporate reputation, product quality, supply capacity, and service quality in the supplier admission criteria and require suppliers to provide corresponding qualification certificates. We convey our supplier management philosophy through signing commitment letters and notification letters, requiring them to meet compliance requirements in areas such as business ethics, environmental protection, occupational safety and health, quality, and labor rights.

At the tungsten smelting production base, we require suppliers to sign a "Integrity Agreement" and distribute an "Notification Letter on Environmental and Occupational Health and Safety to Related Parties "before formally commencing procurement transactions, ensuring that suppliers comply with the requirements of environmental protection, occupational health and safety systems, and corresponding laws and regulations.

At the tungsten and molybdenum wire production base, we pay attention to supplier's operational compliance, qualification certification, and business ethics through the completion of the "Supplier Basic Qualification Commitment Form." Suppliers meeting the initial requirements must sign and commit to adhere to the terms of the "Integrity Pledge" and "Confidentiality Agreement" before establishing a cooperative relationship.

At the cutting tool production base, we set up scoring indicators for supplier admission in areas such as quality management systems, corporate social responsibility, design and development, supplier development and management, material control, production control, Measurement System Analysis (MSA), sales and customer service, safety/information/intellectual property rights, and hazardous substance process management. We require suppliers to provide verification materials such as energy management systems, product environmental protection, and energy-saving label and certificates and undergo necessary on-site verification and sample testing for demand or technical aspects.

At the rare earth smelting, separation, and materials production base in Changting, we prioritize selecting environmentally friendly suppliers who can provide eco-friendly products and services, practice energy conservation and emission reduction, and promote resource recycling. We advocate for suppliers to use clean energy and recycle packaging materials and waste materials to reduce pollution and negative environmental impact. Suppliers are required to sign a Supplier Agreement upon admission, committing to not using harmful substances, not using conflict minerals (where applicable), ensuring supply chain security, fulfilling social responsibilities, respecting the freedom of association and collective bargaining rights of employees, protecting employee privacy, eliminating child labor, forced labor, corporal punishment, and discrimination in employment, ensuring minimum wages and reasonable working hours, providing safe and hygienic working conditions, and related training.

At the battery materials production base, we conduct comprehensive evaluations of suppliers through sample testing, material line verification, audits for screening and admission, and on-site verification procedures before cooperation. All new suppliers who obtain qualification for admission are required to commit to responsible mineral behavior, sign documents such as the Business Ethics Agreement, Supplier Integrity Commitment, and Quality Assurance Agreement. We pay attention to the supplier's system construction of ISO45001, ISO14001, ISO9001, IAFT16949, as well as ROHs, HF, SVHC environmental substance certification, and CNAS, CMA certification.

Supplier Evaluation

We have established a supplier evaluation mechanism covering social, environmental, and safety dimensions, and conducted regular performance assessments to objectively and quantitatively evaluate suppliers. Based on the comprehensive ratings of suppliers, we classify them into different tiers, eliminate poor-performing suppliers, and generate an annual comprehensive assessment and list of qualified suppliers. In assessing the quality of supplier's products and service capabilities, we pay attention to the environmental and social impact of supplier's products and services, such as energy efficiency and the use of recycled materials.

At the tungsten smelting production base, we conduct comprehensive evaluations of suppliers based on dimensions such as qualification rate of incoming material, management systems, delivery capability, pricing level, information provision, after-sales service, environmental management systems, R&D capabilities, and overall corporate management. Suppliers are classified and managed in three categories: strategic, important, and general, according to their performance levels.

At the tungsten and molybdenum wire production base, we formulate a Supplier Performance Evaluation Form and rate suppliers on quality, delivery, cost, and service performance on a monthly or quarterly basis. We record performance trends, provide feedback on performance results, and offer guidance to suppliers through formal email, analyzing reasons for performance and devising corrective measures and objectives. If supplier's corrective actions are inadequate, punitive measures such as downgrading ratings or reducing purchases are implemented.

At the cutting tool production base, we utilize information-based supply management methods to ensure standardized procurement processes and achieve dynamic management of suppliers throughout the entire process. Suppliers are required to conduct self-assessments on sustainable development-related indicators such as environmental protection, occupational health and safety, labor rights, and human rights protection, and undergo on-site inspections.

At the rare earth smelting, separation, and material production base, our supplier audits align with standards such as ISO9000, IATF16949, ISO27001, and SA8000. Audit types include system audits, process audits, product audits, and regular performance assessments. We annually develop audit plans and send Supplier On-Site Audit Forms to suppliers for self-assessment, followed by on-site audits focusing on dimensions including hazardous material management, social responsibility, green supply chain establishment, and information security.

At the battery material production base, we categorize suppliers based on the purpose and impact of raw materials, specifying performance evaluation indicators for different categories. We employ multi-dimensional evaluation and tracking mechanisms to supervise and manage suppliers, focusing on performance in areas such as operational management level, product quality, after-sales service, environmental friendliness, and social responsibility. We conduct regular evaluations and assessments on supplier behavior, including dimensions such as quality, delivery, price, service, and corporate growth, and perform annual qualified supplier reviews and monthly performance tracking through questionnaire surveys, on-site audits, and feedback from third-party.

Highlight | **Supplier Profile and Traceability Management**

Our battery material production base establishes supplier profiles based on supplier selection and evaluation results, and implements a multidimensional evaluation and tracking mechanism. This includes assessing supplier's corporate management overview, the effectiveness, compliance, and sustainability of quality management, environmental-friendly production and sustainable development practices, as well as the completeness of after-sales services. Furthermore, suppliers are required to provide supply chain maps to trace the origin of each batch of materials.

During the reporting period, we further improved the digitalization of the entire sourcing process:

- √ We piloted the online MRO system for Industrial Goods and established a service-oriented procurement management system to enhance supply chain risk monitoring and management.
- √ We comprehensively promoted the Supplier Relationship Management system (SRM) to achieve end-to-end online management of procurement and supplier lifecycle management. This not only enhances overall procurement efficiency but also provides support for more accurate market analysis and supplier evaluation.

Supplier Communication

We have established a regular and diversified supplier communication mechanism to foster long-term and stable cooperation with suppliers. This is achieved through methods such as on-site visits, email correspondence, industry seminars, and field audits. Additionally, we provide necessary support for supplier development and improvement. For instance, when issues are identified during audits or collaboration, we offer improvement suggestions and guidance to assist suppliers in enhancing their performance.

Supplier Training

We proactively conduct training on topics related to supplier social responsibility and green supply chain. We promote the concept of building a sustainable, resilient, and responsible supply chain within the company. We encourage suppliers to join us in addressing climate change, product quality and safety, environmental protection and sustainability, occupational health and safety, and human rights protection. Together, we aim to create a more competitive and resilient supply chain, effectively mitigating risks to sustainable supply chain development.

Responsible Mineral Management

We fully acknowledge the potential significant negative impacts associated with engaging in mineral extraction, trading, processing, and exporting activities in conflict-affected and high-risk areas. As responsible corporate citizens, we are committed to upholding human rights and refraining from contributing to conflicts. We explicitly oppose any activities or behaviors that could fund or exacerbate conflicts. We adhere to and promote guidelines such as the United Nations Guiding Principles on Business and Human Rights, China's Guidelines for Social Responsibility in Outbound Mining Investments, Chinese Due Diligence Guidelines for Mineral Supply Chain, and the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas, aiming to build responsible, resilient, and sustainable critical mineral supply chains. We incorporate responsible procurement policies for minerals from conflict-affected and high-risk areas into our company's Business Code of Conduct and Supplier Code of Conduct. We require suppliers to adhere to these principles and refrain from using minerals from conflict areas or any resources associated with illegal extraction, transportation, or trade.

In the tungsten smelting production process, we adhere to our commitment to responsible mineral policies and continually improve our responsible mineral management system. To improve responsible supply chain management for our tungsten products, we have appointed representatives responsible for supply chain responsibility management. They are specifically tasked with ensuring that every stage, from supplier screening, raw material procurement, logistics and warehousing, to production and delivery, complies with the requirements of supply chain responsibility management. We conduct due diligence management system training annually for key personnel in all relevant departments, as required by the due diligence plan. Additional training will be conducted as needed if there are updates to the plan.

Following the requirements of the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas, we have developed the Supply Chain Responsibility Management System and regularly communicate responsible mineral and supply chain-related policies to upstream suppliers. We incorporate due diligence requirements into legally binding agreements. Suppliers potentially involved in conflict minerals must sign a Responsible Supply Chain Commitment before establishing formal cooperation upon qualifying for admission. We conduct annual assessments of major suppliers, incorporating due diligence requirements as part of the discussions, to prevent the use of conflict minerals that directly or indirectly finance armed groups or benefit them, or are involved in other serious human rights abuses in high-risk and conflict-affected areas.

In the battery materials production process, we actively respond to the commitments of the joint working group of Responsible Business Alliance (RBA) and the Global e-Sustainability Initiative (GeSI) to improve conditions in the electronics supply chain and prevent mining activities that may contribute to conflicts. We have established the "Management Regulations on Responsible Mineral Supply Chain Due Diligence" to regulate the management of raw material of mineral resources that we may use, identify, prevent, and mitigate significant risks such as those that may contribute to conflicts or serious human rights violations. These requirements are communicated to our suppliers to promote simultaneous implementation. In contracts for cobalt and lithium materials, we have added clauses that strictly prohibit suppliers from purchasing from companies in the supply chain that use hand-dug mines or employ child labor in the origin countries. Additionally, suppliers are required to provide a "Pre-Audit Checklist for Responsible Mineral Risk Assessment," which is regularly promoted to upstream suppliers, prohibiting the purchase of conflict minerals from conflict-affected or armed conflict-affected areas. During the reporting period, we revised the "Management Regulations on Responsible Mineral Supply Chain Due Diligence" to further clarify internal and external management requirements and standards, enhance the our internal awareness of mineral supply chain risks, strengthen the control and traceability of responsible minerals, standardize the sourcing of our raw materials, satisfy external stakeholders' expectations for responsible mineral management, respond to government regulatory requirements, and promote the orderly, responsible, and sustainable development of the supply chain.

During the reporting period, our tungsten smelting and production bases has passed the Responsible Minerals Initiative (RMI) organization's Responsible Minerals Assurance Process (RMAP) audit.

Responsible Minerals Due Diligence

We profoundly recognize that the origin of minerals can provide important indicators of whether there may be risks of conflict, serious human rights abuses, or severe negligence in the extraction, trade, and use of mineral resources. We refer to the step-by-step frameworks of the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas and the Chinese Due Diligence Guidelines for Mineral Supply Chain to conduct supply chain due diligence.

We disseminate and communicate our responsible mineral supply chain due diligence policy to suppliers, requiring them to jointly practice responsible mineral supply chain due diligence. In the process of entering the qualified supplier list, they are required to understand the relevant policies, sign corresponding commitments, and commit to and effectively fulfill the contents.

To better receive complaints and suggestions from stakeholders regarding mining, trading, processing, export, and responsible minerals, we have established a dedicated appeals mechanism to protect the identity information of appellants. Upon receiving a complaint, we will initiate a series of processes for identification, investigation, and correction, and will continue to monitor performance improvement.

In the tungsten smelting production process, we have developed a tungsten supply chain due diligence procedure and prepared relevant documents such as the " Assessment Manual for Responsible Minerals Assurance Process," "Due Diligence Questionnaire and Site Investigation Report," and "Process for Identifying Conflict-Affected and High-Risk Areas" to assess whether the supply chain contains conflict-affected and high-risk areas (CAHRAs) as defined by the OECD guidelines and suitable for RMAP standard requirements, and define the risks and types of risks involved in the procurement source countries. Once high-risk factors are identified, we will conduct enhanced due diligence, participate in upstream verification mechanisms recognized by the RMI, and work with suppliers, customers, and other stakeholders to discuss plans and measures to mitigate and manage risks, and track performance improvement. If the supplier's performance does not improve within a reasonable time frame or if risks are not mitigated or eliminated, we will initiate a risk alert and suspension mechanism to temporarily suspend or terminate cooperation with upstream suppliers. We compile an "Annual Report on Responsible Mineral Supply Chain Due Diligence Management" every 12 months and disclose it to the public.

In the production process of battery materials, we conduct qualification reviews for all suppliers of materials containing lithium, nickel, cobalt metals, and their corresponding supply chains, including extraction, supply, procurement, or processing, and conduct qualification audits for potential suppliers through the Responsible Cobalt Initiative (RCI) focusing on environmental compliance and ethical compliance, tracing the supply process and the origin of mineral resources (transport routes and mining sites) to ensure that cobalt raw material suppliers do not engage in human rights abuses such as employing child labor or maintaining poor working conditions. During the reporting period, our battery material production base issued a responsible mineral supply chain declaration to collaborating suppliers and received confirmation receipts from suppliers, achieving a completion rate of 100%, with no responsible mineral supply chain risks occurring.

- √ Utilize Know Your Supplier (KYS) questionnaires to collect supplier information, raw material information, and responsible management information through cobalt sourcing investigations, direct supplier communication, and querying publicly available information of suppliers.
- √ Qualified suppliers are required to establish a supply chain map, regularly undergo due diligence management and risk assessment, and periodically report investigation results to our management team.
- √ In cases of potential risks, we engage in discussions with relevant suppliers, implement risk mitigation measures, and track progress in mitigation. If performance does not improve within a reasonable timeframe or if risks are not mitigated or eliminated, we initiate a risk alert and suspension mechanism to temporarily suspend or terminate cooperation with upstream suppliers.
- √ Furthermore, we encourage and supervise suppliers to establish equivalent management mechanisms and motivate partners to actively participate in third-party audits.

Responsible Products and Services

We focus on three core businesses: tungsten and molybdenum, new energy materials, and rare earths. We provide high-quality, stable-performance products to global customers, which are widely used in industries and sectors such as new energy, aerospace, machinery processing, energy-heavy industry, consumer electronics, pharmaceuticals, and petrochemicals, supporting the vigorous development of the manufacturing and new energy industries. We always regard product quality as the lifeline of enterprise development, guaranteeing product quality and providing satisfactory services to customers as the fundamental principle of our business. We strive to build a sustainable product system centered around customer satisfaction. Some of our key products have passed the ISO 9001 quality management system certification and are well-known at home and abroad for their excellent quality and premium service. Several of our products, including "Jinlu Brand Tungsten Alloy," "Honglu" brand tungsten and molybdenum wires, and various tungsten oxide products, have been recognized as national key new products and Fujian provincial famous products.

Product Quality Management

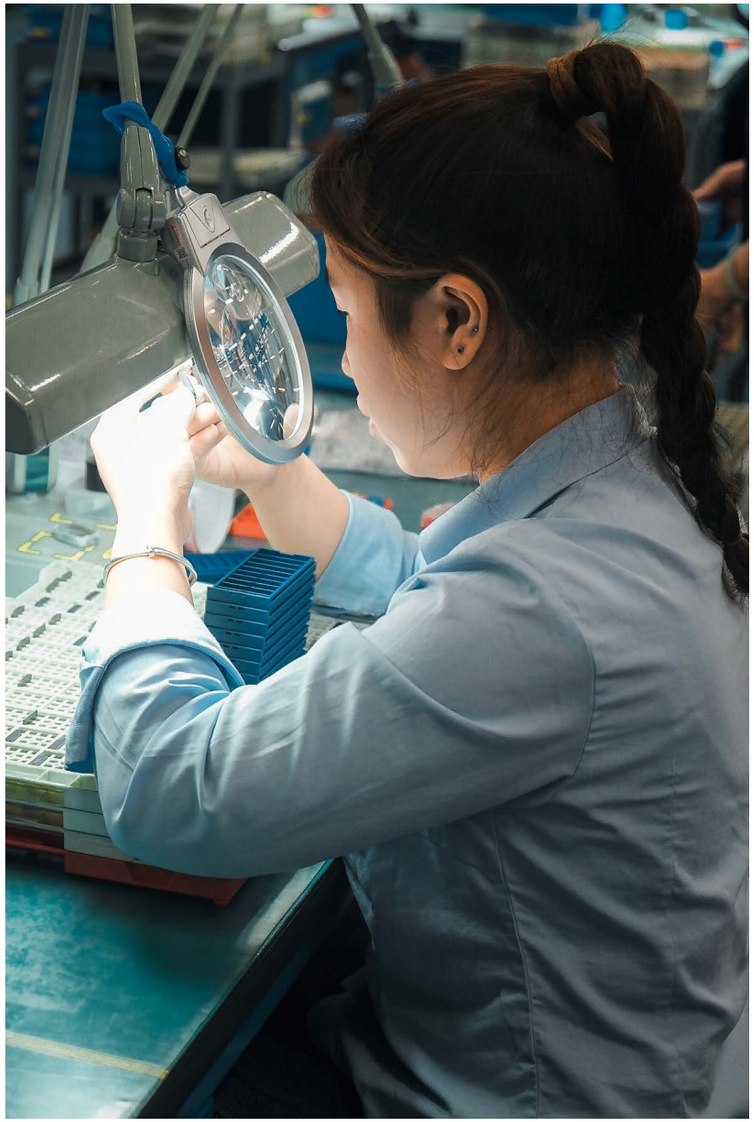
We inject the pursuit of quality into every production process, strictly adhere to national laws and regulations such as the Law of the People's Republic of China on Product Quality, formulate strict product quality standards, and continuously improve the quality management system. We implement full-process quality control from product research and development, supplier management, incoming materials, manufacturing, to product and service delivery. Centered around the product's entire lifecycle, we adhere to lean production management and intelligent, green manufacturing models, establishing comprehensive quality control and risk prevention mechanisms and continuously optimizing them to meet the requirements of global customers.

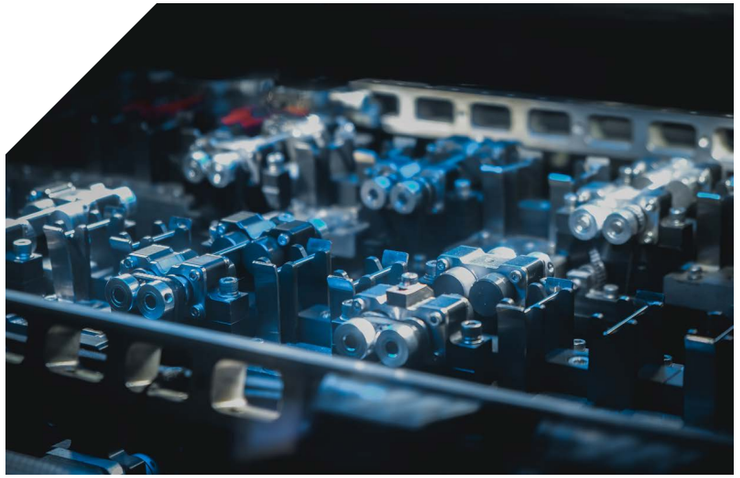
Guided by market demand, we actively research and develop new products, and continuously enhance the company's product competitiveness. We promote the International Advanced Manufacturing (IAM) project, with the guiding principles of "Customer-centric, goal-driven, self-critical, people-oriented, and continuous improvement," striving to build a manufacturing system that is "Scientific management with structured approach; upscale products with stability; strong profitability with sustainability." we promote the comprehensive building of manufacturing capability, mainly through lean production and Six Sigma, in the five major professional areas of production technology, production equipment, quality management, lean production sites, and safety, health, and environment. During the reporting period, we continued to deepen the promotion of the International Advanced Manufacturing (IAM) 2.0 stage, formulated annual key promotion work plans for IAM, conducted internal auditor training for the IAM evaluation system, and regularly held "XTC Tech Talks" brand series activities for the entire group. These activities include the "Engineering Center Technical Sharing Summit" and "Expert Lectures" focusing on basic and common technical sharing, as well as the "Quality Management and Testing Technology Exchange Summit" primarily focusing on quality and testing technology exchanges. Additionally, the second Quality Forum, themed "Setting the Standard, Crafting the Future," was convened to explore high-quality management under the development of new quality productivity, steadily advancing towards the goal of "XTC Manufacturing, Internationally Advanced".

Highlight | Titanium Alloy Structural Component Solution

Titanium alloy, characterized by high strength, low density, and corrosion resistance, is widely utilized in aerospace, energy, medical, and other fields. In the aviation sector, titanium alloy structural components are primarily employed in critical areas such as aircraft fuselages and wings, serving as the "essential framework" of the aviation industry. With the rapid development of the industry, the pursuit of efficiency, economy, and intelligence has become a significant trend in the processing of titanium alloy structural components. Titanium alloy materials have a low elastic modulus, high processing temperatures, severe tool adhesion, poor rigidity during part processing, and a large amount of material removal, making them typical difficult-to-process components. Our Cutting Tools Division, leveraging years of product development and component solution experience, combined with the demands of market users, optimized process solutions and developed high-quality cutting tools. At the 2023 G-PAK new product launch event, we unveiled the Titanium Alloy Structural Component Solution, which possesses excellent performance in efficient and high-quality titanium alloy processing. It provides users with solid support for efficient titanium alloy processing, empowering them to go higher and farther.

G-PAK 2023 New Product: 'Silver Sparrow' Series Titanium Alloy Milling Cutters





Material Safety Management

We strengthen the monitoring of raw material quality and refine product testing methods to ensure that purchased materials meet the company's internal standards and the requirements of relevant laws and regulations regarding product quality, safety standards, and environmental protection. We strictly avoid the use of low-quality or harmful substances, opt for environmentally friendly materials and production processes given equal circumstances, ensure production process stability, reduce the occurrence rate of product quality issues and safety risks, and continuously improve product quality and safety standards. While strengthening management in our own production processes to ensure compliance with domestic and international environmental laws, regulations, and industry standards, we also require suppliers to comply with relevant laws and regulations and our requirements for the control of harmful substances. We review supplier-provided raw material testing reports or require suppliers to accept third-party sampling inspections commissioned by us, continuously reinforcing the management of product raw materials.

Highlight

At the rare earth smelting, separation, and material production base in Changting, we have established a testing center. The scope of product testing ranges from rare earth ore and front-end primary products to downstream products in the industrial chain. The testing technologies involved include chemical composition analysis, magnetic property analysis, mechanical property analysis, thermal property analysis, powder property analysis, environmental reliability analysis, microscopic analysis, and non-destructive analysis. In 2015, we obtained accreditation from the China National Accreditation Service for Conformity Assessment (CNAS) and strictly adhere to the requirements of the ISO/IEC 17025 international laboratory management system for conducting testing activities.

Customer Rights Protection

We consistently uphold the corporate mission of "Provide a place for customer to find solutions " and practice the concept of "customer-centric," to effectively safeguard customer rights. Our company and affiliated enterprises, in line with companies' own characteristics, have established a sound customer management system with standardized customer service mechanisms for managing customer information, maintaining relationships, managing assets, providing after-sales services, and conducting customer satisfaction surveys. We aim to provide timely, effective, and high-quality services to customers, ensuring their rights and enhancing their satisfaction with our products and services.

Taking the management practices of the Magnetic Materials Division as an example, we have revised the "Customer Complaint Management Measures," clarifying clauses for protecting customer privacy to ensure that customer-provided drawings, technical data, and other intellectual property are not disclosed to third parties without customer consent. We actively collect customer feedback and commit to responding to customer issues within 2 hours, continuously improving service quality. We organize and plan customer technical exchange meetings to gain insights into customer needs, address customer inquiries, and effectively increase customer satisfaction. During the reporting period, the Magnetic Materials Division conducted satisfaction surveys for 84 customer groups in four product areas: automotive, home appliances, motors, and wind power. The overall customer satisfaction score averaged 97.88 points, showing a steady improvement.

Taking the management practices of the Cutting Tools Division as an example, we stick to the implementation of the "Customer Management Measures," strategically allocate corporate resources and investment priorities based on customer segmentation, thus enhancing customer service efficiency and quality through targeted and differentiated services. We adhere to standardized sales management systems, and regularly revise the "Dealer Management System" based on market feedback and business needs. We utilize CRM customer management systems to classify and dynamically manage customer information. In our daily work, we encourage dealers to focus on end-users, develop new benchmarks, and promote new products. We set corresponding incentive policies to enhance dealer's market order maintenance and proactive market information collection. we strictly control product distribution channels, cracking down on bugsell and counterfeits and maintaining market order and company reputation.

Training for Dealers

We regularly conduct customer satisfaction surveys to understand evaluations of products, services, and customer activities, and promptly adjust customer service deficiencies based on feedback results. During the reporting period, Xiamen Golden Egret, an affiliated company, conducted customer satisfaction surveys around product quality, product pricing, delivery status, customer service, and promotional activities. A total of 69 questionnaires were collected (including 58 from domestic customers and 11 from overseas customers), with an overall customer satisfaction score of 4.6 (out of 5). We conducted customer satisfaction analysis based on survey results and promptly implemented improvement measures according to customer feedback and suggestions to enhance customer satisfaction and loyalty. Additionally, we provided sales support, market promotion support, dealer business development plans, growth incentive plans, terminal support plans, and employee growth plans for dealers to help them grow and improve their product marketing and technical service levels accordingly.

Information Security and Privacy Protection

We comply with relevant laws and regulations such as the Information Security Law of the People's Republic of China, the Data Security Law of the People's Republic of China, and the Personal Information Protection Law of the People's Republic of China, continuously improve our information security management system, and formulate and implement internal management regulations such as the "Group Information Security Management Measures," "Group Information System Management Regulations," "Group Information System Data Management Measures," and "Group Information System Development and Operation Maintenance Management Measures" to standardize the information security management work of our headquarters and affiliated enterprises, effectively safeguard information security, and protect the privacy of employees, customers, and other stakeholders.

Based on the segmentation of information security management sectors, we have established clear hierarchical management structures and responsibilities. In terms of information security management and information system management, our executive team serves as the highest decision-making body, with the IT center responsible for guiding and supervising information security management work and information system construction. Affiliated enterprises are responsible for the daily work of information security management and the implementation and operation management of information systems within their respective organizations. Regarding data management, the headquarters has set up an operations and collaboration team responsible for the operation, maintenance, and audit of basic data of information systems, while various business departments and affiliated enterprises establish dedicated personnel for data audit according to their actual situations. To ensure the effective implementation of information security work, we link information system downtime events triggered by information security causes to the performance of relevant personnel. For example, events such as system failures in key systems exceeding 4 hours during office hours, continuous downtime exceeding 24 hours in other periods, and failures in services of the three major basic systems (ERP, OA, E-HR) are counted, aiming to enhance the awareness of information security among relevant personnel and improve the company's information security capabilities.

We conduct regular internal control evaluations of the operation and effectiveness of information systems and commission external professional institutions to conduct internal control audits. Additionally, we strengthen information security management, prevent information security risks, and safeguard data information security by deploying network firewalls, vulnerability scanning systems, and other security protection devices in data centers or through a series of technical security measures. During the reporting period, we optimized and rectified the network architecture of the data center, divided it into multiple security zones, managed production environments, testing environments, and operations and maintenance networks separately, and added east-west firewalls to enhance internal security within the data center. During the reporting period, we did not experience any information security incidents or events involving infringement of customer privacy.

Supporting High-Quality Industry Development

XTC leverages its resource advantages, actively participates in the formulation of national and industry-related standards, and collaborates with upstream and downstream enterprises to promote high-quality development within the industry. During the reporting period, we and our subsidiaries joined a total of 89 associations, mainly including:

Enterprise	Participated Association	Position
XTC	International Tungsten Industry Association	Member Unit, Member of Technical Committee of Tungsten Consortium
XTC	Tungsten Industry—Conflict Mineral Council	Director Unit
XTC	China Tungsten Industry Association	Vice President Unit
XTC	Association of China Rare Earth Industry	Vice President Unit
XTC	China Mining Association	Executive Director Unit
XTC	China Nonferrous Metals Industry Association	Director Unit
XTC	Strategic Alliance for Technological Innovation of China's Renewable Resources Industry	Director Unit
XTC	Strategic Alliance for Technological Innovation of China's Nonferrous Metals Industry	Director Unit
XTC	Strategic Alliance for Technological Innovation of Compulsory Resource Recycling Industry of China Resources Recycling Association	Board of Supervisors
XTC	The Chinese Society of Rare Earths	Unit in Charge of the Board of Directors
XTC	The Nonferrous Metals Society of China	Member Unit
XTC	National Nonferrous Metals Standardization Committee	Member Unit
Xiamen Honglu	National Nonferrous Metals Standardization Technical Committee	Member Unit
Xiamen Golden Egret	China Metal Cutting Tool Engineering Association	Vice Chairman Unit
Xiamen Golden Egret	Tool Branch of China Machine Tool & Tool Builders' Association	Executive Director Unit
Xiamen Golden Egret	National Technical Committee for Standardization of Cutting Tool	Member Unit
Chengdu Hongbo Molybdenum	Molybdenum Branch of China Nonferrous Metals Industry Association	Vice President Unit
Chengdu Hongbo Industrial	China Electronics Materials Industry	Executive Director Unit
Chengdu Hongbo Industrial	Chinese Association of Vacuum Electronic Industry	Executive Director Unit
Tianjin SofTool	China Metal Cutting Tool Engineering Association	Director Unit
Tianjin SofTool	Tool Branch of China Machine Tool & Tool Builders' Association	Member Unit
XWXN	China Industrial Association of Power Sources	Director Unit
XWXN	Cobalt Branch of China Nonferrous Metals Industry Association	Director Unit

Highlight | 2023 China Tungsten Industry Equipment & Instrument Forum(CTIEF)

We were invited to participate in the 2023 China Tungsten Industry Equipment & Instrument Forum by the China Tungsten Industry Association, with China tungsten Online (XIAMEN) MANU.& Sales Corp. participating as co-organizer. Together with tungsten mining, smelting, hard alloy, materials, and other industry chain and supporting suppliers, we explored and analyzed the industry, shared experiences, and negotiated cooperation.

Signing for Industrial Chain Synergy Interaction

XTC'sCEO, Wu Gaochao, participated in the interview

Highlight | 2023 China Hard Alloy and Tool Industry Forum and China Tungsten Industry Development Summit

We participated as a co-organizer in the 2023 China Hard Alloy and Tool Industry Forum (Diamond Forum) and China Tungsten Industry Development Summit jointly hosted by the China Tungsten Industry Association, Zhuzhou City Government, and Central South University. The forum aimed to implement the "China Tungsten Industry Development Plan (2021-2025)" and provided a platform for government, industry, academia, research, and application exchanges. Our Chairman, Huang Changgeng, attended the forum, where he discussed the current status and future development prospects of the industry with industry partners, engaged in technical exchanges and discussions, promoted the construction of the ecological system of the hard alloy and tool industry, and advanced the high-quality development of the Chinese hard alloy industry. This endeavor aimed to enhance China's self-sufficiency capability in high-end products of hard alloys.

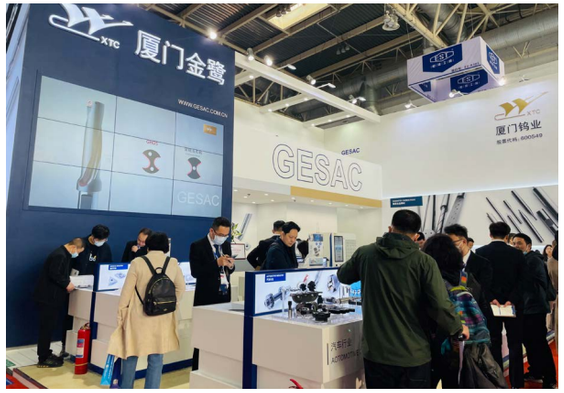
Highlight | 2023 China Tungsten Industry Forum and Hard Alloy Market Application Seminar

We participated as a co-organizer in the 2023 China Tungsten Industry Forum and Hard Alloy Market Application Seminar, hosted by the China Nonferrous Metals Industry Association- Information Center. Our CEO, Wu Gaochao, attended the opening ceremony and delivered a speech. Facing supply-side reforms and industrial upgrades, he expressed the hope of collaborating with colleagues to promote the advanced development of the industry's foundation and modernization of the industry chain. This aimed to contribute XTC's strength to the advancement of China's tungsten industry under new circumstances.

CEO Wu Gaochao, delivered a speech at the opening ceremony of the 2023 China Tungsten Industry Forum and Hard Alloy Market Application Seminar

Highlight | Attending Alloy Materials at International Exhibitions

Subsidiary Xiamen Golden Egret actively participated in various international exhibitions in 2023, including the China International Machine Tool Show, EMO Hannover 2023, the MECT Nagoya Exhibition in Japan, the METALEX Exhibition in Thailand, and the DMP Greater Bay Area Industrial Expo. These exhibitions provided platforms for Xiamen Golden Egret to showcase its breakthroughs and innovations in alloy material products and industry-specific component solutions to attendees. This participation contributed to the innovation and development of the industry.



Highlight | 2023 International Forum on Sustainable Mineral Supply Chains

Subsidiary XWXN, as a member of RCI, was invited to participate in the 2023 Sustainable Mineral Supply Chain International Forum, hosted by the China Chamber of Commerce of Metals, Minerals & Chemicals Importers & Exporters (CCCMC) and organized by RCI. The forum, themed "Enhancing Mining Governance, Building Supply Chain Partnerships, and Driving New Energy Transformation," provided a platform for communication and exchange among international organizations, government departments, industry associations, regulatory agencies, industry leaders, and authoritative experts. Participants jointly explored the establishment of upstream and downstream partnerships and collaborative mechanisms involving multiple stakeholders. They also signed the " Initiative on the joint action of promoting High-Quality Development of Critical Mineral Supply Chains," issued by CCCMC, to promote the sustainable development of mineral supply chains.

Highlight | 2023 Annual Conference of the Hydrogen Storage Materials Branch of the Association Of China Rare Earth Industry and Industry Technology Development Seminar

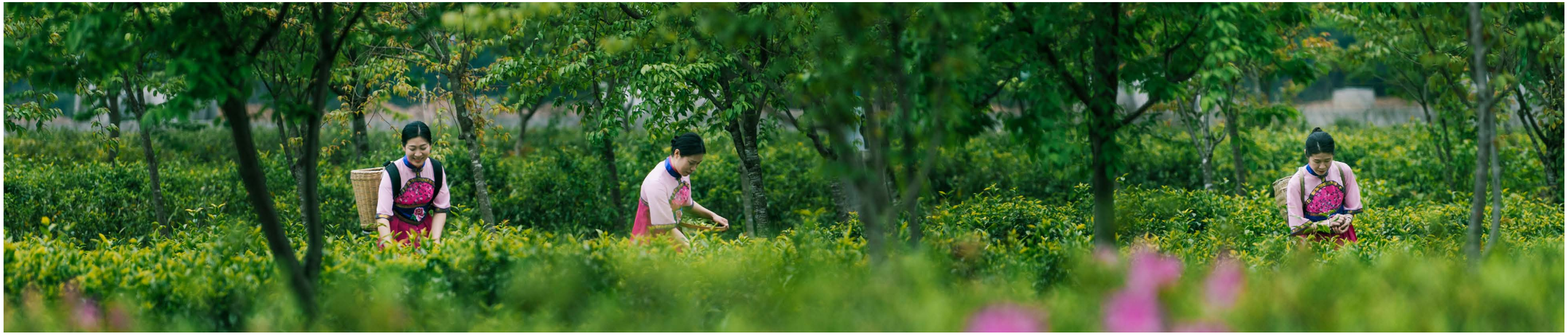
Subsidiary XWXN participated in the "2023 Annual Conference of the Hydrogen Storage Materials Branch of the Association of China Rare Earth Industry and Industry Technology Development Seminar " organized by the Hydrogen Storage Materials Branch of the Association Of China Rare Earth Industry. The event was themed "Integrating Hydrogen Storage Production, Academia, Research, and Application, Prospecting Hydrogen Energy to Aid Dual Carbon Goals." This meeting strengthened the close connections between domestic research institutes, universities, and XWXN. It accelerated the gathering of high-end talents in the materials industry, promoted technological innovation and breakthroughs, and injected new vitality into China's energy new materials industry.

Rural Revitalization and Public Service

2023 Management Objectives	
1	Adherence to the principle of Free, Prior, and Informed Consent (FPIC), with 100% of operational sites having community participation, impact assessments and development plans for community.
2	The annual local employee hiring ratio should not be less than 60%.
3	Engage in philanthropic donations and volunteer activities to promote local community development in education, culture, infrastructure, rural revitalization, and people's livelihoods. Total volunteer service hours exceed 1,500 hours.

Harmonious Engagement in Community

We understand that building harmonious relationships with the regions in which we operate is of great importance to the sustainable development of our business. We actively listen to the voices of stakeholders in the surrounding areas, give back to the communities in various forms, support and contribute to the construction and development of communities in the areas of environment, education and economy, and are committed to contributing to the achievement of the United Nations Sustainable Development Goal 11 (SDGs). We have established the "Code of Business Conduct," wherein we have made declarations and commitments regarding respecting the human rights of indigenous peoples, community development, community involvement, and communication. We respect the rights, cultural customs, and ways of life of local indigenous peoples, actively safeguarding the personal and collective rights and interests of local residents. We maintain communication with stakeholders in the areas where we operate, engaging deeply in community communication and interaction. We listen to the expectations and demands of the community, endeavoring to minimize the negative impacts of our business activities on the local area. We actively promote the establishment of open, honest, and mutually beneficial relationships with the communities where we operate.



Business Distribution Map

- Tungsten and Molybdenum
- Rare Earths
- New Energy
- Others

Community Communication Mechanism

We operate production bases for our three core businesses—tungsten and molybdenum, rare earths and new energy materials—in various locations including Xiamen, Longyan, Sanming, Ningde, Luoyang, Jiujiang, Chengdu, Ganzhou, Tianjin, Ya'an, Thailand, as well as trade companies in regions such as Hong Kong, Taiwan, Germany, Japan, and Brazil. We actively establish good relationships with the governments and communities in the above-mentioned business operation areas, strive to reduce the negative impact of our business activities on the areas where we operate, and provide assistance to the communities in any way we can, and are committed to making full use of our resources in the process of business development to promote local employment and regional economic development.

Our operations have dedicated departments responsible for community communication at each site, establishing transparent and comprehensive communication and feedback mechanisms with local governments, communities, and indigenous residents. During the planning phase of projects, we conduct social baseline surveys to gather and understand background information about the community's political, geographical, historical, cultural customs, and population. We actively engage in extensive exchanges with stakeholders in the surrounding areas, involving deep participation in community communication and interaction, listening to the community's expectations and demands. We fully integrate feedback and demands from all parties into the decision-making process of projects and community plans, striving to minimize the negative impacts of business operations on the local area. Taking our mining activities as an example, we proactively and transparently communicate with the surrounding communities on issues such as potential noise, waste management, water resource protection, and transportation that may arise from mining activities. We engage in dialogues with neighboring communities to promptly understand the impacts on the surrounding areas, actively communicate, and reasonably address the core demands of the villagers. We also develop corresponding long-term development plans in response to community concerns.

We have established a robust appeals mechanism, providing smooth and effective social appeal channels for all community stakeholders affected throughout the project's entire process. We encourage all parties to appeal regarding the scale, extent of impact, and satisfaction with the project, actively respond to community appeal demands, handle appeals appropriately, and ensure confidentiality in accordance with our confidentiality policy. Additionally, we require all project units to regularly review the progress of community communication, comprehensively evaluate the effectiveness of the community appeals mechanism, improve the effectiveness and professionalism of the appeals mechanism based on the handling of community appeals, and promptly update stakeholders on the improvement of the appeals mechanism. This aims to foster the formation of an efficient two-way communication and feedback mechanism, achieving mutual benefit and harmonious development.

Community Impact Assessment

We fully respect the principle of Free, Prior and Informed Consent (FPIC) and actively conduct community impact assessments. During the project development process, we timely and appropriately disclose various enterprise information related to the community, thoroughly explore the potential social impacts and risks, including environmental, health, safety, and local residents' rights and interests, and identify the affected community groups. We then develop corresponding mitigation or response measures.

We adhere to the principle of fairness and trust and maintain continuous dialogue with local communities and indigenous peoples. This ensures timely collection, documentation, and resolution of the opinions and demands of community stakeholders. We integrate these opinions and demands into our business review and decision-making processes, comprehensively evaluate the social impact assessment results, and formulate targeted long-term risk mitigation plans. We strive to minimize involuntary resettlement, physical relocation, and land acquisition issues caused by project construction to the greatest extent possible. In cases where project investment and construction involve the resettlement of local community residents, we negotiate and reach consensus with the affected community on protective or relocation agreements. We compensate the affected communities and individuals for their asset losses based on full reset costs and actively create employment opportunities for local migrants affected by the project. We make every effort to minimize the negative impact of our project investment and construction on the local community

Public Welfare Investment for Rural Revitalization

We actively respond to the national rural revitalization strategy, fully utilize our own resources to create more job opportunities in the areas where we operate. Additionally, we continuously invest in local education, culture, and infrastructure through philanthropic donations and volunteer activities, thereby enhancing the well-being of the local community. During the reporting period, our total social donation amounted to 6,742.20 thousand RMB, with 1,019 participants engaging in volunteer services, accumulating a total volunteer service time of 1,618 hours

Join Hands for Children

Care for "Children of the Stars"

Highlight

Xiamen Honglu conducted the "Enjoying the Technology, Setting Free the Innocence " science and technology festival volunteer service activity, organizing employees to visit the Jimei Special Education School to provide learning and living supplies and rehabilitation equipment for special students. Additionally, they prepared a science and technology festival gift package for each student, enriching and enlivening the cultural life of special children through participation, experience, and competition.

Highlight

XWXN (Xiamen) initiated the "Red Action: Love is Not Alone" volunteer public welfare activity, showing care for special groups such as children with autism. They donated children's intellectual toys and books to Xiamen Haicang Chenxin School.

Charitable Funding for Education

Highlight

Xiamen Golden Egret donated 550,000 RMB worth of supplies to Xihongtang Primary School and Binxin Kindergarten in Tong'an District, and donated 105,000 RMB in scholarships to the Central South University Education Foundation.

Highlight

Malipo Haiyu Tungsten visited Panlong Primary School in Malizhen to conduct a "Children's Day" charity event, donating school bags, stationery, and graduation yearbooks to the students. They also donated a water tower to the school to alleviate water resource shortages. Additionally, they provided financial aid to outstanding but impoverished students at the Second Middle School of Malipo County, helping underprivileged students complete their education successfully.

Highlight

Golden Dragon Rare-earth and Luoyang Yulu donated 160,300 RMB to support education and assistance programs, promoting the development of local cultural initiatives.

Highlight

XWXN (Xiamen) donated 30,000 RMB to the Residents' Committee of Haicang Community, Qingjiao Village, and Qunyao Village in Haicang Street, Xiamen. They also partnered with the Haicang Community of Haicang Street, Xiamen, to organize the "Love Overflowing Haicang River, Childlike Hearts towards the Party" summer camp, caring for 48 left-behind children from 48 families.

Highlight

Ninghua Xingluokeng donated nap beds to Hucun Central School, paid for the purchase of desks and chairs for Ninghua County Second Experimental Primary School, and provided scholarships to local students from Tsinghua University.

Highlight

Duchang Jinding conducted the "Golden Autumn Scholarship" campaign, donating school bags, stationery, and other learning materials to rural primary schools, and providing financial aid for college tuition fees for students in Tutang Town, ensuring material support and logistical support for rural students' education.

Contribution to Rural Revitalization

Highlight | Rural Infrastructure Development

In 2023, Ninghua Xingluokeng Rural Revitalization Project invested a total of 1.30 million RMB to support local infrastructure construction, assist in environmental improvement in the surrounding areas, promote continuous optimization of the living environment, and enhance the well-being of residents. This initiative aims to facilitate rural development in various aspects including social and living conditions.

In 2023, Duchang Jinding Rural Revitalization Project invested a total of 750,000 RMB, including a donation of sand and gravel materials worth 75,000 RMB, to support the construction of rural infrastructure in surrounding villages and towns. Additionally, fitness equipment was donated to local villagers, demonstrating care for their health.

In 2023, Rural Revitalization Project of Bobai Judian had a total investment of 40,000 RMB.

In 2023, Malipo Haiyu Tungsten donated 30,000 RMB to Panlong Village in Malipo County, Malipo Town, for road hardening improvements; and donated 20,000 RMB to Tongchang Village in Yangwan Township, Malipo County, to support the construction of the Party and Mass Service Center's meeting room.

In 2023, Luoyang Yulu donated a total of 550,000 RMB to the Charity Federation of Luanchuan County, the People's Government of Chitudian Town, and the Villagers Committee of Maquan Village in Chitudian Town to support local development.

Charity in Action

Highlight | Disaster Relief

In December 2023, a magnitude 6.2 earthquake struck Jishishan County, Linxia Prefecture, Gansu Province, resulting in significant casualties and property damage. XWXN (Xiamen), Xiamen Honglu, and Xiamen Golden Egret promptly responded by collectively donating 600,000 RMB to the earthquake-stricken area in Gansu, to support earthquake relief efforts and post-disaster reconstruction work.

Highlight | Care for Vulnerable Groups

During the holiday season, XWXN (Xiamen) organized employees to participate in charitable activities aimed at caring for vulnerable groups, in collaboration with the Fujian Ningde Environment and Ecology Bureau. They visited Lutian Village in Chixi Town to carry out community-building activities, providing essential supplies such as rice, flour, and cooking oil to 15 elderly individuals, people with disabilities, and party members who have served in the party for over 50 years.

Xiamen Honglu actively implemented the "Neighborhood" party building model and conducted two "Warm Neighbors Bring Paired Support" activities. They visited and extended condolences to needy families in Hujing Community, Qiaoying Street, Jimei District, Xiamen City, bringing essential supplies and holiday blessings.

People

2023 Employee Management Goals	
1	Revise the "Business Code of Conduct", continuously improve policies on human rights protection and equal employment, and prevent related human rights risks.
2	No penalties incurred for violations of labor laws or suspicions of employment discrimination throughout the year.
3	No penalties received for violations of labor laws and regulations or employment discrimination throughout the year.
4	To provide an average of no less than 10 hours of training per employee throughout the year, covering 100% of the company's employees.
5	Annual rate of work-related injuries lower than 0.3‰ .
6	Zero fatalities among employees due to work-related accidents throughout the year.
7	Zero fatalities among subcontracted workers due to work-related accidents throughout the year.
8	Zero instances of major safety hazards identified during provincial or national safety inspections that result in suspension for rectification, penalties for responsible persons, or inclusion in the "blacklist" of poor safety production records.
9	Zero occurrences of major safety accidents, major mechanical equipment accidents, and major fire accidents throughout the year.

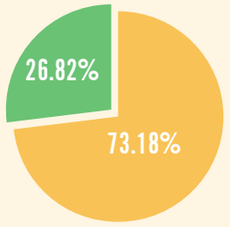
Human Rights Protection

We respect the contents of human rights protection in the "International Bill of Rights", the "United Nations Guiding Principles on Business and Human Rights", and the "ILO Declaration on Fundamental Principles and Rights at Work". We strictly adhere to the "Labour Law of the People's Republic of China", the "Labor Contract Law of the People's Republic of China", and the laws and regulations of the locations where our business operates, placing high importance on the protection of every employee's human rights. During the reporting period, we did not encounter any violations related to employing child labor or forced labor, nor did we experience workplace harassment, abuse, discrimination, violent conflicts, or forced labor.

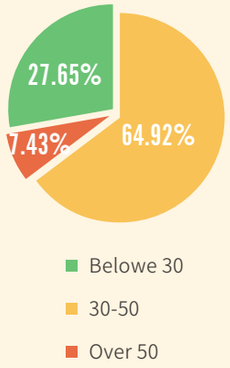
Equal Employment

We are committed to equal employment, ensuring that the treatment of our staff in terms of hiring, training, promotion, salary, benefits, and other aspects will not differ due to race, religion, age, nationality, gender, marital status, pregnancy, disability, or other factors. Our entities have established systems such as the "Human Rights Protection Standards" and the "Social Responsibility Management Handbook" according to their actual conditions, clearly establish a zero-tolerance principle against discrimination and other illegal employment practices, committed to ensuring fair and compliant recruitment procedures, supporting diverse employee development, ensuring equal pay for equal work, eliminating all kinds of illegal employment practices, and protecting the legitimate rights and interests of employees.

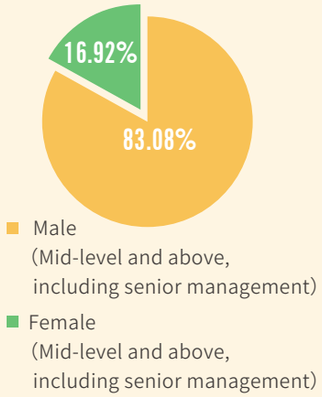
Employee Composition by Gender



Employee Composition by Age



Management Composition by Gender



Highlight

At our rare earth smelting, separation, and materials production base in Changting, we continuously improve our human rights system and implement human rights protection measures to actively safeguard employee rights.

- √ We adhere to implementing the "Employee Protection Code" and the "Anti-Discrimination Control Management Regulations", actively carry out human rights-related training, ensure the non-discrimination policy is communicated to all managers, and establish related performance evaluations to monitor implementation.
- √ We continuously carry out evaluations of social responsibility factors related to human rights protection, identify human rights-related risks, systematically optimize internal human rights management measures, and have passed the SA8000 Social Responsibility Management System Certification.
- √ We organize anti-discrimination audits quarterly, which covers but not limited to recruitment website postings, hiring, training, internal promotions, and benefits, ensuring all employees do not face discrimination at the hiring stage or during their employment.

Additionally, we have taken multiple measures to reduce the burden of childbearing on employees and balance their career development with family care-giving responsibilities.

- √ We established the "Pregnant Women and New Mothers' Job Risk Assessment Management Regulations", legally provide special protection for female employees, and assign suitable job positions for pregnant women.
- √ We built an "After-School Growth Center" offering regular custodial services, hiring professional teachers from outside to take care of employees' children and provide tutoring during the employees' working hours.
- √ We constructed a "Mommy's Room", providing a private and comfortable space for breastfeeding female employees, equipped with chairs, water dispensers, and other necessary facilities for use by the employees.

Anti-Violence and Forced Labor

We pledge not to support or use any form of bonded or contract labor, corporal punishment, imprisonment, violence, bullying, intimidation, abuse, or any form of forced labor. We only employ security personnel for the normal protection of our property and the safety of employees, not for supervising forced labor.

Highlight

At our battery materials production base, we have formulated "Security Management Regulations" to set standard requirements for security management work to maintain a positive work atmosphere.

Highlight

At our tungsten smelting production base in Chengdu,we developed "Anti-Violence, Anti-Discrimination, Anti-Sexual Harassment, and Drug Prohibition Management Measures" and invited external lecturers to conduct training on "workplace violence, discrimination, sexual harassment, and drug use."

Anti-Harassment

We promise to prohibit threatening employees or subjecting them to harsh or inhumane treatment, including but not limited to verbal abuse and harassment, whether publicly or privately, psychological harassment, mental and physical oppression, and sexual harassment. We maintain a zero-tolerance attitude towards any form of harassment or abuse, requiring all employees to comply with anti-harassment and abuse policy provisions and take all practicable measures to prevent harassment or abusive behavior in production areas or other situations.

If employees experience harassment or abuse, they can report to their immediate supervisor or complain to representatives of the relevant department. If the complaint involves the direct supervisor, it should be reported directly to higher management or the responsible party. Upon receiving such complaints, we will conduct investigations based on principles of fairness and justice, gather evidence from relevant individuals, and maintain strict confidentiality. If the investigation proves the complaint to be true, we will take appropriate disciplinary actions based on the severity of the case.

Opposition to Child Labor

We value the protection of minors' rights and strictly implement the "Provisions on the Prohibition of Using Child Labor" issued by the State Council and relevant laws and regulations, establishing "Child Labor and Minor Workers Management Regulations", "Child Labor Remediation Management Regulations", "Protection Standards for Child Labor, Minor Workers, and Female Workers", and committing to prohibiting the employment of child labor, generally not employing underage workers.

We establish and implement procedures and systems to avoid child labor, rigorously checking the identity documents of job applicants to confirm their age and other information is genuine before hiring. The HR department conducts regular inspections to prevent the employment of child labor due to oversight, clarifies specific measures for child labor remediation management, and strictly prohibits the irresponsible dismissal of child labor.

Highlight

At our cutting tools production base in Xiamen, we emphasize human rights protection policies and behavioral taboos in new employee training, eliminating discrimination and violence, and prohibiting child labor or involuntary labor.

Training on Human Right

Employee Communication

We respect and protect the various democratic rights granted to employees by the constitution and laws, and legally establish trade union organizations. The trade union represents employees in signing the "Collective Contract", "Enterprise Wage Collective Contract", and "Special Collective Contract for the Protection of Women Workers' Rights", agreeing on matters related to salary levels, wage payment, safety production, occupational health protection for female workers, and vacation benefits. Through establishing trade union committees, signing collective contracts, organizing worker representative meetings and seminars, individual exchanges, and publicly soliciting employee opinions, we continue to strengthen employee communication and establish open, unobstructed, and convenient channels for complaints, supporting stakeholders including employees in reporting suspected violations of human rights protection and other types of non-compliant behavior to us. We promise to make efforts to resolve related issues, offer the highest degree of protection for complainants, allow anonymous complaints, establish protection mechanisms, and prevent retaliation against complainants.

Worker Representative Meetings

Highlight | Harmonious Labor Relations Committee/Harmonious Employee Relations Group

At our cutting tools production base in Xiamen, we established the Harmonious Labor Relations Committee and Haicang Cemented Carbide Harmonious Employee Relations Group, regularly holding employee seminars to ensure that employees' legal rights are fully respected and protected.

Employee Seminars at Xiamen Golden Egret

Highlight | Employee Seminars

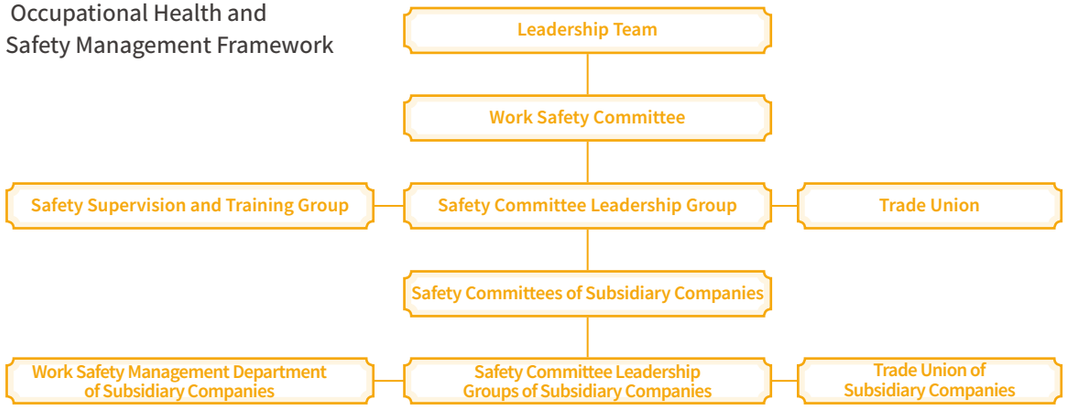
At our rare earth smelting, separation, and material production base in Changting, we organize employee seminars periodically to discuss employment treatment issues related to vacations, benefits, and other interests of employees.

At our battery materials production base, we organize team leader seminars to fully understand the demands and opinions of front-line production staff.

Occupational Health and Safety Management Framework

We have established a comprehensive occupational health and safety management institution to effectively control occupational health and safety risks in production and operations. The Work Safety Committee is our work safety supervision and management institution, chaired by our chairman, with senior management forming a leadership team responsible for work safety inspections, supervising work safety implementation, and formulating work safety management systems and emergency plans. Additionally, we select internal and external experts to form a safety supervision training team, responsible for implementing, reviewing our work safety standards, and providing advice and suggestions for our work safety management. Under the leadership of the headquarters' Work Safety Committee, each subsidiary company has established its own safety committee and is supervised by the headquarters' Work Safety Committee.

Occupational Health and Safety Management Framework



We incorporate the performance of occupational health and safety management into the annual key performance indicators of our senior management and relevant position heads, linking it to their performance compensation. Employees of us must sign the "Occupational Health, Safety, Environmental Protection, and Fire Safety Responsibility Agreement" according to the specific job content of their positions, clarifying responsibility subjects, areas, objectives, protective measures, and assessment methods. Each year, our headquarters and subsidiary enterprises' work safety management departments develop and update outcome-based and process-based occupational health and safety management indicators, with department heads and direct supervisors responsible for implementation. We track monthly work safety performance or achievements of each unit, compare and analyze their work safety target achievement, and provide improvement suggestions. During the reporting period, we signed 17,549 "Occupational Health, Safety, Environmental Protection, and Fire Safety Responsibility Agreements," covering 100% of employees.

Occupational Health and Safety Management System

We consistently adhere to the work safety management guidelines of "prevention first, comprehensive management, and civilized production," firmly establish the concept of safe development, strengthen the awareness of work safety responsibility. We implement laws and regulations such as the "People's Republic of China on Work Safety," "Fire Protection Law pf the People's Republic of China," "Regulations on Work Safety License," "Regulations on Safety Supervision over Coal Mines," "Regulations on Safety Management of Hazardous Chemicals," "People's Republic of China Occupational Disease Prevention and Treatment Law," and "Regulations on Work-related Injury Insurance." We continue to refine our work safety management system guided by the "Basic Norms for Work Safety" and "Group Work Safety Supervision and Management Regulations" to ensure that work safety activities are conducted in accordance with the law. Each subsidiary company within our corporation, in accordance with their own business realities, develops and improves their respective management systems related to occupational health and safety.

Management Systems related to Occupational Health and Safety	
Group Work Safety Supervision and Management Regulations	Basic Norms for Work Safety
Work Safety Responsibility System》	Work Safety Assessment Regulations
Safety Objectives and Targets Management System	Fire Safety Management System
Work Safety Education, Training, and Assessment System	Work Safety Investment Guarantee System
Hazard Management System	Hazard Identification and Management System
High-altitude Operation Safety Management System	Confined Space Operation Safety Management System
Hazardous Chemicals Management System	Hazardous Operations Management Regulations

Highlight | Employee Suggestion Collection

At our tungsten smelting production base in Longyan, we carry out "Technical Improvement and Rationalization Suggestion" activities, encouraging employees to actively offer ideas and suggestions. If suggestions are adopted, appropriate rewards will be given.

At our battery materials production base, we established an "Employee Rationalization Suggestion" online feedback collection channel, providing employees with a convenient platform for offering suggestions. In 2023, a total of 7,795 employee rationalization suggestions were collected and solutions implemented.

7,795 employee suggestions were collected with solutions provided

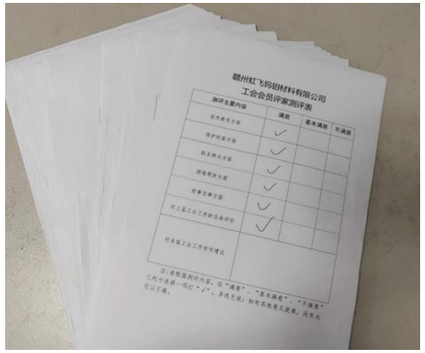
7,795

Highlight | Conducting Democratic Evaluations

At our tungsten smelting production base in Ganzhou, we established a trade union member evaluation system, organizing a written democratic evaluation once a year, covering propaganda education, rights protection, contact with the masses, assistance for difficulties, and good deeds. Suggestions collected from employees will serve as a reference for the new term of the trade union's work. In 2023, the democratic evaluation satisfaction rate reached 96.7%.

the democratic evaluation satisfaction rate reached 96.7%

96.7%



Highlight | Employee Complaint Management

At our cutting tools production base in Xiamen, we have regulations for employee working hours, prohibiting departmental non-compliance assessments or overtime labor. Employees are encouraged to report to the trade union or initiate complaints or reports through complaint hotlines or email if they encounter such situations. Complaint channels are publicly announced to all employees.

At our battery materials production base, we formulated the "Employee Complaint Management Regulations", allowing employees who believe they have received unreasonable, unfair treatment, or have experienced gender discrimination, disability discrimination, ethnic discrimination, sexual harassment, or privacy invasion to file complaints through written materials, text messages, emails, and suggestion boxes to their supervisors, the trade union, HR department, and the general manager. Relevant departments investigate and provide feedback within a specified time, effectively protecting employees' interests.

Employee Development

We strive to make XTC a platform for talent aggregation, providing our employees with a fair competition platform, diverse training opportunities, and clear career development paths to enhance talent competitiveness in the rapidly changing market environment. We carry out targeted talent echelon training, develop a leadership competency model and supporting management systems, actively introduce and cultivate core talents, and provide talent assurance for the high-quality development of the enterprise.

Career Development

We have established a comprehensive performance management and promotion mechanism. Guided by our human resource policies, each subsidiary sets differentiated employee promotion channels according to their actual situations. We create a fair, just, and open competition mechanism within us to fully mobilize the initiative and enthusiasm of all employees, achieving an organic integration of personal growth and sustainable development of us.

During the reporting period, based on annual strategic goals and combined with a points system, we further perfected learning maps and related educational training outlines for each sequence, formulated a first echelon construction plan for headquarters-direct management cadres, selected outstanding talents from subsidiary companies, designed personal development plans, and carried out targeted training. On the other hand, we issued group cadre echelon construction operation guidelines, encouraging subsidiary companies to follow policy guidance, combine their own situations, further supplement and perfect the human resource management system and cadre echelon construction system plans, set diversified career development channels suitable for their own business, and ensure the high match and stability of the employee team.

Highlight | Grade Evaluation for Job Qualification

At our tungsten smelting production base in Ganzhou, we formulated the "Job Qualification Management Regulations", setting three career development sequences: management, technical, and professional. Based on needs, job sequences were subdivided into sub-sequences. During the reporting period, we conducted a comprehensive job qualification grade evaluation covering the above three sequences. Eligible employees could apply, and higher-grade employees, besides submitting materials for review, also participated in an on-site defense. Finally, job qualification grades, positions, and salaries were adjusted according to the evaluation results.

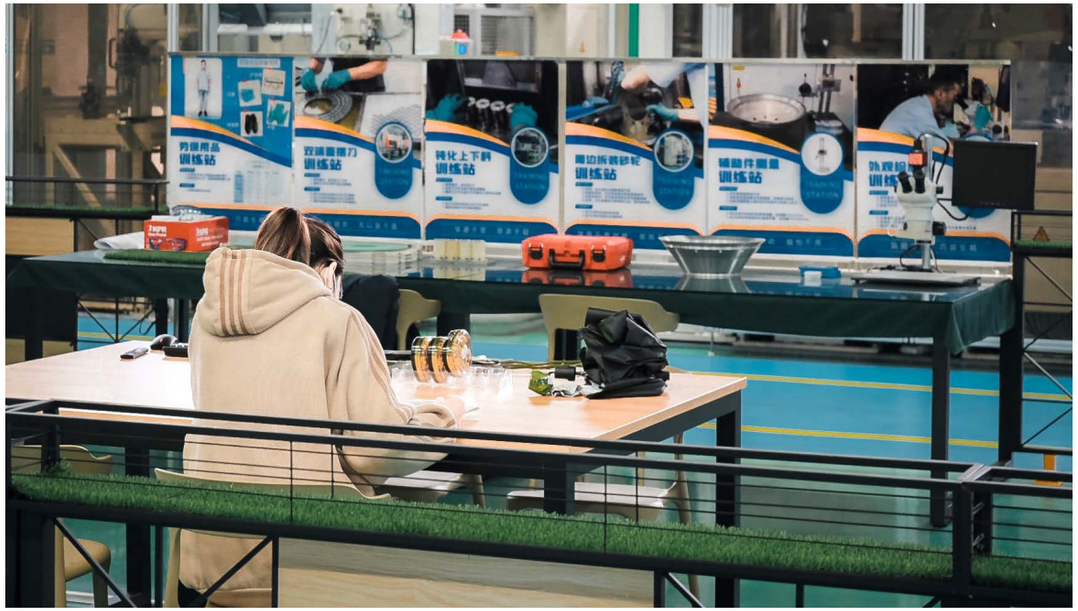
Highlight | Team Leader Promotion Review

At our cutting tools production base in Xiamen, in line with lean production requirements, we established a team leader promotion management mechanism. Employees need to meet requirements in operational skills, group star levels, lean skills, performance outcomes, and corporate values to obtain job qualifications. During the reporting period, we organized graded review assessments and selected the first batch of excellent first and second-level team leaders

Employee Training

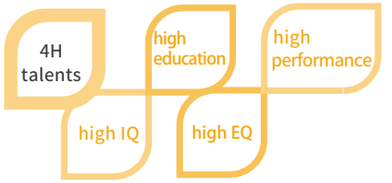
We encourage employees to continuously learn and develop themselves throughout their careers, fully unleash their potential, and enhance the professional skills and comprehensive qualities needed. We have developed the "Training Management Guiding Principles" and perfected the talent training system, providing various training resources to help employees grow steadily. Our talent training system relies on the support of "XTC Academy" and "Xiaoming Learning". Through "XTC Academy", we offer specialized training, enabling employees of all ranks to obtain suitable learning opportunities and quality resources to continuously improve their professional capabilities; through "Xiaoming Learning", we conduct online training covering all employees.

Our training operation system is composed of learning maps/credit systems, training outlines, course systems, and group training management guidelines, divided into regular talent training projects and group key talent training projects. Regular talent training projects include new employee induction training and in-service employee capability enhancement projects, while group key talent training projects include talent echelon training and annual strategic talent training projects.



Highlight | "Young Talent Program" Talent Training Project

To select and train senior management reserve talents who align with corporate culture and possess general manager competencies, we internally selected 43 "high education, high performance, high IQ, high EQ" talents to join the 2023 "Young Talent Program". The project revolves around the six core functions of a general manager: "setting strategy, budgeting, asking about performance, leading teams, building mechanisms, controlling risks", conducting mid-year training assessments, and implementing year-end elimination assessments, with unqualified participants exiting the training program.



Highlight | Xiamen Honglu "Senior Leading" Training Class

For every new graduate joining us, we assign a senior predecessor as a mentor, responsible for one-on-one pre-job training and cultivation. Through systematic and diversified training, we establish a learning and exchange platform to help new employees quickly grasp relevant theoretical and practical knowledge, broaden their horizons, and improve execution and management skills.

College-Enterprise Cooperation

Based on the principle of "social participation in education and education serves society," we actively engage in university-enterprise cooperation with Xiamen University, Northeastern University, Wuhan University of Technology, Central South University, University of Science and Technology Beijing, and Beijing University of Technology, among others. This collaboration aims to foster close cooperation in "production, study, research, and application," including the construction of internship bases, cultivation of industrial talents, establishment of awards and scholarships, and sponsorship of relevant competitions.

We signed a master's degree graduate education cooperation agreement with the School of Electrical Engineering and Automation at Xiamen University of Technology, jointly establishing a "Master's Degree Graduate School-Enterprise Joint Training Working Group." Under the guidance of the joint training steering committee, we define training objectives, devise in-school and enterprise training plans, implement the training process, ensure the quality of training, and establish a mechanism for regular consultation meetings. This approach innovates the talent cultivation model for professional master's degree graduate education.

Our agreement with Jiangxi University of Science and Technology involves setting up engineering projects and research topics for collaboration in areas such as tungsten mining and selection, platform construction, patent applications, and talent cultivation. During the reporting period, our strategic rare metal mineral resources green development and utilization key laboratory (in preparation) and the tungsten resources efficient development and application technology Ministry of Education Engineering Research Center were successfully inaugurated at the Xingluokeng Tungsten mining research base.

In collaboration with Fuzhou University, we established a student social practice base and set up a "Rare Earth Advanced Materials Professional Degree Master's Corporate Class" to cultivate talents in rare earth advanced materials. During the reporting period, a practice team of 21 people led by Niu Qiuyue, the Secretary of the Youth League Committee of the School of Materials Science and Engineering at Fuzhou University, visited our us for an exchange visit.

Jiangxi University of Science and Technology Signing Ceremony

At our rare earth smelting, separation, and material production base in Changting, we cooperate with Longyan Technician College, Minxi Vocational and Technical College, Changting Vocational College, Hunan Non-ferrous Metals Vocational & Technical College, and Jiangxi New Energy Technology Institute to offer joint education programs. We adopt a "custom class" and "dual system" vocational education model, send teachers for instruction and practical training, organize site visits, and build an "reserve pool" of outstanding graduates. During the reporting period, we added new partners including Northeastern University, Fujian University of Technology, and Fuzhou University.

- √ We signed a cooperation agreement with the School of Materials Science and Engineering at Northeastern University to establish a teaching practice base, held a school-enterprise cooperative practice education base unveiling ceremony, appointed corporate internship mentors and part-time professional master's mentors, and were recognized as an excellent practice teaching base by Northeastern University for 2023.
- √ We signed a school-enterprise cooperation agreement with the School of Materials Science and Engineering at Fuzhou University and held an internship and training base and branch co-establishment unveiling ceremony.
- √ We signed a school-enterprise cooperation framework agreement with Fujian University of Technology to jointly establish an "Outstanding Engineers College."

At our cutting tools production base in Xiamen, we actively engage in joint exchange activities with Xiamen University, University of Science and Technology Beijing, Huaqiao University, and Chengdu Aeronautic Polytechnic, expanding the channels for university-enterprise cooperation dialogue.

- √ In collaboration with the School of Mechanical Engineering and Automation at Fuzhou University, we established the Fuzhou University Mechanical-Xiamen Jinlu Advanced Processing Joint Innovation Practice Base. A special showcase was set up in the Mechanical School to help mechanical engineering students learn about our products, creating a model university-enterprise cooperation base.
- √ As the hosting enterprise for the 20th simulated recruitment competition at Xiamen University, we participated in and supported the entire event, offering employment guidance to students.

School-enterprise cooperation - Beijing University of Science and Technology exchanges with Xiamen Golden Egret

Highlight | Campus Recruitment of Graduates

In 2023, we attended spring job fairs for the class of 2023 at Central South University, Northeastern University, Jiangxi University of Science and Technology, etc. We held "High-Level Talent Exchanges" for the class of 2024 graduates, providing potential top talents with the opportunity to learn about our corporate culture, development prospects, and talent policies. This attracted excellent students whose values align with ours to join us, continuously enhancing our core competitiveness.

Compensation and Performance

We have established systems such as the "Total Wage Management System," "List of Special Matters of Total Wage and Management Measures for Individual Personnel," "Regulations on Rewards for Receiving National Policy Bonuses," and "Guidance on Annual Salary Implementation Plan for Product Division Management Teams," among others. These systems ensure that employee compensation is aligned with their job performance and competitive with industry standards, reflecting their value contribution and market competitiveness. Our salary structure combines wages, performance bonuses, allowances (subsidies), special awards, and overtime pay, ensuring that employees receive labor compensation that is in compliance with government minimum wage standards. Salaries are paid monthly on time, with overtime wages calculated and paid according to the law. Our compensation system, built on the 3P theory (Position, Ability, Performance), primarily focuses on position skill wages, supplemented by piecework and market negotiation systems, standardizing compensation items and standards to ensure internal fairness.

Our performance management is carried out through various assessment methods, continually improving the reward mechanism for scientific research achievements, increasing technical incentives, and fostering ongoing performance communication and coaching. This approach stimulates employee innovation and enthusiasm, effectively attracting and retaining talent:

Balanced Scorecard	Differentiating group level, subsidiary level, and product division level objectives based on business characteristics and establishing a five-dimensional goal system.
360-Degree Assessment	Conducting annual competency evaluations for management team members, with training and self-improvement plans developed based on assessment results.
Objective Management:	Breaking down company and product division indicators into departmental and positional goals for monthly or quarterly assessments as needed; project performance indicators are broken down into monthly goals for continuous tracking.

Equity Incentive

We encourage employees to fully utilize their strengths, driving innovation and leading value creation. By corporatizing emerging or incremental businesses, we establish a long-term incentive and constraint mechanism of shared interests and risks, allowing outstanding and core employees to hold shares. This approach motivates core talents, cultivates high-level talents with strong independent innovation capabilities, and provides robust talent support for achieving our strategic development goals.

During the reporting period, we implemented the third phase of the employee stock ownership plan, with 57 employees participating, holding a total of 542,300 shares. Among these, shares held by ordinary employees outside our directors and senior management accounted for approximately 80% of the total shares for this plan.

57 employees joined the shareholding plan

57

holding 542,300 shares

542,300

approximately 80% held by ordinary employees

80%

- √ The first unlocking period of the 2020 Restricted Stock Incentive Plan's grant conditions was met, and relevant procedures were carried out for incentive recipients to lift the sales restriction.
- √ Subsidiaries Golden Dragon Rare-Earth and Xiamen Honglu implemented mixed-ownership enterprise employee stock ownership through capital increase and share expansion, with Xiamen Honglu's employee stock ownership plan successfully implementing its first dividend distribution.

Xiamen Honglu Employee Stock Ownership Contract Signing Ceremony

Employee Benefits

In addition to legally mandated contributions to medical insurance, social security, housing provident fund, and ensuring statutory holidays, we offer corporate annuities, accident insurance, birthday coupons, and various consolation benefits.

"XTC Featured Canteen"

"XTC Featured Canteen" provides employees with high-quality, nutritious, diverse, and convenient dining options, continuously innovating the dining style and enriching the employees' taste experience. We continuously optimize the dining environment and strictly control food safety and environmental hygiene to ensure a healthy diet for employees.

Employee Dormitory Assurance

Depending on location and conditions, we and our subsidiaries provide housing support.

- In Xiamen, we offer multiple staff dormitories, providing public rental housing for eligible employees.
- In Jiujiang city, we provide free housing for outstanding employees and core staff, and free single apartments for new graduates.
- In Changting, Longyan, we have established "Non-local Talent Welfare Assurance Management Regulations," prioritizing staff dormitory arrangements and providing low-interest housing loans for key talents.

Hardship Assistance Plan

We offer a hardship assistance plan for employees in need, providing scholarships for their outstanding children to help them achieve their college dreams.

Occupational Health and Safety

At XTC, we always adhere to the philosophy of "safety first, people-oriented, accountability, and local management." We establish and perfect a work safety management system guided by annual occupational health and safety management targets, committed to providing a safe and healthy work environment and conditions for employees, suppliers, contractors, and other stakeholders. Up to now, 17 of our enterprises have passed the ISO45001 Occupational Health and Safety Management System certification, covering 47% of the main production enterprises under the company. In addition, we refer to the "Guideline of China occupational safety and health management system" (GB/T 33000—2016) and continuously promote the standardization and informatization of work safety management, constantly improving our occupational health and safety management level. In this reporting period, we have had 6 enterprises pass the secondary work safety standardization certification, 19 enterprises pass the tertiary work safety standardization certification, and 22 enterprises have launched the work safety management informatization system.

6 enterprises pass the secondary work safety standardization certification

19 enterprises pass the tertiary work safety standardization certification

17 enterprises pass the ISO 45001 Occupational Health and Safety Management System certification

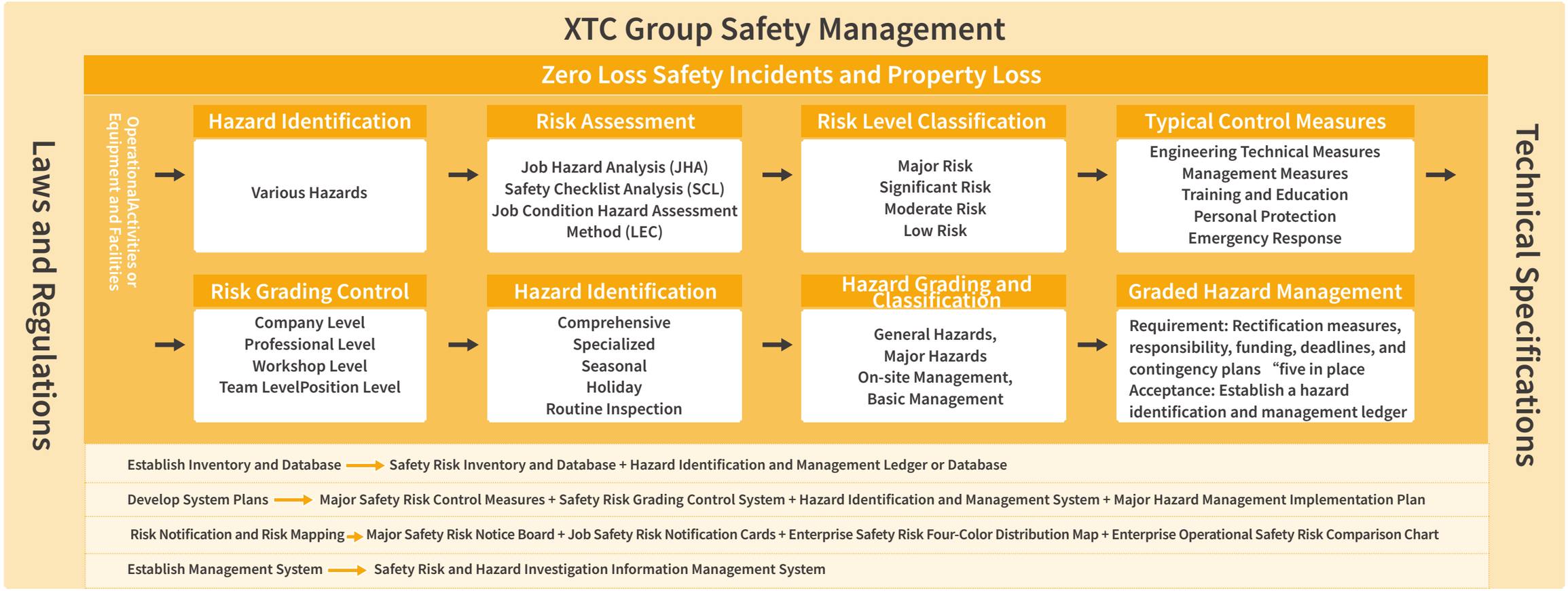
2023 Occupational Health and Safety Management Objectives/Indicators

Objectives/Indicators	Completion Status
Annual work-related injury rate below 0.3‰	Completed
Zero fatalities among employees	Completed
Number of incidents involving major accident hazards identified during provincial or national safety inspections that result in public notices, production halts, penalties for responsible persons, or inclusion in the work safety adverse record "blacklist" is 0	Completed
Number of major safety accidents, major mechanical equipment accidents, and major fire accidents is 0	Completed

Occupational Health and Safety Risk Management

At XTC, we firmly implement the "Group Work Safety Supervision and Management Regulations," utilizing methods such as Job Hazard Analysis (JHA) and Safety Check list (SCL) to identify risk nodes and potential hazards in the production process, and performing risk assessments through the Operation Safety Hazard Assessment Method (LEC). After identifying the types and levels of occupational health and work safety risks, we actively carry out hidden danger inspections and management, and formulate an annual inspection plan. We establish and implement a dual prevention mechanism of "risk grading control and hidden danger inspection and management," enhancing the management of all types of safety risks. Strict implementation of graded control processes ensures effective safeguarding of work safety.

XTC Group Risk Grading Control and Hazard Identification and Management System Diagram



During the reporting period, we actively implemented the following measures to reduce occupational health and safety risks in production and business activities:

- √ Introduce advanced technology and equipment to improve production efficiency and reduce the probability of safety accidents.
- √ Prepare risk grading control and hidden danger inspection and management system diagrams, identify and assess hazards in the production process, and take concrete and effective measures to control them.
- √ Thoroughly carry out special work to enhance safety on site, inspecting 2,045 specific hidden dangers, with 1,847 rectified, achieving a rectification rate of 90.3%. For unrectified hidden dangers, we set closure deadlines and assign personnel to follow up and supervise, ensuring that all hidden dangers are rectified on time and with quality, achieving a 100% closure rate.

inspected 2,045 specific hidden dangers

2,045

1,847 were rectified

1,847

achieving a rectification rate of 90.3%

90.3%

Work Safety Inspections

To prevent and reduce work safety accidents, our headquarters' operations management center, together with work safety management departments of subsidiary enterprises, conduct work safety inspections according to the annual inspection plan:

- √ Each production base team conducts self-inspections on work safety weekly.
- √ Work safety management departments regularly conduct comprehensive inspections, pre-holiday, seasonal, "Safety Month (Quarter) Activity Checks," and other special inspections.
- √ The headquarters operations management center periodically spot-checks the work safety situation of subsidiary enterprises and conducts on-site inspections in cooperation with third-party professional organizations.

For hidden dangers identified during inspections, we adhere to the "territorial management" principle, implement closed-loop management, develop rectification measures and deadlines according to the severity of the dangers, and establish a hidden danger inspection and management ledger to ensure timely and effective handling of hidden dangers. Additionally, we encourage employees to take photos with mobile phones, cameras, etc., to timely record hidden dangers at the production site and upload them to the Environmental Health and Safety (EHS) management system, which promptly notifies responsible departments to ensure timely rectification of work safety hidden dangers, achieving convenience, efficiency, and inclusiveness in work safety management, safeguarding our work safety.

Highlight | **Mining Work Safety Inspection**

In Ninghua Xingluokeng, we implement a strict safety inspection system: at least one company-level major safety inspection monthly, department-level safety inspections monthly, workshop-level safety inspections weekly, team-level patrols daily, and position-specific safety inspections at the beginning and during each shift to ensure smooth safety shift transitions. For identified hidden dangers, those that can be immediately rectified must be corrected on the spot, and those that cannot be immediately corrected are ensured to have a closed-loop process according to the "three determinations principle"; depending on the severity of the hidden danger and the responsible unit, the responsible unit is required to organize an analysis of the fundamental causes of the hidden danger and take targeted measures to strengthen prevention measures, fundamentally eliminating the possibility of recurrent hidden dangers. Additionally, we regularly report inspection and hidden danger management situations, organize learning sessions for workshops and teams to improve hidden danger inspection capabilities, and mobilize grassroots workshops and teams for comprehensive self-inspections to avoid overlooking similar hidden dangers. During the reporting period, Ninghua Xingluokeng identified 80 hidden dangers, with a 100% on-time rectification completion rate.

Emergency Management Drills

We follow the "Safety Accident Emergency Plan Management Measures" and "Safety Accident Emergency Regulations," have established the "Group Work Safety Supervision and Management Regulations," "Management Measures for Special Emergency Plans for Extreme Weather Events," and "Group Emergency Plan Management Guidelines," and in cooperation with professional third-party units, revise the "Emergency Response Plan for Sudden Environmental Events," establishing a comprehensive emergency management system. The headquarters and subsidiary enterprises develop corresponding preventive measures, emergency plans, and processing procedures for various safety risks, ensuring a rapid and effective response in emergencies. Based on the content and requirements of related systems, regular environmental protection training and emergency drills are conducted for employees. Some subsidiary enterprises invite local environmental protection bureaus and other superior departments to participate in full-factory emergency drills for sudden environmental events, evaluating the effectiveness of the drills, aiming to achieve the goal of "everyone speaks safety, everyone knows emergency."

During the reporting period, in conjunction with the Work Safety Month theme, we conducted special training on safety emergency management. The goal was to enable employees to deeply learn and master the professional theories, tools, and methods related to safety emergency management, emergency plan formulation, and emergency drills, effectively enhancing their safety awareness and emergency capabilities, thus laying a solid foundation for our work safety work. We and our subsidiaries organized 648 times emergency drills, covering scenarios such as chemical leaks, fire emergencies, natural gas boiler gas leaks, flood and typhoon prevention, anti-terrorism, mine safety drills, and nighttime evacuation exercises.

In the mining process, we established an environmental graded response mechanism based on the urgency of environmental accidents/events, the level of harm caused, the scope of impact, and we and employees to handle such situations. We actively conduct environmental emergency drills and also carried out joint regional drills with neighboring enterprises to strengthen regional emergency collaboration capabilities. Additionally, we have established a system of rewards and accountability for environmental emergency work, recognizing and rewarding groups and individuals who make outstanding contributions, and punishing delays, false reporting, or other negligence and misconduct in emergency management according to our "Environmental Protection Management Regulations" and related provisions.

In the production of advanced materials process, we strictly adhere to the ISO14001 management system requirements, developing an environmental risk and opportunity control chart, conducting environmental risk and hazard identification, and deploying measures to address potential risks and opportunities to minimize the potential impact of environmental risks. To address sudden environmental events, we have formulated corresponding environmental emergency plans and compiled emergency resource surveys and environmental risk assessments for operational sites.

In the deep processing stage，we have formulated an "Emergency Plan for Sudden Environmental Events," implementing national environmental protection and safety laws and regulations to ensure that sudden environmental events can be controlled promptly, preventing their escalation. We effectively organize rescue operations, ensuring the safety of the surrounding environment and the personal and property safety of the surrounding community, and organizing employee training and drills on environmental protection to prepare for sudden events.

Highlight | Tungsten and Molybdenum Wire Production Base Emergency Drill Training

In Xiamen Honglu，we conducted emergency drills to enhance emergency response levels; further improving and perfecting our emergency rescue system, effectively integrating various emergency resources, ensuring responsibility implementation, strengthening team building, enriching emergency material supplies, and perfecting emergency information management. We conducted three emergency rescue equipment training sessions with a total of 140 participants, further enhancing the operational application level of the emergency team. We organized various departments to conduct tabletop and live-action drills involving 14 types in a total of 19 sessions, comprehensively improving the departments' ability to handle various types of sudden events.

Occupational Health and Safety Training

We place great importance on training our employees in occupational health and work safety. According to the "Group Work Safety Supervision and Management Regulations" and "Basic Work Safety Norms" and other systems, we continuously and thoroughly carry out occupational health and work safety training and education activities to continuously improve employees' awareness of work safety and occupational health. During the reporting period, we formulated and completed the annual training plan, which included courses on safety standardization, work safety responsibility system and safety management system training, emergency response plan training for safety incidents, and environmental safety hazard identification, among others. Additionally, we also conduct contractor construction safety training for external associate units to enhance their on-site construction standards and safety awareness. During the reporting period, we enhanced employees' safety awareness and operational skills through special training in chemical management, electrical safety, working at heights, confined spaces, lockout tag-out, and emergency management. During the reporting period, we organized work safety training involving 64,957 participants, covering 100% of our employees.

64,957 participants joined work safety training

64,957

employee coverage rate 100%

100%

Highlight | XTC Safety Micro-Courses

We launched the "XTC Safety Micro-Courses" project, developing and planning over 552 safety micro-courses, 442 of which have been reviewed by experts and all uploaded to the Xiaoming Learning Platform for all employees. By using the Xiaoming Learning Platform's role-based learning and testing features, we established a safety micro-course credit conversion and training assessment mechanism, fully engaging employees in course development and learning. During the reporting period, a total of 3,570 employees participated in the safety micro-course training.

Highlight | Mining Safety Education and Training

In Ninghua Xingluokeng, we formulated an annual safety education and training plan, signed by the general manager at the beginning of the year as a guiding document for all departments, with each department formulating and implementing its safety education plan and compiling training materials for implementation in workshops and teams. In terms of regular safety education and training, we adopted various measures:

- √ Monthly regular work safety meetings are held, where safety committee members and workshop managers and above participate in safety training.
- √ Utilize the 15 minutes of pre-shift meetings to study safety knowledge and policy documents, ingraining safety awareness.
- √ Regularly hold safety fun activities, allowing employees to deepen their understanding of safety in a relaxed and enjoyable atmosphere.
- √ Invite external units and experts for special safety education periodically, providing employees with more comprehensive and professional safety guidance.

During the reporting period, Ninghua Xingluokeng enhanced employees' safety awareness and operational skills through special training in chemical management, electrical safety, working at heights, confined spaces, lockout tagout, and emergency management.

Highlight | Tungsten and Molybdenum Wire Production Base Safety Education and Training

In Xiamen Honglu, we focused on the core concept of "full participation, top-level safety commitment, management-level safety empowerment, employee-led safety management, and stakeholder safety activities," conducting distinctive activities such as "Let’ s Chat" and "Safety Commitment Tree" to engage all employees and cultivate a culture of safety:

- √ Conducted a painted helmet safety activity, invited 30 employees' children to paint safety helmets to enhanced safety awareness through fun and education.
- √ Organized a safety-themed flying chess activity, where all company employees formed 20 teams to learn safety knowledge and skills in a relaxed and enjoyable atmosphere.
- √ Initiated safety knowledge on construction sites, providing safety advice and warnings to contractors on-site to ensure smooth progress in work safety.
- √ Conducted a company-wide safety slogan collection event, with 201 participants contributing 448 slogans.
- √ Organized an online safety knowledge competition, with 1,266 participants taking part, significantly enhancing employees' safety awareness and knowledge level.

Supplier/Contractor Health and Safety Management

We continuously revise and improve the "Supplier Code of Conduct," setting clear requirements for suppliers/contractors regarding emergency preparedness and response, chemical management, infectious disease preparedness, and response measures. We strictly standardize and strengthen safety management work to ensure timely identification and elimination of safety hazards. Additionally, we require suppliers/contractors to establish quantitative targets such as zero accidents and zero injuries, continuously enhance occupational health and safety performance, and pay attention to the physical and psychological health of their employees, actively creating a favorable occupational health and safety environment, and building a safe, healthy, and sustainable supply chain.

Occupational Health and Safety Incident Management

We consistently adhere to the "safety first, prevention-oriented" principle, and by establishing a comprehensive work safety incident management system, we effectively prevent and control incidents to create a safe and healthy work environment for our employees. We require all employees to report any work safety incidents immediately, and we establish an investigation team to conduct a comprehensive inquiry into the causes of the incidents, analyze the course, reasons, and responsibilities of the incidents, and propose corrective measures. Based on the severity and responsibility of the incident, we process the responsible personnel and properly accommodate the injured. Depending on the severity and damage of the incident, we promptly submit a work injury identification application to the local Human Resources and Social Security Bureau to ensure that the injured receive work injury insurance benefits. We regularly assess the management of work safety incidents, continuously improve incident management systems and processes, and enhance incident handling capabilities to ensure our work safety.

During this reporting period, we and our subsidiaries recorded 26 persons injured in occupational incidents, 26 occupational incidents, and zero work-related deaths.

26 persons injured in occupational incidents

26 occupational incidents

0 work-related deaths

Occupational Health Management

At XTC, our business processes involve mining, production of advanced materials, and deep processing, where employees face potential occupational health risks such as noise and dust. To effectively address these risks, we place great emphasis on occupational health management and implement a comprehensive occupational health and safety strategy to minimize occupational health risks, striving to provide all employees with a safe and healthy working environment.

Occupational Disease Prevention

We strictly adhere to the 'Basic Norms for Safety Production', establish and improve a systematic health monitoring and prevention procedure, actively identify, assess, and manage occupational health hazards, standardize the investigation and handling process of occupational disease and hazard accidents, to prevent potential accidents and health injuries caused by work, providing employees with a safe and healthy working environment and conditions.

Occupational Disease Prevention

Health Examinations	We continuously monitor employees' occupational health, conducting pre-employment, during employment, and post-employment health examinations for employees working in hazardous environments. We archive examination results and make necessary job adjustments based on employees' health conditions.
Hazard Factor Analysis and Assessment	We hire qualified third-party professional institutions to regularly conduct comprehensive occupational health risk assessments for subsidiaries involved in mineral extraction and processing, checking production processes, equipment layout, sanitary conditions, occupational hazard factors and their severity, occupational disease prevention and emergency rescue facilities, employee occupational health monitoring, personal protective equipment used, and occupational health management conditions, continuously improving based on inspection results.
Occupational Hazard Warnings	For departments and workplaces with occupational hazards, we post occupational hazard warning signs at the entrance to inform individuals entering the area about the hazards; new employees sign an occupational hazard notification form to ensure they are fully aware of the occupational disease risks and preventive requirements of their positions.
Labor Protection	We strictly comply with national laws and regulations, equipping employees with quality and suitable labor protection items as per the "Labor Protection Items Management Regulations," and post corresponding signs in related areas to guide correct and standardized usage by employees.
Occupational Health Education	We regularly conduct occupational health and safety training or lectures, encouraging employees to develop good health concepts, promote knowledge about occupational hazard prevention and measures, and actively intervene in employees' occupational health.
Reduction of Hazard Sources	We continuously undertake workplace equipment modifications and process optimizations, introduce advanced technologies, and improve working environments to reduce harmful factors and potential risks.
Emergency Medical Care	We establish and implement "Health Care Room Management Regulations" and "First Aid Management Regulations," set up health rooms, equip workplaces with medical kits and Automated External Defibrillators (AED), and regularly manage these provisions

Psychological Capital Efficacy Management

Psychological capital is the positive psychological resources possessed by individuals and is a key factor in enhancing employee performance, motivation, and overall job satisfaction. Since 2021, we have initiated a project to enhance the management of psychological capital efficacy, piloting it in our subsidiary companies.

Enhancement Project Process of Psychological Capital Efficacy Management

We regularly organize "Talent Reviews," conduct in-depth thematic research and interviews, and continuously focus on employees' psychological and mental states. By analyzing and discussing improvement measures, we help employees enhance their ability to face stress and challenges, boost their confidence, ignite their career passion and vitality, and enhance organizational vitality and competitiveness.

Cultural and Sports Activities

We provide employees with facilities such as badminton courts, basketball courts, soccer fields, and gyms. Through organizing a variety of cultural and sports activities, we care for the physical and mental health of our employees.

Annual meeting →

The International Women's Day activities ↓

Technical center basketball game ↑

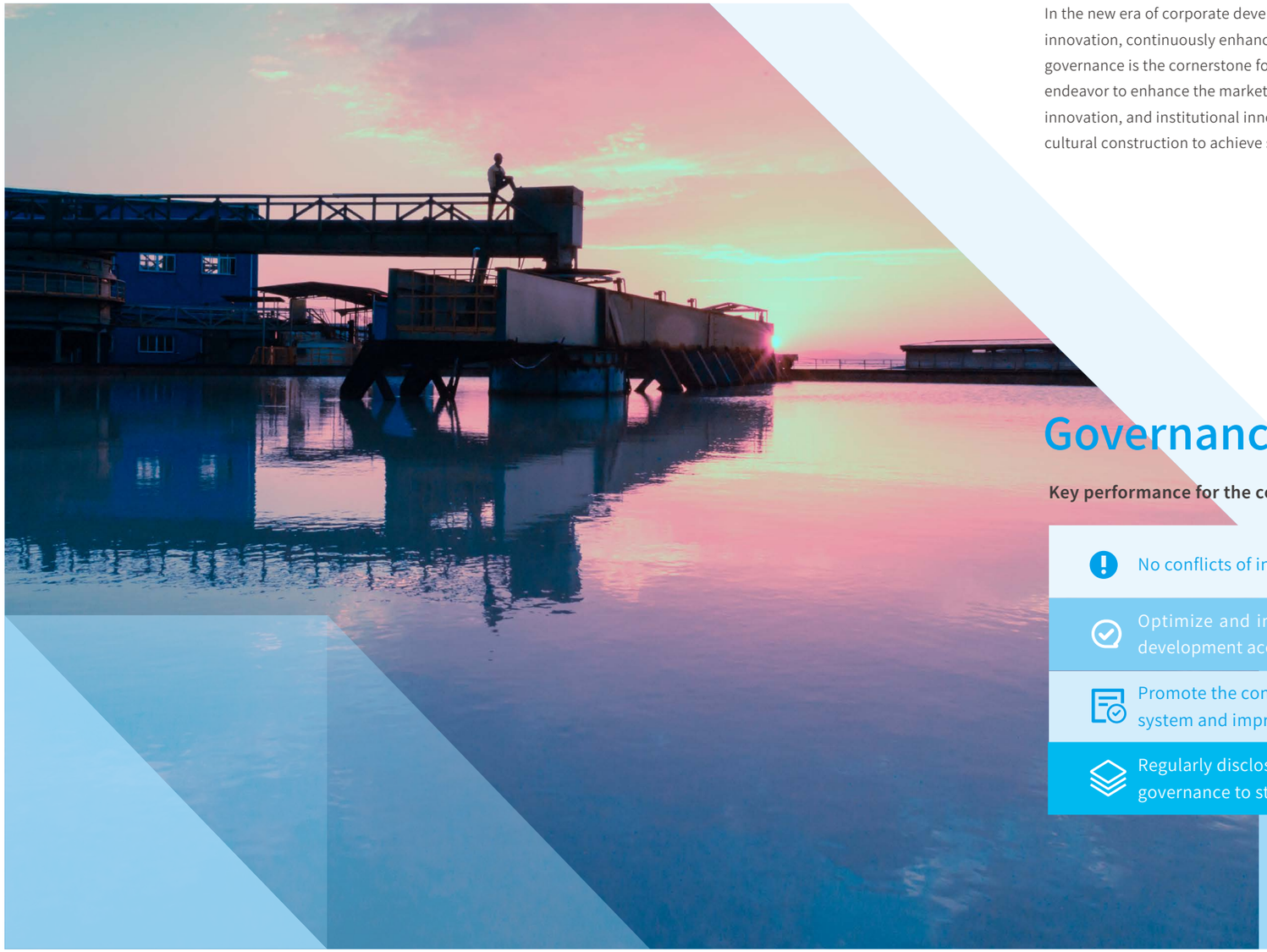
Technical center tug of war contest ↗

Mini Marathon Race ↘

Exciting moments on the field ↓

Governance

- Governance for Sustainable Development
- Prevention of Commercial Bribery and Unfair Competition



In the new era of corporate development, we deepen governance structure reforms, strengthen industrial foundation, foster innovation, continuously enhance our corporate strength, and boost our competitiveness. Professional and scientific corporate governance is the cornerstone for achieving high-quality development. Adhering to the corporate principle of "advance steadily, endeavor to enhance the market share, and focus on long-term interests," we are driven by "technological innovation, management innovation, and institutional innovation", guided by the highest standards of business ethics, and supported by institutional and cultural construction to achieve steady operations.

Governance for Sustainable Development

Key performance for the construction of the sustainable development governance system in 2023

- No conflicts of interest occurred throughout the year.
- Optimize and improve the governance structure and policies for sustainable development according to the actual operation and business development needs.
- Promote the construction of a comprehensive risk management system and improve the risk list and risk map.
- Regularly disclose the annual sustainability report to explain the effectiveness of ESG governance to stakeholders.

ESG Governance Structure

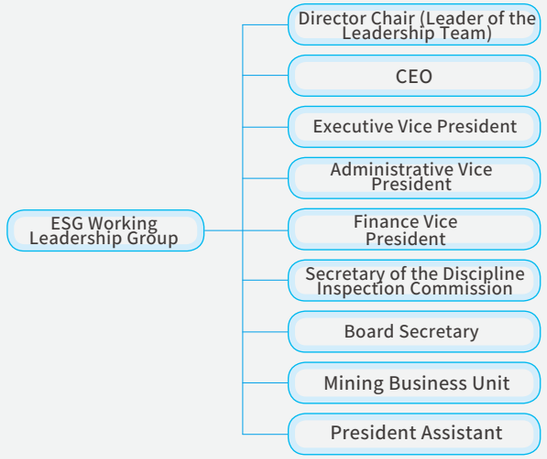
To enhance the governance mechanism for sustainable development and improve the management level of ESG issues, we continuously strengthen a top-down, clearly defined ESG governance framework. At the board level, we have established a Strategy and Sustainable Development Committee to assist the board in guiding and supervising ESG-related matters and reporting to the board. At the operational management level, we have formed an ESG Working Leadership Group composed of company management. At the execution level, we have established an ESG Working Office and ESG Working Special Teams responsible for implementing daily management affairs related to ESG issues.

Board of Directors

- Research and propose recommendations on ESG strategy, material issues, and ESG-related matters
- Monitor and inspect the implementation and improvement of ESG work
- Review ESG-related reports

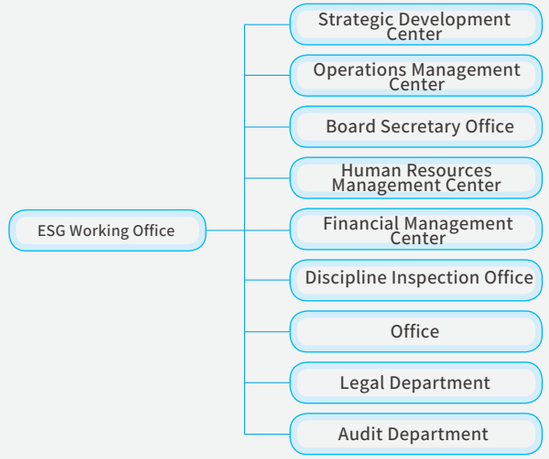
Operational Leadership Level

- Review and establish ESG goals and strategies based on significant ESG issues and risks, formulate annual work tasks
- Review ESG-related policies and matters, and report to the Strategy and Sustainable Development Committee
- Listen to and review the ESG work plans and outcome reports of ESG working group and each subsidiary company



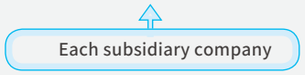
Execution Level

- Collaborate with Each subsidiary company to jointly formulate, promote, and implement ESG goals, strategies, and policies, regularly monitor and report on the execution of related tasks
- Manage daily ESG information and collect annual ESG information, assisting in compiling ESG reports



Landing Practice Subjects

- Implement ESG goals, strategies, and policies, and carrying out related work



ESG Policies

We adhere to the principles of sustainable development in our corporate operations and development. We comply with the laws and regulations of the regions where we operate and continuously optimize policies regarding sustainable development issues according to business needs. We declare our goal to become an ethical role model enterprise and establish relationships of mutual trust and mutual benefit with shareholders, employees, business partners, and local indigenous communities and other stakeholders. We strictly require all companies and employees within our scope of consolidation to comply with the global code of conduct outlined in our ESG policy statement.

ESG Policies

- Code of Business Conduct
- Anti-Corruption and Anti-Bribery Management Regulations
- Supplier Code of Conduct
- Basic Specifications for Safe Production
- Basic Norms of Environmental Protection
- Environmental Protection Statement

Corporate Compliance Operations

We strictly adhere to the provisions of the Company Law of the People's Republic of China, the Securities Law of the People's Republic of China, and other laws and regulations, as well as the provisions of the Articles of Association. We have established a "shareholders' meeting, board of directors, and supervisory committee" governance structure with clear rights and responsibilities, scientific efficiency, and coordinated operation. We systematically advance the work of the shareholders' meeting, the board of directors, and the supervisory board, steadily improving the company's operational performance and promoting sustainable, high-quality development. During the reporting period, we revised governance documents such as the Articles of Association, Rules of Procedure for Board of Directors Meetings, Independent Director System, and working rules of various special committees in accordance with relevant laws and regulations, regulatory requirements, and corporate governance practices, providing institutional safeguards for the company's compliance, scientific, and efficient governance. We convened a total of 4 shareholders' meetings, reviewing 26 proposals; convened 13 board of directors meetings, reviewing 95 proposals; independent directors expressed independent opinions 31 times on major matters; convened 12 audit committee meetings, reviewing 49 proposals; convened 6 nomination and remuneration evaluation committee meetings, reviewing 12 proposals; convened 6 strategy and sustainable development committee meetings, reviewing 29 proposals; convened 7 supervisory board meetings, reviewing 31 proposals.

Selection and Appointment of Directors and Senior Management

According to the "Articles of Association" and the "Nomination and Remuneration Evaluation Committee Work Rules of the Board of Directors," the Nomination and Remuneration Evaluation Committee is responsible for carrying out the nomination and appointment procedures for company directors and senior management personnel. The committee, considering factors such as diversity, independence, and professionalism, determines a preliminary list of candidates for directors and senior management personnel. After conducting a qualification review of the preliminary candidates based on the conditions of their appointment, the committee then submits candidate recommendations to the board of directors. Director candidates, upon approval by the board of directors, are proposed in the form of a motion for voting by the shareholders' meeting, which ultimately elects the new board of directors. Senior management candidates, upon approval by the board of directors, are appointed accordingly.

Diversity and Professionalism

Our company's board of directors strictly adheres to relevant regulations, regulatory requirements, and the company's "Rules of Procedure for Board of Directors Meetings" to establish a sound decision-making mechanism, diligently fulfill their duties, and perform their responsibilities in accordance with regulations. The board of directors has established specialized committees including the Strategy and Sustainable Development Committee, the Audit Committee, and the Nomination and Remuneration Evaluation Committee. The proportion of independent directors in each specialized committee exceeds 50%, and each committee is chaired by an independent director, providing professional advice for the board of directors' decision-making process. As of the end of this reporting period, our company's board of directors consists of eight directors, including three independent directors and three external directors. Independent directors leverage their professional expertise to rigorously fulfill their duties of professional guidance, review, and supervision in accordance with relevant regulations and company rules and regulations, ensuring standardized governance, orderly operations, and safeguarding the interests of shareholders and the company. Members of our company's board of directors have diverse professional backgrounds in materials science, deep processing, engineering management, financial management, risk management, human resources management, economics, accounting, law, and compliance management. The professionalism and diversity of the board of directors provide important guarantees for the company's scientific decision-making and steady operation.

Our company's senior management personnel have expertise in various fields including engineering, finance and accounting, and law. They possess extensive experience in operational management, financial management, risk control, and compliance management. This group includes one female member, accounting for 20% of the senior management team.

Name	Occupation	Age	Professional Background				Board Committees			Attendance（Board meetings and Board committee meetings	Shares Held at the End of Reporting Period (Shares)
			Industry Experience	Operations Management	Risk Management and Compliance	Financial Accounting	Strategy and Sustainable Development Committee	Audit Committee	Nomination and Remuneration Evaluation Committee		
Huang Changgeng (Male)	Director Chair	59	●	●	●					100%	200,000
Wang Dan (Female)	Director	42		●	●	●				100%	0
Satoshi Yoshida (Male)	Director(Resigned on November 27, 2023)	59		●		●	●			100%	0
Hou Xiaoliang (Male)	Director	58		●	●				●	100%	0
Zhou Min (Male)	Director	60		●	●	●		●		100%	0
Wu Gaochao (Male)	Director and CEO	57	●	●	●					100%	150,000
Ye Xiaojie (Male)	endent Director	38				●	●	●		100%	0
Cheng Wenwen (Male)	endent Director	60		●		●		●	●	100%	0
Zhu Haomiao (Male)	endent Director	45	●				●		●	100%	0
Zhong Kexiang (Male)	Executive Vice President	51	●	●	●					/	100,000
Hong Chao'e (Male)	Vice President	57		●	●	●				/	100,000
Zhong Bingxian (Male)	Vice President and CFO	48		●	●	●				/	100,000
Zhou Yujun (Female)	Board Secretary	37		●	●					/	100,000

Enhancement of Performance Capability

We regularly organize directors, supervisors, and senior management personnel to participate in various training sessions organized by regulatory authorities, industry associations, and other entities. This aims to strengthen compliance awareness among personnel, enhance the performance capability of directors, supervisors, and senior management, and improve the scientific governance level of the company. During the reporting period, our company's directors, supervisors, senior management personnel, and relevant department staff participated in a total of 29 training sessions organized by securities regulatory commission and securities regulatory bureaus, stock exchanges, and listed company associations. The training content covered the latest policies and regulations, as well as sustainable development governance, among others.

Remuneration of Director and Senior Management

The Nomination and Remuneration Evaluation Committee, a subcommittee of the board of directors, is responsible for formulating and reviewing the remuneration policies and schemes for company directors and senior management personnel. It is also responsible for establishing assessment criteria for directors and senior management personnel and overseeing the assessment process. According to the "Articles of Association" and the "Nomination and Remuneration Evaluation Committee Work Rules of the Board of Directors," the remuneration schemes for company salaried directors and senior management personnel are proposed by the Nomination and Remuneration Evaluation Committee, approved by the board of directors, and submitted to the shareholders' meeting for approval before implementation. External directors and supervisors receive allowances based on the standards approved by the shareholders' meeting. The remuneration for the chairman of the board and senior management personnel is calculated based on the "Annual Salary System Implementation Plan" approved by the shareholders' meeting.

Clawback Mechanism

According to our " Implementation Plan for Annual Salary Scheme," the annual salary of the chairman of the board and senior management personnel consists of two parts: basic annual salary and performance-based annual salary. The performance-based annual salary is tied to the company's economic performance and individual performance evaluations. Additionally, we have implemented a rollback mechanism wherein 30% of the after-tax full amount of the performance-based annual salary is reserved as a risk fund. This fund is disbursed after the term audit or departure audit. In the event of significant violations of operational regulations during the term, funds may be deducted or confiscated from the risk fund account to prevent relevant management risks.

Equity Incentive Mechanism

To motivate directors and senior management personnel and ensure the realization of the company's development strategy and business objectives, we have implemented Restricted Stock Incentive Plans and Employee Stock Ownership Plans, establishing a long-term incentive mechanism. As of the end of the reporting period, directors and senior management personnel directly hold 750,000 shares of company stock in total, accounting for 0.05% of the total share capital of the company.

Related-party Transaction

To standardize the company's related-party transactions, enhance the independence and scientific nature of decision-making, and better protect the legitimate rights and interests of all shareholders, especially minority shareholders, we have formulated and continuously improved the "Related Party Transaction Decision-Making System" in accordance with relevant laws, regulations, and regulatory rules. This system clearly defines related parties and related-party transaction scope, decision-making procedures for related-party transactions, pricing principles and methods, avoidance mechanisms, information disclosure, and other matters. We strictly implement this system to ensure that related-party transactions are implemented in accordance with regulations after effective decision-making, guaranteeing fairness, impartiality, transparency, and equity in related-party transactions.

Conflicts of Interest

Directors, supervisors, and senior management personnel of the company shall faithfully fulfill their duties in accordance with the company's internal rules and regulations. They shall not use their positions to seek commercial opportunities that rightfully belong to the company for themselves or others, engage in self-employment or operate businesses similar to the company's for others, and shall uphold the maximum interests of the company and all shareholders. To prevent and avoid adverse effects that conflicts of interest may bring to the company, directors, supervisors, and senior management personnel shall promptly and actively report to the company any situations that may involve conflicts of interest, ensuring that their performance is not negatively affected by any conflicts of interest.

Protection of Shareholder Rights

In accordance with relevant laws and regulations, regulatory requirements, and the company's "Shareholders' Meeting Rules of Procedure," we standardize the procedures for convening, holding, and voting at shareholders' meetings. We clarify voting mechanisms such as separate voting and cumulative voting, and provide online voting channels for small and medium-sized investors. We fully respect all shareholders' rights to information, participation, voting, and supervision on major company matters, effectively safeguarding the rights and interests of shareholders, especially small and medium-sized shareholders.

Information Disclosure Management

We strictly adhere to relevant laws and regulations as well as the company's internal "Information Disclosure System" requirements to conduct information disclosure work promptly, truthfully, accurately, completely, and fairly. We strive to ensure that all investors have equal rights to access company information.

Investor Relations Management

We have established the "Investor Relations Management System," which clearly defines the basic principles, responsible departments and their duties, work content, and methods of investor relations management. We promote and implement investor relations management work accordingly. Additionally, we actively promote the application of an information system for investor relations management to achieve proactive and refined investor relations management, continuously enhancing the company's level of investor relations management.

We continuously optimize and improve diverse communication mechanisms with investors. Through various channels and contact methods such as the company's website, new media platforms, telephone, fax, email, stock exchange interactive platforms, etc., we engage in communication and exchanges with investors through various forms such as shareholders' meetings, performance briefings, corporate roadshows, analyst conferences, investor visits and surveys, online Q&A sessions, etc.

- **Performance Briefings:** We organize regular performance exchange meetings and performance briefings across multiple platforms, actively participate in collective performance briefings organized by stock exchanges and industry associations, expand investment exchanges, and promptly respond to questions raised by investors. We utilize visual financial reports on platforms such as the Shanghai Stock Exchange Roadshow Center, innovatively employing AI digital avatars to vividly explain the company's performance and operating conditions for the first half of 2023, making it easier for investors to understand the company's operational status and key financial data.

- **Shanghai Stock Exchange E-interactive Platform:** Engaging in Q&A exchanges with investors on the Shanghai Stock Exchange E-interactive Platform, we responded to a total of 150 investor questions during the reporting period, achieving a response rate of 100%.
- **Investor Visits and Research:** During the reporting period, a total of 124 online and offline research activities were organized for investors, and received over 1,000 participants joining the activities. Additionally, 8 company production line visits were organized, leading investors on-site visits and research.
- **Corporate Roadshows:** A total of 22 one-on-one roadshows were conducted for institutional investors during the reporting period.

The Party Building

As a state-owned enterprise, we always adhere to the leadership of the Party building, consciously undertake the mission and responsibility of state-owned enterprises in the new era, firmly implement the Party and state policies, actively promote the standardization of governance mechanisms, democratic decision-making mechanisms for major issues, and innovation in Party organization reform, to achieve resonance between Party building and business operations.

We adhere to the leadership role of the Party committee in providing direction, implement the decision-making mechanism of the Party organization, improve the collective leadership mechanism, ensure the democracy, scientificity, and effectiveness of major decisions, and continuously enhance the level of corporate governance. During the reporting period, our company's Party committee conscientiously studied the "Major decision-making, Major personnel appointments and dismissals, Major project investment decisions, and Large Fund Utilization" decision-making matters, held 19 Party committee meetings, and discussed 377 matters related to company reforms, major project investments, important personnel appointments, etc., ensuring that the company's operations and business development are in line with the direction of reform and development and strategic objectives, empowering the company for high-quality development.

We focus on the main line of high-quality development of the enterprise, taking the opportunity to deeply carry out the theme education on studying and implementing Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era and to carry out the "Three Struggles" action of "deep learning for excellence, daring to strive for leadership, and practical efforts for effectiveness." We strive to promote the deep integration of party building work with production and operation, address key and difficult issues in enterprise development, and select a batch of projects as important carriers to promote the "Three Struggles" action. We conduct regular research and continuous advancement to ensure the completion of projects on time and continuously enhance the company's overall strength. For example, the third phase expansion project of Xiamen Honglu Tungsten Wire with an annual production capacity of 60 billion meters of fine tungsten wire has completed construction and started production smoothly. The tungsten resource guarantee project in the Dahutang North Area has officially started construction. International advanced manufacturing and comprehensive risk prevention and control management continue to deepen, and so on. We emphasize the role of party members as pioneers and models, establishing 42 party member task forces and pioneer teams to fully complete 118 urgent tasks such as key project capacity construction, improving product qualification rate, construction of key resource mines, key technology research and development, and digital construction. We vigorously promote the integration of party building with production and operation, and work together in the same direction.

We promote the fine tradition of closely connecting with the workers, urging leaders and cadres at all levels to actively implement assistance programs, and actively engage in "serving the people and addressing practical issues" activities. We steadily address 56 issues concerning grassroots workers' concerns and aspirations, continuously enhancing the happiness and sense of belonging of the workers.

Risk Management

We deeply recognize that amidst complex and severe global economic fluctuations, political unrest, and climate change, establishing comprehensive and effective risk control measures, enhancing enterprise risk management capabilities, and fostering resilience are crucial safeguards for achieving stability and long-term development. Based on our own operational management model and business development reality, we have been continuously optimizing risk management and internal control systems and processes, establishing a comprehensive risk management system, and enhancing supervision mechanisms to continuously strengthen and improve risk control system. This includes reinforcing comprehensive control measures covering the entire process of operations and business activities, from pre-event to during-event and post-event, to effectively prevent various major risks in operations.

During the reporting period, we have referred to the ISO 31000 risk management framework standard to promote the establishment of a comprehensive risk management system. We have formulated the "Comprehensive Risk Management System" and the "Comprehensive Risk Management Operating Guidelines," gradually establishing and improving risk management mechanisms, and constructing a risk map to ensure the effective execution of the risk management work. These efforts aim to enhance risk control capabilities, safeguard the realization of strategic objectives, and ensure the stable and healthy development of operations and management.

Risk Management Structure

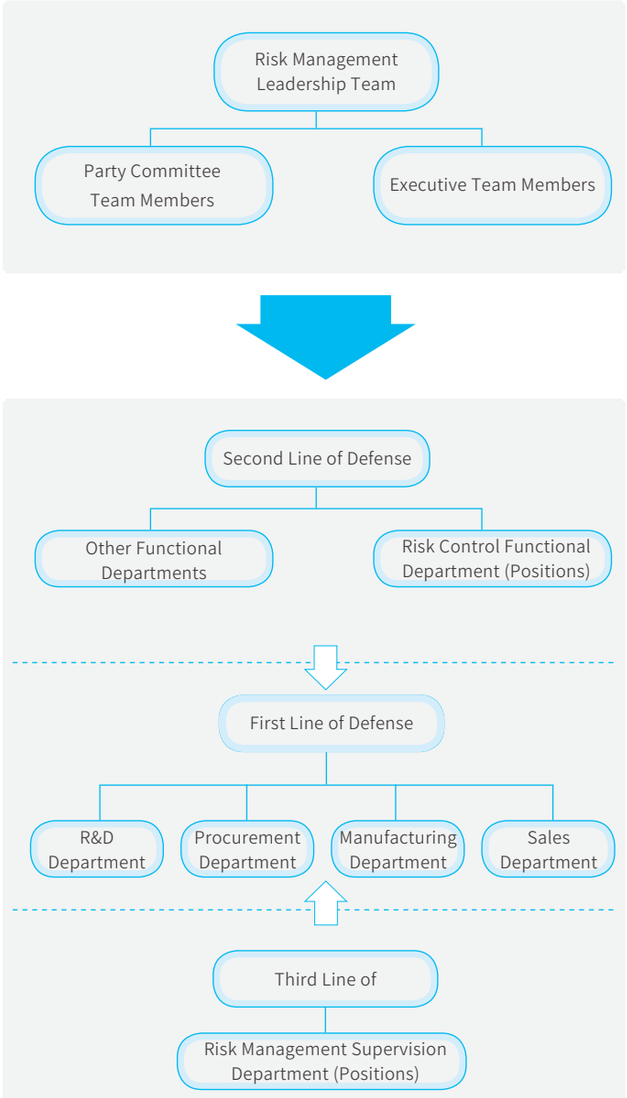
To effectively implement risk management responsibilities and standardize risk management work, we have established a clearly defined risk management structure. We have incorporated risk management into the annual performance evaluation system, striving to integrate risk management into various aspects of operations. In cases where significant risks or crises occur due to decision-making errors, management negligence, improper behavior, or other reasons, leading to losses for us, corresponding responsible parties will be held accountable according to internal regulations.

Control Layer

- Risk Management Leadership Team: Serving as the highest decision-making body for risk management, it coordinates the construction and effective implementation of the risk management system, and is responsible for ensuring the effectiveness of risk management.

Management Layer

- First Line of Defense: The Research and Development Department, Procurement Department, Manufacturing Department, and Sales Department serve as responsible departments for risk management, responsible for risk management within their respective areas of responsibility.
- Second Line of Defense: Risk control functional department (positions) and other functional departments provide professional support to the risk responsible department.
- Third Line of Defense: The risk control supervision department (position) is responsible for auditing, inspecting, and supervising the evaluation of risk management work.



Risk Management Process

We continuously improve the comprehensive risk management mechanism of the enterprise through a closed-loop management process that includes continuous optimization of risk identification, risk analysis, risk response, risk tracking and reporting, supervision, and continuous improvement.

Risk Identification

Through internal and external information collection, risk interviews, scenario analysis, case studies, and other methods, we identify various categories of risks. By integrating these methods with business activities, we comprehensively identify risks, including compliance risks, financial risks, and strategic risks, etc. We construct a risk map and update the risk inventory timely based on the risk response situation and business environment prediction.

Risk Category	Examples of Risks Listed in Inventory
Strategic Risks	External Environmental Risk, Industry Risk, Strategic Assessment Risk, Strategic Positioning Risk etc.
Corporate Governance Risks	Equity Structure Risk, Internal Governance Risk, Risk of Controlling Subsidiaries etc.
Financial Risks	Budget Risk, Funds Management Risk, Financial Revenue and Expenditure Risk, Tax Compliance Risk etc.
Operational Risks	Work Safety Risk, Environmental Protection Risk, Occupational Health Risk, Quality Defect Risk, Project Operation Risk etc.
Human Resources Risks	Organizational Health Risk, Organizational Adaptability Risk, Inappropriate Performance Management Risk, Compensation Management Risk etc.
Administrative Risks	Document Management Risk, Seal Management Risk, Archives Management Risk, Logistics Management Risk etc.
Data Risks	Data Security Risk, Facility Safety Risk, Information System Risk etc.
Information Disclose Risks	Information Disclosure Risk, Insider Information Control Risk etc.
Legal and Compliance Risks	Legal Dispute Risk, Contract Management Risk, Business Compliance Risk, Internal Control Deficiency Risk etc.
Business Ethics Risks	Fraud Risk, Corruption Risk, Bribery Risk etc.

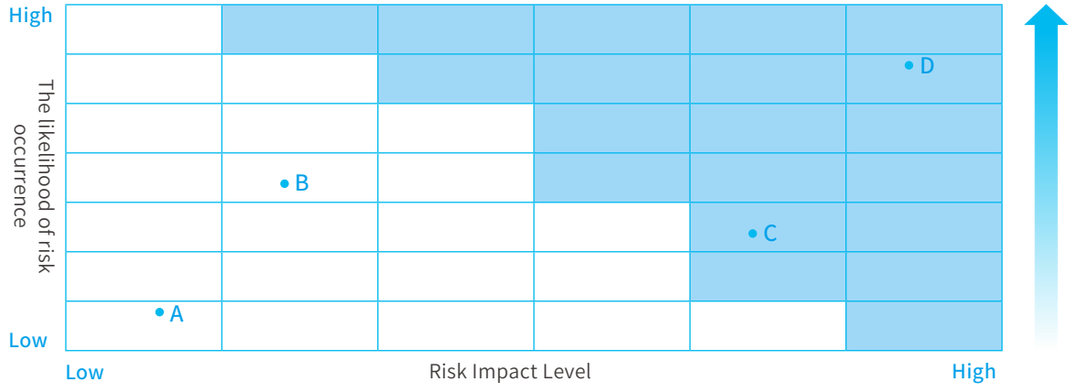
Risk Analysis

Based on the identified risks, we conduct analysis and sorting considering factors such as likelihood of occurrence and impact severity. We determine a core risk list, clarify the responsible parties for risk management, thus laying a solid foundation for risk response and monitoring.

The headquarters functional departments and subsidiary companies analyze and evaluate the identified risks to determine the core risk list.

Our risk management leadership team identifies significant risks across the entire group, decides on major risk response plans, and tracks and supervises their implementation

Risk Analysis Matrix



Comprehensively analyze the likelihood and impact of various risks, and determine priority risks (C, D) through a risk analysis matrix.

Risk Response

For different risks, we develop response strategies that align with our risk preferences, tolerance levels, and are compatible with available risk management resources. These strategies may include risk avoidance, risk transfer, risk reduction, and risk acceptance. Taking the categories of legal and compliance risks, as well as human resources risks, identified as examples:

Risk Category	Secondary Risks	Risk Description	Resilience
Operational Risk	The risk of key talent attrition	As a national-level high-tech enterprise, the core professional talents are crucial driving forces for our development. With the rapid growth in market demand and intensified industry competition, there is a rapid increase in demand for research and technical talents within the industry. Talent acquisition is also becoming increasingly fierce. We may face the risk of losing key technical personnel and professionals, which could have adverse effects on the technological research and innovation capabilities.	Tailored talent development, providing diverse training opportunities, continuously refining performance management and personnel promotion mechanisms, we create clear career development paths for employees; we offer compensation packages that align with their value contributions and are competitive externally, establishing long-term incentive mechanisms that involve sharing benefits and risks; we grant incentive stock options to fully motivate key personnel, and attracting and retaining professional talents.
Operational Risk	The risk of trade secret	As a high-tech enterprise, we possess numerous core technologies. Throughout the stages of research and development, patent application, business collaborations, and daily operations, we may encounter risks of commercial secret leakage. This could potentially result in economic losses, damage to commercial reputation, and a decrease in market share, which is unfavorable for achieving our business objectives.	We establish and improve regulations related to the protection of trade secrets, establish confidentiality mechanisms and incentive mechanisms, take corresponding measures to effectively protect trade secrets, and impose appropriate penalties on personnel who violate confidentiality obligations; we conduct various forms of publicity and education to convey relevant regulations and requirements for trade secret protection to employees, enhancing their awareness, compliance, and implementation of trade secret protection measures.

Risk Reporting

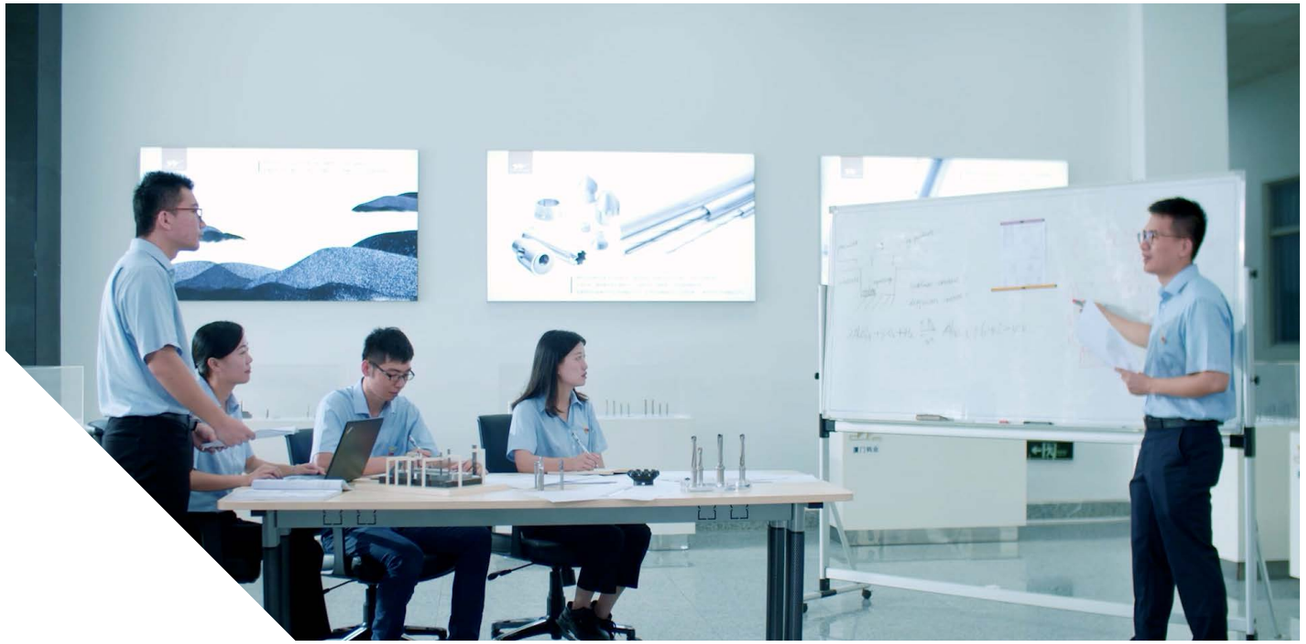
Establish a robust risk reporting procedure, continuously track changes in risks across all areas, monitor the implementation of risk response plans, and promptly summarize risk management situations, including: the subordinate companies shall, as required, report risk management in a timely manner through regular reports, annual reports, special reports on major risks, risk event reports, etc.; when major risk events occur, the risk department responsible shall report to the risk management leadership team immediately, and the risk management department shall organize relevant departments to carry out risk response and promptly report to the headquarters legal department and the corresponding functional management departments, and evaluate the results of the risk events. Additionally, we enhance risk response capabilities and recovery capabilities by conducting risk emergency drills to check the effectiveness of risk emergency plans, and analyze and summarize the plans to improve risk response and restoration capabilities.

Supervision and Improvement

We regularly analyze and inspect the implementation and effectiveness of risk management work and continuously improve and enhance it. Risk-occurring departments should formulate risk response plans and continuously track and monitor them, promptly analyze and summarize the effectiveness of risk event management, and apply them in future risk management work.

Risk and Compliance Education

We attach great importance to the construction of corporate risk management culture, striving to establish a solid foundation for steady and far-reaching development. We have built a "Group Policy Portal" platform to real-time publish various risk management and internal control-related policy documents that are newly added or revised. We conduct education and advocacy on risk management and internal control policies for all employees to enhance their awareness of risk and compliance.



Internal Control Compliance

We continuously improve our internal control system in conjunction with the company's management model, continuously optimize internal control regulations and process construction, strengthen inspection and supervision mechanisms, and enhance internal control to effectively prevent various major risks in the company's operations. We adhere to a strategic planning orientation, with annual business plans as our goals. Through "strategy + finance" dual control, we formulate, execute, monitor, and evaluate annual budgets, forming an organic management cycle of strategic planning, comprehensive budget management, and comprehensive performance management. We achieve full coverage control over key aspects of the company's operations and business activities, ensuring pre-event, in-event, and post-event control coverage, tracking and preventing risks, and ensuring the company's stable operation.

Our company's board of directors has established an audit committee, responsible for overseeing and reviewing the internal control system and its implementation. The audit department of the company is responsible for supervising, reviewing, and tracking the construction and implementation of internal control systems in the company and its subsidiaries. The audit department reports to the audit committee regularly.

Internal Control System Construction

Based on the overall framework of 29 subsystems of internal control, we guide each subsidiary to establish corresponding internal control systems to enhance risk management capabilities:

- √ **For mining activities,** we construct a key risk control-type internal control system focusing on 11 subsystems including corporate governance, enterprise strategy, social responsibility, production and manufacturing, safety environment, engineering projects, information systems, and risk control.
- √ **For material preparation and processing activities,** we construct a comprehensive internal control system covering all 29 subsystems including corporate governance, enterprise strategy, social responsibility, investment management, financial operations, production and manufacturing, and risk control. We aim to classify and fully prevent risks involved in daily business management processes.

Internal Control Supervision and Inspection

We continuously improve inspection and supervision mechanisms, strengthen internal supervision, and promptly discover defects and issues in operational risks and internal control processes through methods such as internal control evaluation, internal control audit, special audit, and routine supervision inspections. We urge relevant units to implement rectification effectively to prevent enterprise risks.

Special Audits

- √ Research and Development Management Special Audit: During the reporting period, special audits on research and development management were conducted for 23 primary subsidiaries and 7 joint-stock companies to strengthen control over research and development funds and standardize processes such as project budgeting, project approval, and goal setting.
- √ Procurement Management Special Audit: During the reporting period, procurement management special audits were conducted for 6 subsidiaries focusing on supplier management, procurement prices, tendering management, procurement contracts, accounts payable, and prepaid management, to further improve equipment procurement budget control, procurement demand management, and standardize inquiry and bidding processes.
- √ Internal Management Special Audit: During the reporting period, internal management special audits were conducted for 1 subsidiary, covering internal control processes such as human resources management, monetary fund management, project management, sales and receivables management, and procurement and payment management.
- √ Engineering Project Special Audit: During the reporting period, special audits were conducted for 1 engineering project and full-process supervision checks were conducted for 8 key engineering projects to promote the improvement of subsidiary's engineering management level.

Internal Control Evaluation

During the reporting period, internal control inspections and evaluations were conducted for the company's headquarters and 14 subsidiaries, promptly identifying deficiencies in internal control design and implementation, and implementing rectification, achieving further improvement in internal control level and effective risk control.

Stakeholders Communication

Our mission is encapsulated in "We aim to make XTC a place for employees to realize personal value, a place for customers to find solutions, a place for shareholders to invest in, and also a place for society to benefit from." We prioritize the expectations of stakeholders as a crucial factor in enhancing corporate governance. We establish diverse communication channels with stakeholders to regularly understand their suggestions and concerns.

Stakeholders	Material Issues	Communication Methods
Employees	Environmental Compliance Risk Management Operation Compliance Human Rights Protection	Employees Consultation Employees Training & Activities Employee Complaints Employee Satisfaction Survey
Customers	Operation Compliance Tax Compliance Complaint Machanism and Complainant Protection	Customer Service and Complaints On-site Interviews Customer Satisfaction Survey
Suppliers	Operation Compliance Environmental Compliance Anti-unfair Competition Equal Employment	Supplier Conference Supply Chain Management Platform On-site Interviews
Investors	Operation Compliance Innovative Research and Development Environmental Compliance Risk Management	Listed XTC Information Disclosure Shareholders' Meeting / Performance Briefing Investor Hotline / Investor Interactive Platform Investor Visits and Research Roadshow Event/Brokerage Strategy Meeting
Banks	Risk Management Tax Compliance Anti-Corruption	Listed XTC Information Disclosure Project Cooperation
Media	GHG Emissions Resource Recycling Operation Compliance	Listed XTC Information Disclosure Social Media Communication Public Opinion Monitoring
Government and Supervision	Environmental Compliance Operation Compliance Tax Compliance	On-site Interviews Project Cooperation Meeting Training
NGOs	Water Conservation and Wastewater Management Resource Recycling GHG Emissions	On-site Interviews Public Welfare Service Public Opinion Monitoring

Material Issues Assessment

We highly prioritize the identification and management of ESG issues. Based on the company's development strategy and business characteristics, and in accordance with the requirements of international sustainable development reporting frameworks and standards such as GRI (Global Reporting Initiative) and SASB (Sustainability Accounting Standards Board), we conduct material issue assessment processes. Through processes such as issue list identification, internal and external research and evaluation, importance analysis, etc., we have identified and confirmed the three most important material issues for the company in 2023 (Customer service, innovative research and development, intellectual property protection), and provide detailed explanations in the corresponding sections of this report.

Identification of ESG issues

Based on the material issue assessment results from 2022, and in alignment with our company's development plans and operational realities, we have identified and confirmed 27 ESG issues relevant to the company for 2023. This identification process follows the requirements of frameworks and standards such as GRI and SASB, and benchmarks excellent ESG practices of domestic and international peers.

Internal and external research and evaluation

We invited the company's management team and stakeholders to participate in the material issue assessment by sending out separate ESG material issue survey questionnaires for 2023. Through internal and external research and evaluations, we aimed to understand the ESG issues of concern to each stakeholder group.

Importance analysis of issues

Based on the results of internal and external research and following the principle of dual importance, we conducted a comprehensive analysis and priority ranking of ESG issues from two dimensions: the importance of ESG issues to the company's financial impact and their impact on stakeholders. This process resulted in the formation of a material issue matrix.

Environmental

1. Environmental Compliance
2. Greenhouse Gas Emissions
3. Energy Management
4. Water Conservation and Wastewater Management
5. Exhaust Air Management
6. Waste Management
7. Biodiversity Conservation
8. Resource Recycling
9. Tailings Management

Social

10. Equal Employment
11. Human Rights Protection
12. Occupational Health and Safety
13. Training and Education
14. Compensation and Welfare
15. Employee Communication
16. Community Investment
17. Responsible Supply Chain
18. Customer Service

Governance

19. Operation Compliance
20. Risk Management
21. Anti-corruption
22. Anti-Unfair Competition
23. Innovative Research and Development
24. Intellectual Property Protection
25. Information Security
26. Tax Compliance
27. Complainant Protection

Review of Assessment Result

Our 2023 material issue assessment results have been reviewed by the Board of Directors.

Prevention of Commercial Bribery and Unfair Competition

Corporate Governance Key Objectives for 2023	
1	0 incidents of commercial bribery or corruption throughout the year
2	0 litigation or significant administrative penalties on unfair competition or monopolistic behavior throughout the year
3	0 administrative penalties on money laundering and insider trading throughout the year
4	Complete outreach of anti-corruption policies to 100% of company employees within the year
5	0 litigation on infringement of intellectual property rights throughout the year
6	0 tax compliance violations throughout the year

Anti-monopoly and Anti-unfair Competition

We adhere to the principles of compliance, integrity, and fairness, strictly comply with relevant domestic laws and regulations such as the Anti-Unfair Competition Law of the People's Republic of China and the Anti-Monopoly Law of the People's Republic of China, as well as laws and regulations in the regions where we operate. We have formulated and continuously improved the "Business Code of Conduct", and have made corresponding normative requirements and statements regarding anti-monopoly and anti-unfair competition, advocating free and fair competition. We prohibit the use of unfair means to obtain business secrets of competitors, the fabrication and dissemination of false information, and any fraudulent behavior or other illegal means to disrupt market order. During the reporting period, we were not involved in any unfair competition or monopolistic behavior, and no litigation or significant administrative penalties occurred due to unfair competition or monopolistic behavior.

Anti-corruption and Anti-bribery

We consistently uphold high standards of business ethics as the fundamental principles and behavioral norms in our business operations. We explicitly define the ethical standards required for corporate behavior in the "Business Code of Conduct", maintaining a zero-tolerance stance towards all forms of corruption and bribery. We require all employees to adhere to the requirements of integrity and self-discipline, prohibiting the acceptance of bribes or the offering of bribes to others, and forbidding the solicitation of any direct or indirect benefits from any individual or organization. Exploitation of one's position for personal gain or misappropriation of company property is strictly prohibited.

We have established a four-tier disciplinary supervision structure comprising the XTC's Party Discipline Inspection Committee (hereinafter referred to as "XTC Disciplinary Committee" or "Disciplinary Committee"), area-level discipline inspection teams, company-level discipline inspection agency, and grassroots branch discipline inspection committees. We have creatively constructed a linkage mechanism between the "office-team-enterprise" (namely, disciplinary inspection office in headquarters, area-level discipline inspection teams, and discipline inspection cadre in subordinate companies), continuously improving a comprehensive supervision network led by the XTC Disciplinary Committee and jointly operated by disciplinary inspection office, audit department, and relevant positions in various affiliated enterprises. We have established and improved mechanisms such as cross-inspection, work exchange, special supervision, and integrity risk prevention and control penetration testing, deepening the integration of disciplinary inspection with corporate development supervision system.

We have formulated the "Management Measures for Liability Accountability", establishing accountability procedures for violations of integrity requirements from headquarter to all affiliated enterprises. Detailed provisions have been made for accountability situations regarding internal management and risk control, labor discipline and behavioral norms, procurement and sales control, safety and environmental protection, and integrity self-discipline. Strict disciplinary actions are taken against violations in accordance with regulations and rules. Depending on the relevant responsible parties, we may take measures including but not limited to criticism and education, warnings, suspension, job transfer, demotion, resignation requests, deduction or recovery of performance pay or term incentive income, and recovery of medium- to long-term incentive benefits.

During the reporting period, XTC Disciplinary Committee organized the formulation of 28 disciplinary inspection and supervision systems including the the 7 systems of "Anti-Corruption and Anti-Bribery Management Regulations ", "Gifts and Hospitality Register and Management Measures", "Integrity File Management Measures", "Integrity Education and Propaganda Management Measures", "Quarterly Themed Integrity Risk Prevention and Control Penetration Testing Work Measures", "Integrity Risk Prevention and Control Manual", and "Discipline Inspection and Supervision Work Rules". It also urged functional departments to formulate 25 management systems and revise 17 management systems in accordance with our development and refined control requirements, further optimizing relevant management systems for operational management to ensure compliance and stable operations. No incidents of business ethics violations due to corruption, bribery, or other misconduct occurred throughout the year.

Business Ethics Risk Management

To strengthen the control of integrity risks, the Disciplinary Committee took the lead in organizing the compilation of the "XTC Integrity Risk Prevention and Control Manual" with the functional departments at headquarters and the important affiliated companies. The manual comprehensively reviewed every business process, covering 19 modules including financial budgeting, corporate governance, procurement management, sales management, production manufacturing, and operational management. It identified key areas and critical points of integrity risks within each module, formulated corresponding integrity risk prevention and control measures, and conducted periodic reviews and updates based on the actual operation.

We adhere to the implementation of the integrity risk prevention and control audit management mechanism and ensure our effective execution through daily inspections to prevent and avoid integrity risks. We continuously deepen the integrity risk prevention and control audit management, strengthen control over the "major issues, major personnel appointments and dismissals, major project arrangement, and decision for large fund utilization" through pre-supervision to prevent integrity risks. During the reporting period, the disciplinary inspection team in 9 areas attended 370 important meetings like meeting associated with "major issues, major personnel appointments and dismissals, major project arrangement, and decision for large fund utilization", generated 518 self-audit forms and identified 19 issues with all of which have been rectified. It promoted the the standardization and refinement of supervision over decision-making authority and processes associated with the "Three major issues and One big decision," further enhancing the precision and effectiveness of supervision.The relevant functional departments of our company and the discipline inspection and supervision cadres of each affiliated enterprise incorporate the implementation of integrity risk prevention and control audit management mechanisms into their daily inspections to ensure the effective execution of the mechanism and prevent and avoid integrity risks.

Special Inspection

- √ "1+X" special inspections: During the reporting period, a total of 47 affiliated companies were organized for "1+X" special inspections, identifying 434 issues. Apart from 7 outstanding issues currently under rectification, all other issues have been rectified.
- √ Important holiday inspections: During the reporting period, focusing on important holidays such as New Year's Day, Spring Festival, Labor's Day, Dragon Boat Festival, Mid-Autumn Festival, and National Day, 6 inspections were conducted, uncovering 9 issues, all of which have been rectified.
- √ Supervision of construction projects: During the reporting period, 327 supervisory inspections were organized for 46 construction projects whose budget exceed 10 million RMB, identifying 11 issues with all of them have been rectified.
- √ Efficiency supervision in supplier selection and engineering bidding process: 13 affiliated companies, which are newly established, relatively small in scale, or distant, were selected for efficiency inspections in supplier selection and engineering tendering processes. A total of 124 issues were identified and all have been rectified.
- √ Special rectification of overseas projects: A special rectification campaign targeting the "exploitation of overseas project commission intermediary fees for personal gain" was conducted. A comprehensive investigation was carried out across all group companies, with no violations found. In conjunction with the overseas audit work of the headquarter audit department, on-site supervision of overseas projects was conducted.

Penetration testing

Disciplinary Committee formulated the "Quarterly Themed Integrity Risk Prevention and Control Penetration Testing Work Measures" and established a mechanism for integrity risk prevention and control penetration testing. Targeting weak links in business management and integrity risk control points, area discipline inspection team leaders organized simulated tests and focused supervision inspections on companies within their respective areas on a quarterly basis. They also urged relevant units to improve and optimize systems, streamline workflow, and strengthen supervision and enforcement.

During the reporting period, we organized a total of 53 affiliated companies to conduct "Quarterly Themed Integrity Risk Prevention and Control Penetration Testing". Focusing on key areas such as management of free samples, sales price management, customer-supplied material procurement and sales, and holiday gift procurement and distribution, we identified 126 issues and rectified all of these issues.

Supplier Business Ethics Management

We have formulated and publicly released the "Supplier Code of Conduct", requiring suppliers to adhere to the principles of honesty and integrity, and refrain from engaging in any form of corruption, extortion, bribery, coercion, embezzlement, or other activities involving improper interests. Additionally, we have continuously strengthened the integrity management and advocacy for suppliers to further prevent integrity risks in the supply chain.

Highlight

At the tungsten smelting production base and tungsten-molybdenum wire production base, we require newly onboarded suppliers to sign a commitment to integrity to ensure their compliance with integrity requirements.

Highlight

At the battery material production base, we require new suppliers to sign a "Business Ethics Initiative", and continuously communicate integrity and self-discipline requirements to suppliers through means such as sending Sunshine Holiday Notice during important holidays.

Buiness Ethics Culture Building

Disciplinary Committee has formulated the "Implementation Measures for Ethical Education in Employment" and the "Management Measures for Ethical Education Propaganda," aiming to strengthen ethical education and promote the integration of ethical culture at the grassroots level. This is achieved through regular ethical education, integrity talks for leaders, cultural promotion, training seminars, case warnings, and integrity conversations.

Regular Education and Promotion:

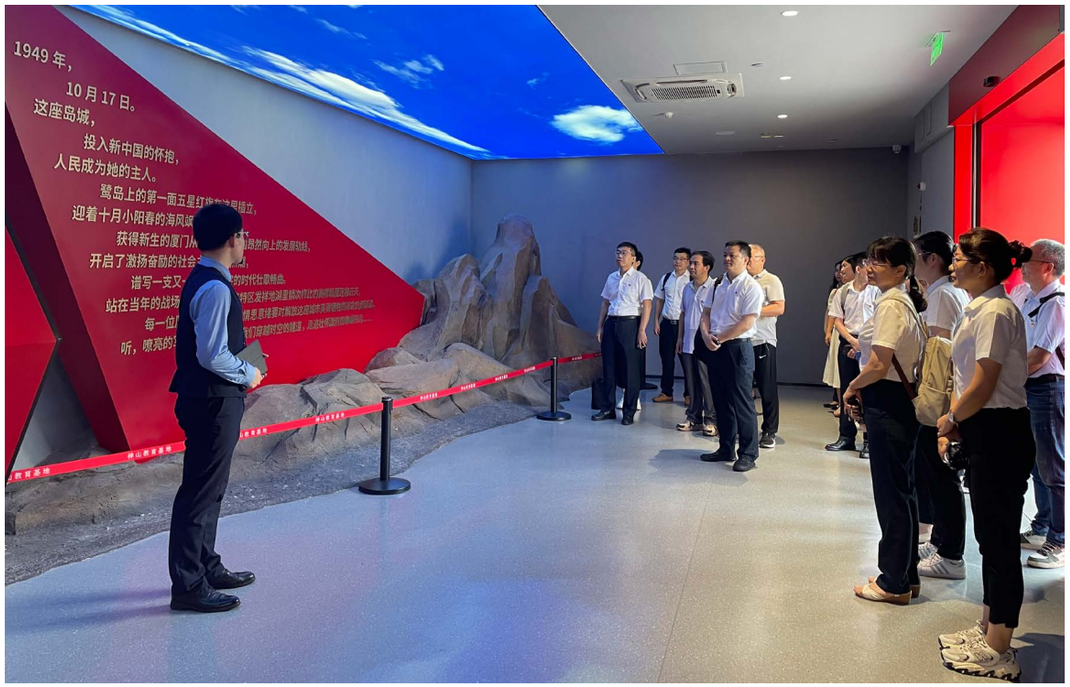
- √ Creating integrity posters at important junctures and sending reminders through the "Integrity WeChat" public account to all employees.
- √ Publishing two compilations of integrity cases and drafted four cautionary stories to promote deep reflection and improvement.

Ethical Education for Leadership Appointments:

- √ Conducting pre-employment integrity talks for seven newly promoted leaders; conducting integrity and diligence talks for 21 sessions involving 913 leaders, party members, and key personnel in procurement, sales, etc.
- √ Organizing quarterly work exchange meetings for district discipline inspection teams and specialized training sessions for discipline inspection and supervision cadres

Conducting the "Ethical Employment Education Promotion Month" themed "Clean and Responsible, Everyone's Duty":

- √ Multi-platform ethical promotion: Displaying posters and banners across the group, updating display posters and columns in subsidiary companies, and publishing related articles on WeChat.
- √ Training activities: The affiliated enterprises fully utilized local red education resources, anti-corruption education bases, and family culture education bases, organizing 26 on-site teaching activities with 741 participants. Through various methods such as collective party classes and case study sessions, 33 collective integrity career party classes were conducted, involving 765 leading cadres, party members, and key personnel.



Anti-corruption Education Base Visit

√ Ethical entertainment activities: Conducting 12 optional activities in eight subsidiary companies, involving 575 employees, including DIY, ethical word games, quizzes, and more.

√ Case warning education: Distributing internal supervision and disciplinary cases for learning, organizing 67 case study sessions covering 1,169 key employees.

Fun Activities for Integrity

IP Torch Relay Series Lecture

Intellectual Property Rights Protection

We respect intellectual property rights protection and have established the " Patent Management Regulations" to clarify the patent management process including patent ownership, application, utilization, and rewards. We also adhere to other internal management systems related to intellectual property such as the "Technology Innovation Management Implementation Rules" and " Business Secret Management Specifications " to carry out intellectual property management and protection work. During the reporting period, we issued the "Five-Year Development Outline for Intellectual Property (Trial)" and the intellectual property management model, providing guidance for us and our affiliated enterprises on intellectual property management from aspects such as overall requirements, key tasks, and safeguard measures. We also published the "Guide for Cultivating High-Value Patents," providing clear guidance and standards for cultivating high-value patents for XTC and our affiliated enterprises. Furthermore, we have established a strict technical secrecy mechanism, classifying technical secrets and strictly limiting the scope of knowledge, storage, use permissions, and approval procedures. Employees who timely report leakage incidents or take active remedial measures to avoid or reduce losses are rewarded accordingly. Employees who violate confidentiality regulations are punished, and legal responsibilities are pursued according to the law.

We actively promote the construction of intellectual property culture, led by our technical center and jointly with affiliated enterprises, to create the "XTC Intellectual Property Promotion Week." Through a series of activities such as IP torch relay lectures, knowledge quizzes, and skill competitions, we strengthen the publicity and education of intellectual property protection, enhance the awareness of intellectual property protection among all employees, and establish the concept of intellectual property protection of "respecting knowledge, advocating innovation, integrity and law-abiding, and fair competition."

Tax Compliance Management

In our tax management work, we always adhere to the principles of compliance, integrity and transparency, strictly abide by relevant Chinese laws and regulations, as well as the regulations in the jurisdictions where our operations are located. Following internal control procedures, we identify, assess, and manage potential tax risks in operation, and take effective measures to prevent and manage tax risks, fulfilling our tax obligations in accordance with the law.

- √ **Policy and Regulation Learning:** In our daily operations, we continuously monitor and track updates and changes in tax laws and policies, actively communicate and exchange with tax authorities in the jurisdictions where our affiliated companies are located, timely consult with tax authorities to understand the applicable tax laws and policies for business activities, as well as the execution procedures of tax matters. We organize or participate in internal and external tax-related training sessions irregularly to enhance the professional level of tax personnel.

- √ **Active Suggestions and Recommendations:** We actively participate in research activities conducted by national, provincial, and municipal tax authorities on promoting the high-quality development of large enterprises, implementing tax incentives for advanced manufacturing enterprises, optimizing export tax refund processes, etc. We provide suggestions and recommendations on optimizing tax policies, implementing tax incentive measures, and managing tax costs, contributing our corporate wisdom.

During the reporting period, we paid a total of 1,413,218.4 thousand RMB in taxes, and no tax-related violations occurred.

Complaint Mechanism and Complainant Protection

We encourage stakeholders to continuously monitor XTC and actively report any illegal, disciplinary, regulatory, or unethical behavior. We also encourage stakeholders to provide suggestions regarding business ethics, human rights protection, environmental protection, occupational health and safety, and other related matters.
We provide diverse and accessible channels for stakeholders to lodge complaints and reports. Adhering to the principles of fairness and impartiality, we strictly follow the relevant procedures for complaint reception, investigation, and handling, and promptly provide feedback on investigation results and corrective measures to the complainants. We have established a mechanism to reward complaint reporting. Complainants whose reported issues are verified to be true will be rewarded with corresponding monetary awards based on the extent of direct economic losses recovered. Business partners who actively report and provide important clues will also be rewarded with monetary awards based on the actual circumstances.

Complaint Channels

Complainants can make anonymous or real-name complaints to report against individuals or entities suspected of violating their official duties, committing crimes in office, or engaging in irregular business investments through the following channels:

Complaint hotline: 0592-3351752
Complaint email: XWJJ@CXTC.COM
Mailing address: 21-22/F, Bldg A, Tefang Center, No.81,Zhanhong Road, Xiamen, China

In addition to the above public channels, we provide clear and direct complaint channels through our OA intranet and corporate WeChat for employees to lodge complaints and suggestions. Our subsidiaries also publicly disclose complaint channels via our website and intranet. We also set up clear and publicly accessible contact information for complaints or reports in the mining areas we operate in, periodically visiting and contacting residents in the mining areas to accept relevant complaints and actively responding to and addressing resident concerns.

Protection for Complainants

We adhere to relevant laws and regulations as well as internal corporate guidelines such as the " Guidelines for the Disposal of Investigation and Supervision Problem Clues" and the "Code of Conduct for Disciplinary and Supervisory Cadres." In particular, we have formulated the " Whistleblower Protection and Incentive Measures " to safeguard the legitimate rights and interests of complainants.

Complainant Protection Measures:

- √ Allowing anonymous complaints, strictly prohibiting any actions to obstruct or suppress complaints and reports made in accordance with the law.

- √ Strictly enforce confidentiality mechanisms, ensuring strict management of complaint materials and complainant information obtained at various stages such as acceptance, registration, storage, and investigation.

- √ Take serious actions against the leakage of complaint information or any retaliatory actions against complainants, and hold those responsible accountable according to relevant regulations.

Appendix

Data Overview

Environmental

Indicator	Unit	2021	2022	2023
GHG[1]				
Scope 1 – Direct GHG[1] emissions	tCO_2e	63,697.92	92,374.09	119,050.49
Scope 2 – Indirect GHG[1] emissions(Market based)		506,048.41	466,589.87	555,939.33
Total GHG[1] emissions(Scope 1+ Scope 2)		569,746.33	558,963.96	674,989.82
Scope 3:Other Indirect Emissions		/	/	1,426,485.46
Total GHG[1] emissions intensity	tCO_2e/ Hundred-million RMB of operating revenue	1,788.72	1,159.13	1,713.26
Air Pollutants				
NOx emissions[2]	Ton	15.19	15.56	18.22
SOx emissions		3.43	3.93	3.10
PM emissions		81.76	34.82	`29.06
Non-methane hydrocarbons emissions		/	/	2.57
Ammonia emissions		/	/	6.15
Cobalt and its compound emissions		/	/	0.02
Nickel and its compound emissions		/	/	0.02
Manganese and its compound emissions		/	/	0.01
Sulfuric acid mist emissions		/	/	0.94

Note1: The increase in the company's total greenhouse gas emissions compared to 2022 is mainly due to the increase in production of some products during the reporting period, as well as the inclusion of Xiamen Xtc New Energy Materials (H.c) Ltd., Guangdong Youlu Tools Co., Ltd., and Golden Egret Cement Carbide(Thailand) Co. Ltd. in the scope of greenhouse gas inventory in 2023.

Note2: The increase in the company's nitrogen oxide emissions compared to 2022 is primarily due to the increase in production of some products during the reporting period.

Indicator	Unit	2021	2022	2023
Air Pollutants				
Volatile organic compound emissions	Ton	/	/	0.45
Hydrogen chloride emissions		/	/	2.51
Wastewater and Related Pollutants				
Wastewater discharges[3]	m^3	3,036,337.34	3,657,304.47	4,546,637.26
Ammonia Nitrogen discharge[4]	Ton	19.64	18.76	19.22
Chemical oxygen demand discharge		237.15	181.17	229.10
Total Nitrogen discharge		/	/	25.06
Total lead discharge		/	/	0.06
Total arsenic discharge		/	/	0.41
Total nickel discharge		/	/	0.17
Total chromium discharge		/	/	0.03
Total cadmium discharge		/	/	0.01
Total cobalt discharge		/	/	0.45
Total molybdenum discharge		/	/	0.03
Total zinc discharge		/	/	0.05
Total copper discharge		/	/	0.01

Note3: The increase in the company's total wastewater discharge compared to 2022 is mainly due to the increase in production of some products during the reporting period.

Note4:The increase in the company's ammonia nitrogen emissions compared to 2022 is primarily due to the increase in production of some products during the reporting period.

Indicator	Unit	2021	2022	2023
Wastewater and Related Pollutants				
Total manganese discharge	Ton	/	/	0.29
Total phosphorus discharge		/	/	2.26
Total iron discharge		/	/	0.01
Hazardous Waste				
Transfer and disposal volume of hazardous waste	Ton	/	1,444.53	1,419.52
General Waste				
Industrial waste produced volume	Ton	/	/	259,938.47
Household waste produced volume		/	/	8,733.31
Industrial waste recycled volume		/	/	38,441.26
Household waste recycled volume		/	/	2,446.62
Tailings slag				
Annual waste rock volume	Ton	/	/	8,645,260.20
Annual tailings volume		/	/	3,350,299.09
Annual slag volume		/	/	11,995,559.28
Annual volume of recycled slag		/	/	1,701,500.93
Tailings storage capacity		/	/	45,034,672.11

Note5: The increase in the company's electricity consumption compared to 2022 is mainly due to the increase in production of some products during the reporting period, as well as the inclusion of Xiamen Xtc New Energy Materials (H.c) Ltd., Guangdong Youlu Tools Co., Ltd., and Golden Egret Cement Carbide(Thailand) Co. Ltd. in the statistical scope.

Indicator	Unit	2021	2022	2023
Energy				
Electricity consumption[5]	kWh	1,320,019,912.25	1,306,800,564.19	1,631,612,744.27
Including: Green electricity consumption		/	637,424,211.20	810,047,274.25
Including: Nuclear electricity consumption		/	/	698,490,555.07
Photovoltaic power consumption		/	/	8,165,697.49
Wind power consumption		/	/	80,996,041.69
Hydropower consumption		/	/	22,394,980.00
Green electricity ratio	%	/	48.78	49.65
Steam consumption	Ton	278,905.08	327,082.90	282,283.46
Natural gas consumption[6]	mt	9,850,320.79	13,788,147.96	21,329,644.73
Coal consumption	Ton	5,692.00	5,752.66	6,453.55
Liquefied petroleum gas consumption		/	16.78	18.00
Gasoline consumption	Litre	324,453.44	256,157.90	254,199.65
Diesel consumption		1,534,911.05	3,611,015.08	3,764,841.67
Energy consumption intensity	Tonnes of standard coal/ Hundred-million RMB of operating revenue	661.12	459.93	679.70
Water Resource				
Water withdrawal	m^3	6,754,152.70	6,372,160.03	6,709,167.95
Water consumption		3,717,815.36	2,714,855.56	2,162,530.69
Water consumption density	m^3/ Hundred-million RMB of operating revenue	11,672.09	5,629.91	5,488.95
Packaging Materials				
Packaging materials consumption	Ton	/	/	21,601.33
Material consumption for production and recycling of products		/	/	2,410.99

Note6: The increase in the company's natural gas consumption compared to 2022 is primarily due to the increase in production of some products during the reporting period, as well as the commissioning of XTC New Energy Materials (Yaan) Co., Ltd..

Employment

Indicator	Unit	2021	2022	2023
Total Employees				
Total employees	Person	14,508	15,912	17,549
Including: Employees with signed employment contracts	Person	/	/	16,971
Other workers[1]	Person	/	/	578
Employee Composition				
By Gender				
Male	Person	10,679	11,702	12,842
Female	Person	3,829	4,210	4,707
By Age				
Under 30	Person	3,472	3,966	4,853
30 to 50	Person	9,794	10,763	11,392
Over 50	Person	1,242	1,183	1,304
By Nationality				
China	Person	/	/	17,406
Brazil	Person	/	/	12
Germany	Person	/	/	9
By Nationality				
Korea	Person	/	/	1
Japan	Person	/	/	5
Thailand	Person	/	/	116
By Education				
Doctors	Person	48	45	53
Masters	Person	557	607	761
Bachelors	Person	2,922	3,339	3,652
Colleges	Person	1,829	2,006	2,091
Under-Colleges	Person	9,152	9,915	10,992
By Profession				
Production employees	Person	10,351	11,350	12,691
Sales employees	Person	542	643	680
Technical employees	Person	1,499	1,724	1,935
Finance employees	Person	246	263	266
Administrative employees	Person	1,870	1,932	1,977
Female production employees	Person	/	/	3,230
Female sales employees	Person	/	/	231

[1] Other workers include labor dispatch personnel, rehired retirees, interns, etc.

Indicator	Unit	2021	2022	2023
By Profession				
Female technical employees	Person	/	/	287
Female finance employees		/	/	166
Female administrative employees		/	/	793
Management Team Composition				
Management (Middle and upper, including senior management)	Person	/	690	662
Including: Senior management		/	/	5
Female Management (Middle and upper, including senior management)		78	122	112
Including: Female senior management		/	17	1
Proportion of female Management (Middle and upper, including senior management)	%	11.84	17.68	16.92
Proportion of female senior management		/	/	20.00
Local Employment				
Number of local employees hired within the province	Person	/	/	12,506
Proportion of local employees hired within the province	%	/	/	71.26
Number of female local employees hired within the province	Person	/	/	3,342
Proportion of female local employees hired within the province	%	/	/	71.00
Number of local senior management hired within the province	Person	/	/	4
Proportion of local senior management hired within the province	%	/	/	80.00
Number of female local senior management hired within the province	Person	/	/	1
Proportion of female local senior management hired within the province	%	/	/	100.00

Indicator	Unit	2021	2022	2023
Labor Contracts				
Employment contract signing rate	%	/	/	100.00
Employment of People with Disabilities				
Number of employees with disabilities	Person	/	20	37
Ratio of employees with disabilities	%	/	0.13	0.21
Employee Turnover				
Number of employees who signed contracts at the beginning of the year	Person	/	/	15,494
Total new recruiters in the year		/	/	6,324
Total number of resignations		/	/	4,772
Including: Number of resignations among male employees		/	/	3,767
Including: Number of resignations among female employees		/	/	1,005
Including: Number of resignations among Chinese nationals		/	/	4,698
Number of resignations among Thai nationals		/	/	71
Number of resignations among German nationals		/	/	2
Number of resignations among Japanese nationals		/	/	1
Annual turnover rate		/	/	21.24
Employee Training				
Total annual investment in employee training	Ten-thousand RMB	/	/	1,161.49

Occupational Health & Safety

Indicator	Unit	2021	2022	2023
Work Safety Input				
Total annual investment in occupational health and work safety	Ten-thousand RMB	/	11,932.72	10,283.30
Safety Training				
Total participants in safety training	Participant	62,289	49,751	64,957
Total participant time in safety training	Hour	117,019	112,195	112,341
Number of safety emergency drills	Time	/	621	648
Number of attendees for safety emergency drills	Participant	/	/	27,232
Number of safety training	Time	/	/	2,406
Number of safety online training session	Course	/	/	732
Work Safety Accident				
Number of extremely severe accident	Case	0	0	0
Number of severe accident		0	0	0
Number of major accident		0	0	0
Work-related accident		/	19	26
Occupational Health and Safety Performance				
Occupational injuries	Person	/	19	26
Occupational fatalities		0	0	0
Occupational fatality rate	%	0.00	0.00	0.00
Total lost time due to work-related injuries	Day	/	/	4,984

Market

Indicator	Unit	2021	2022	2023
R&D Input				
Total investment in R&D	Ten-thousand RMB	127,575.35	172,893.94	160,857.08
Intellectual Property				
Number of new patent applications	Item	137	453	427
Number of new patent grants		110	384	337
Number of new copyright registrations		/	/	9
Number of new trademark applications		/	/	65
Number of new trademark registrations		/	/	28
Non-affiliated Suppliers (by Regional Distribution)				
Number of non-affiliated suppliers from Mainland China	Unit	4,355	4,576	4,678
Number of non-affiliated suppliers from other regions		172	179	162
Total number of non-affiliated suppliers		4,527	4,755	4,840

Social Contribution

Indicator	Unit	2021	2022	2023
Volunteer Service				
Number of volunteer service participants	Participant	576	696	1,019
Number of volunteer service hours	Hour	2,777	2,469	1,618
National Strategic Response				
Industrial transformation	Ten-thousand RMB	/	/	1,638.17
Rural revitalization and regional cooperative development		/	/	221.44
Belt and road initiative and overseas responsibilities		/	/	8,529.74
Industry characteristics and other social responsibilities		/	/	505.72
Donations				
Total donations	Ten-thousand RMB	723.77	823.36	674.22

GRI Index

General Disclosures

GRI Standards	Disclosures	Location	Omission
GRI 2: General Disclosures 2021	2-1 Organizational details	About XTC	
	2-2 Entities included in the organization's sustainability reporting	Preparation of Report	
	2-3 Reporting period,frequency and contact point	Preparation of Report	
	2-4 Restatements of information	Not covered in this report	This report does not cover restatements of information
	2-5 External assurance	Preparation of Report Independent Limited Assurance Report	
	2-6 Activities,value chain and other business relationships	About XTC Message from the Chairman Innovation-Driven,Suppliers,and Customers	
	2-7 Employees	Human Rights Protection Data Overview	
	2-8 Workers who are not employees	Data Overview	
	2-9 Governance structure and composition	ESG Governance Structure Corporate Compliance Operations	
	2-10 Nomination and selection of the highest governance body	Corporate Compliance Operations	

GRI Standards	Disclosures	Location	Omission
GRI 2: General Disclosures 2021	2-11 Chair of the highest governance body	Corporate Compliance Operations	
	2-12 Role of the highest governance body in overseeing the management of impacts	ESG Governance Structure Internal Control Compliance	
	2-13 Delegation of responsibility for managing impacts	GHG Emissions Management Action to Reduce GHG Emissions Water Conservation Pollutants Emissions Control Occupational Health and Safety ESG Governance Structure Risk Management Internal Control Compliance	
	2-14 Role of the highest governance body in sustainability reporting	ESG Governance Structure Stakeholders Communication	
	2-15 Conflicts of interest	Corporate Compliance Operations	
	2-16 Communication of critical concerns	Stakeholders Communication	
	2-17 Collective knowledge of the highest governance body	Corporate Compliance Operations	
	2-18 Evaluation of the performance of the highest governance body	Not covered in this report	Not yet evaluated during the reporting period
	2-19 Remuneration policies	Corporate Compliance Operations	
	2-20 Process to determine remuneration	Corporate Compliance Operations	
	2-21 Annual total compensation ratio	Not covered in this report	Not yet calculated during the reporting period
	2-22 Statement on sustainable development strategy	Addressing Climate Change	
	2-23 Policy commitments	Addressing Climate Change Pollution Control and Ecosystem Protection Resource Utilization and Circular Economy Responsible Sourcing Responsible Mineral Management Responsible Products and Services Human Rights Protection Occupational Health and Safety Harmonious Engagement in Community Prevention of Commercial Bribery and Unfair Competition	
	2-24 Embedding policy commitments	Addressing Climate Change Pollution Control and Ecosystem Protection Resource Utilization and Circular Economy Responsible Sourcing Responsible Mineral Management Responsible Products and Services Human Rights Protection Occupational Health and Safety Harmonious Engagement in Community Risk Management Internal Control Compliance Prevention of Commercial Bribery and Unfair Competition	

GRI Standards	Disclosures	Location	Omission
GRI 2: General Disclosures 2021	2-25 Processes to remediate negative impacts	Addressing Climate Change Pollution Control and Ecosystem Protection Resource Utilization and Circular Economy Responsible Sourcing Responsible Mineral Management Responsible Products and Services Information Security and Privacy Protection Human Rights Protection Occupational Health and Safety Harmonious Engagement in Community Risk Management Internal Control Compliance Prevention of Commercial Bribery and Unfair Competition	
	2-26 Mechanisms for seeking advice and raising concerns	Responsible Sourcing Responsible Mineral Management Responsible Products and Services Human Rights Protection Employee Communication Protection of Shareholder Rights Stakeholders Communication Complaint Mechanism and Complainant Protection	
	2-27 Compliance with laws and regulations	Addressing Climate Change Pollution Control and Ecosystem Protection Responsible Mineral Management Responsible Products and Services Information Security and Privacy Protection Human Rights Protection Occupational Health and Safety Corporate Compliance Operations Protection of Shareholder Rights Risk Management Prevention of Commercial Bribery and Unfair Competition	
	2-28 Membership associations	Supporting High-Quality Industry Development	
	2-29 Approach to stakeholder engagement	Stakeholders Communication	
	2-30 Collective bargaining agreements	Employee Communication	

Material topics

GRI Standards	Disclosures	Location	Omission
GRI 3: Material Topics 2021	3-1 Management of material topics	Material Issues Assessment Stakeholders Communication	
	3-2 List of material topics	Material Issues Assessment	

GRI Standards	Disclosures	Location	Omission
Economic performance			
GRI 3: Material Topics 2021	3-3 Management of material topics	Sustainability Risk Management ESG Governance Structure Corporate Compliance Operations Risk Management Employee Development Stakeholders Communication	
GRI 201: Economic Performance 2016	201-1 Direct economic value generated and distributed	2023 Economic, Enviromental and Social Influence	
	201-2 Financial implications and other risks and opportunities due to climate change	Sustainability Risk Management Risk Management	
	201-3 Defined benefit plan obligations and other retirement plans	Employee Development	
	201-4 Financial assistance received from government	Not covered in this report	Disclosed in company's 2023 Annual Report
Market presence			
GRI 3: Material Topics 2021	3-3 Management of material topics	Human Rights Protection	
GRI 202: Market Presence 2016	202-1 Ratios of standard entry level wage by gender compared to local minimum wage	Not covered in this report	Not yet calculated during the reporting period.
	202-2 Proportion of senior management hired from the local community	Data Overview	

GRI Standards	Disclosures	Location	Omission
Indirect economic impact			
GRI 3: Material Topics 2021	3-3 Management of material topics	Public Welfare Investment for Rural Revitalization	
GRI 203: Indirect Economic Impacts 2016	203-1 Infrastructure investments and services supported	Public Welfare Investment for Rural Revitalization	
	203-2 Significant indirect economic impacts	Public Welfare Investment for Rural Revitalization	
Procurement practices			
GRI 3: Material Topics 2021	3-3 Management of material topics	Responsible Sourcing Responsible Mineral Management	
GRI 204: Procurement Practices 2016	204-1 Proportion of spending on local suppliers	Not covered in this report	Not yet calculated during the reporting period.
Anti-corruption			
GRI 3: Material Topics 2021	3-3 Management of material topics	Anti-corruption and Anti-bribery	
GRI 205: Anti-corruption 2016	205-1 Operations assessed for risks related to corruption	Anti-corruption and Anti-bribery	
	205-2 Communication and training about anti-corruption policies and procedures	Anti-corruption and Anti-bribery	
	205-3 Confirmed incidents of corruption and actions taken	Anti-corruption and Anti-bribery Data Overview	

GRI Standards	Disclosures	Location	Omission
Anti-competitive behavior			
GRI 3: Material Topics 2021	3-3 Management of material topics	Anti-monopoly and Anti-unfair Competition	
GRI 206: Anti-competitive Behavior 2016	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	Anti-monopoly and Anti-Unfair Competition Data Overview	
Tax			
GRI 3: Material Topics 2021	3-3 Management of material topics	Tax Compliance Management	
GRI 207: Tax 2019	207-1 Approach to tax	Tax Compliance Management	
	207-2 Tax governance, control, and risk management	Tax Compliance Management	
	207-3 Stakeholder engagement and management of concerns related to tax	Tax Compliance Management Stakeholders Communication	
	207-4 Country-by-country reporting	Not covered in this report	Data not available during this report period
Materials			
GRI 3: Material Topics 2021	3-3 Management of material topics	Pollutants Emissions Control Resource Utilization and Circular Economy	
GRI 301: Materials 2016	301-1 Materials used by weight or volume	Resource Utilization and Circular Economy Data Overview	
	301-2 Recycled input materials used	Pollutants Emissions Control Resource Utilization and Circular Economy Data Overview	
	301-3 Reclaimed products and their packaging materials	Resource Utilization and Circular Economy Data Overview	

GRI Standards	Disclosures	Location	Omission
Energy			
GRI 3: Material Topics 2021	3-3 Management of material topics	GHG Emissions Management Action to Reduce GHG Emissions Resource Utilization and Circular Economy	
GRI 302: Energy 2016	302-1 Energy consumption within the organization	GHG Emissions Management Data Overview	
	302-2 Energy consumption outside of the organization	GHG Emissions Management Data Overview	
	302-3 Energy intensity	Data Overview	
	302-4 Reduction of energy consumption	Action to Reduce GHG Emissions	
	302-5 Reductions in energy requirements of products and services	Action to Reduce GHG Emissions	
Water and effluents			
GRI 3: Material Topics 2021	3-3 Management of material topics	Water Conservation Pollutants Emissions Control	
GRI 303: Water and Effluents 2018	303-1 Interactions with water as a shared resource	Water Conservation Pollutants Emissions Control	
	303-2 Management of water discharge-related impacts	Water Conservation Pollutants Emissions Control	
	303-3 Water withdrawal	Water Conservation Data Overview	

GRI Standards	Disclosures	Location	Omission
Water and effluents			
GRI 303: Water and Effluents 2018	303-4 Water discharge	Water Conservation Pollutants Emissions Control Data Overview	
	303-5 Water consumption	Water Conservation Data Overview	
Biodiversity			
GRI 3: Material Topics 2021	3-3 Management of material topics	Pollution Control and Ecosystem Protection	
GRI 304: Biodiversity 2016	304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	Biodiversity Conservation	
	304-2 Significant impacts of activities, products and services on biodiversity	Biodiversity Conservation	
	304-3 Habitats protected or restored	Biodiversity Conservation	
	304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations	Not covered in this Report	The company's operational area and its surrounding regions do not encompass affected habitats.

GRI Standards	Disclosures	Location	Omission
Emissions			
GRI 3: Material Topics 2021	3-3 Management of material topics	GHG Emissions Management Action to Reduce GHG Emissions	
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions	GHG Emissions Management Data Overview	
	305-2 Energy indirect (Scope 2) GHG emissions	GHG Emissions Management Data Overview	
	305-3 Other indirect (Scope 3) GHG emissions	GHG Emissions Management Data Overview	
	305-4 GHG emissions intensity	GHG Emissions Management Data Overview	
	305-5 Reduction of GHG emissions	GHG Emissions Management Action to Reduce GHG Emissions	
	305-6 Emissions of ozone-depleting substances (ODS)	Not covered in this report	The company's operations do not involve relevant emissions
	305-7 Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	Pollutants Emissions Control Data Overview	

GRI Standards	Disclosures	Location	Omission
Waste			
GRI 3: Material Topics 2021	306-1 Waste generation and significant waste-related impacts	Pollutants Emissions Control Resource Utilization and Circular Economy	
	306-2 Management of significant waste-related impacts	Pollutants Emissions Control Resource Utilization and Circular Economy	
	306-3 Waste generated	Pollutants Emissions Control Resource Utilization and Circular Economy Data Overview	
	306-4 Waste diverted from disposal	Pollutants Emissions Control Resource Utilization and Circular Economy Data Overview	
	306-5 Waste directed to disposal	Pollutants Emissions Control Resource Utilization and Circular Economy Data Overview	
Supplier environmental assessment			
GRI 3: Material Topics 2021	3-3 Management of material topics	Responsible Sourcing Responsible Mineral Management	
GRI 308: Supplier Environmental Assessment 2016	308-1 New suppliers that were screened using environmental criteria	Responsible Sourcing Responsible Mineral Management	
	308-2 Negative environmental impacts in the supply chain and actions taken	Responsible Sourcing Responsible Mineral Management	

GRI Standards	Disclosures	Location	Omission
Employee			
GRI 3: Material Topics 2021	3-3 Management of material topics	Human Rights Protection	
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	Employee Development Data Overview	
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	Employee Development	
	401-3 Parental leave	Not covered in this report	Not yet calculated during this report period
Labor management relations			
GRI 3: Material Topics 2021	3-3 Management of material topics	Human Rights Protection	
GRI 402: Labor/Management Relations 2016	402-1 Minimum notice periods regarding operational changes	Not covered in this report	Not Applicable
Occupational Health and Safety			
GRI 3: Material Topics 2021	3-3 Management of material topics	Occupational Health and Safety	
GRI 403: Occupational Health and Safety 2018	403-1 403-1 Occupational health and safety management system	Occupational Health and Safety	
	403-2 Hazard identification, risk assessment, and incident investigation	Pollutants Emissions Control Occupational Health and Safety	
	403-3 Occupational health services	Occupational Health and Safety	

GRI Standards	Disclosures	Location	Omission
Occupational Health and Safety			
GRI 403: Occupational Health and Safety 2018	403-4 Worker participation, consultation, and communication on occupational health and safety	Occupational Health and Safety	
	403-5 Worker training on occupational health and safety	Occupational Health and Safety	
	403-6 Promotion of worker health	Occupational Health and Safety	
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Occupational Health and Safety	
	403-8 Workers covered by an occupational health and safety management system	Occupational Health and Safety	
	403-9 Work-related injuries	Occupational Health and Safety Data Overview	
	403-10 Work-related ill health	Occupational Health and Safety	
Training and education			
GRI 3: Material Topics 2021	3-3 Management of material topics	Employee Development Occupational Health and Safety	
GRI 404: Training and Education 2016	404-1 Average hours of training per year per employee	Data Overview	
	404-2 Programs for upgrading employee skills and transition assistance programs	Employee Development	
	404-3 Percentage of employees receiving regular performance and career development reviews	Employee Development	
GRI 404: Training and Education 2016			
GRI 3: Material Topics 2021	3-3 Management of material topics	Human Rights Protection Responsible Sourcing Responsible Mineral Management	
GRI 405: Diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	Human Rights Protection	
	405-2 Ratio of basic salary and remuneration of women to men	Not covered in this report	Not yet calculated during this report period
Non-discrimination			
GRI 3: Material Topics 2021	3-3 Management of material topics	Human Rights Protection	
GRI 406: Non-discrimination 2016	406-1 Incidents of discrimination and corrective actions taken	Human Rights Protection	
Freedom of association and collective bargaining			
GRI 3: Material Topics 2021	3-3 Management of material topics	Employee Communication	
GRI 407: Freedom of Association and Collective Bargaining 2016	407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	Employee Communication	
Child labor			
GRI 3: Material Topics 2021	3-3 Management of material topics	Human Rights Protection Responsible Sourcing Responsible Mineral Management	
GRI 408: Child Labor 2016	408-1 Operations and suppliers at significant risk for incidents of child labor	Human Rights Protection	

GRI Standards	Disclosures	Location	Omission
Forced or compulsory labor			
GRI 3: Material Topics 2021	3-3 Management of material topics	Human Rights Protection Responsible Sourcing	
GRI 409: Forced or Compulsory Labor 2016	409-1 Operations and suppliers at significant risk for incidents of forced or compulsory labor	Human Rights Protection	
Security practices			
GRI 3: Material Topics 2021	3-3 Management of material topics	Human Rights Protection	
GRI 410: Security Practices 2016	410-1 Security personnel trained in human rights policies or procedures	Human Rights Protection	
Right of indigenous peoples			
GRI 3: Material Topics 2021	3-3 Management of material topics	Harmonious Engagement in Community	
GRI 411: Rights of Indigenous Peoples 2016	411-1 Incidents of violations involving rights of indigenous peoples	Harmonious Engagement in Community	
Local communities			
GRI 3: Material Topics 2021	3-3 Management of material topics	Harmonious Engagement in Community	
GRI 413: Local Communities 2016	413-1 Operations with local community engagement, impact assessments, and development programs	Harmonious Engagement in Community	
	413-2 Operations with significant actual and potential negative impacts on local communities	Harmonious Engagement in Community	
Supplier social assessment			
GRI 3: Material Topics 2021	3-3 Management of material topics	Responsible Sourcing Responsible Mineral Management	
GRI 414: Supplier Social Assessment 2016	414-1 New suppliers that were screened using social criteria	Responsible Sourcing Responsible Mineral Management	
	414-2 Negative social impacts in the supply chain and actions taken	Responsible Sourcing Responsible Mineral Management	
Public policy			
GRI 3: Material Topics 2021	3-3 Management of material topics	Not covered in this report	Not applicable
GRI 415: Public Policy 2016	415-1 Political contributions	Not covered in this report	Not involved in relevant matters
Customer health and safety			
GRI 3: Material Topics 2021	3-3 Management of material topics	Responsible Products and Services	

GRI Standards	Disclosures	Location	Omission
Customer health and safety			
GRI 416: Customer Health and Safety 2016	416-1 Assessment of the health and safety impacts of product and service categories	Responsible Products and Services	
	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	Responsible Products and Services	
Marketing and labeling			
GRI 3: Material Topics 2021	3-3 Management of material topics	Responsible Products and Services	
GRI 417: Marketing and Labeling 2016	417-1 Requirements for product and service information and labeling	Responsible Products and Services	
	417-2 Incidents of non-compliance concerning product and service information and labeling	Responsible Products and Services	
	417-3 Incidents of non-compliance concerning marketing communications	Responsible Products and Services	
Customer privacy			
GRI 3: Material Topics 2021	3-3 Management of material topics	Responsible Products and Services	
GRI 418: Customer Privacy 2016	418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data	Responsible Products and Services	

ISDS Index

IFRS S1

Core Elements		Disclosure Recommendations	Disclosure Placement
Governance	a)	The governance body(s) (which can include aboard, committee or equivalent body charged with governance) or individual(s) responsible for oversight of sustainability-related risks and opportunities.	ESG Governance Structure Risk Management
	b)	Management's role in the governance processes, controls and procedures used to monitor, manage and oversee sustainability-related risks and opportunities.	ESG Governance Structure Risk Management
Strategy	a)	The sustainability-related risks and opportunities that could reasonably be expected to affect the entity's prospects within the time horizons—short, medium or long term.	Sustainability Risk Management
	b)	The current and anticipated effects of sustainability-related risks and opportunities on the entity's business model and value chain, and where in the entity's business model and value chain sustainability-related risks and opportunities are concentrated.	Sustainability Risk Management
	c)	How the entity has responded to, and plans to respond to, sustainability-related risks and opportunities in its strategy and decision-making, and the progress against plans the entity has disclosed in previous reporting periods, including quantitative and qualitative information, and trade-offs between sustainability-related risks and opportunities that the entity considered.	Sustainability Risk Management
	d)	The quantitative and qualitative effects of sustainability-related risks and opportunities on the entity's financial position, financial performance and cash flows for the reporting period, and the sustainability-related risks and opportunities identified for which there is a significant risk of a material adjustment within the next annual reporting period to the carrying amounts of assets and liabilities reported in the related financial statements, and how the entity expects its financial position, financial performance and cash flows to change over the short, medium and long term, given its strategy to manage sustainability-related risks and opportunities.	Not covered in the report

Core Elements		Disclosure Recommendations	Disclosure Placement
Strategy	e)	The resilience of the entity's strategy and its business model to those sustainability-related risks	Risk Management
Risk Management	a)	The processes and related policies the entity uses to identify, assess, prioritize and monitor sustainability-related risks, including information about: the inputs and parameters the entity uses，whether and how the entity uses scenario analysis to inform its identification of sustainability-related risks, whether and how the entity prioritizes sustainability-related risks, how the entity assesses the nature, likelihood and magnitude of the effects of those risks.	Sustainability Risk Management Risk Management
	b)	The processes the entity uses to identify, assess, prioritize and monitor sustainability-related opportunities, including: whether and how the entity uses scenario analysis to inform its identification of sustainability-related opportunities.	Sustainability Risk Management
	c)	The extent to which, and how, the processes the entity uses to identify, assess, prioritize and monitor sustainability-related risks and opportunities are integrated into and inform the entity's overall risk management process.	Sustainability Risk Management Risk Management
Metrics and targets	a)	Metrics required by an applicable IFRS Sustainability Disclosure Standard.	Environmental Social Governance
	b)	Metrics the entity uses to measure and monitor sustainability-related risks or opportunities and its performance in relation to that sustainability-related risk or opportunity.	Environmental Social Governance
	c)	Any targets the entity has set it is required to meet by law or regulation.	Environmental Social Governance

IFRS S2

Core Elements		Disclosure Recommendations	Disclosure Placement
Governance	a)	The governance body(s) (which can include a board, committee or equivalent body charged with governance) or individual(s) responsible for oversight of climate-related risks and opportunities.	ESG Governance Structure Risk Management
	b)	Management's role in the governance processes, controls and procedures used to monitor, manage and oversee climate-related risks and opportunities.	ESG Governance Structure Risk Management

Strategy	a)	The climate-related risks and opportunities that could reasonably be expected to affect the entity's prospects within time horizons—short, medium or long term, whether the entity considers the risk to be a climate-related physical risk or climate-related transition risk	Sustainability Risk Management
	b)	The current and anticipated effects of climate-related risks and opportunities on the entity's business model and value chain, and where in the entity's business model and value chain climate-related risks and opportunities are concentrated	Sustainability Risk Management
	c)	Information about how the entity has responded to, and plans to respond to, climate-related risks and opportunities in its strategy and decision-making, including how the entity sets targets, how the entity is resourcing and quantitative and qualitative information about the disclosed progress of plans.	Sustainability Risk Management
	d)	The quantitative and qualitative effects of those climate-related risks and opportunities on the entity's financial position, financial performance and cash flows for the reporting period, the climate-related risks and opportunities identified in paragraph 16(a) for which there is a significant risk of a material adjustment within the next annual reporting period to the carrying amounts of assets and liabilities reported in the related financial statements, and how the entity expects its financial position, financial performance and cash flows to change over the short, medium and long term, given its strategy to manage climate-related risks and opportunities.	Not covered in the report

Core Elements		Disclosure Recommendations	Disclosure Placement
Strategy	e)	The processes and related policies the entity uses to identify, assess, prioritize and monitor climate-related risks, including information about: the inputs and parameters the entity uses, whether and how the entity uses climate-related scenario analysis to inform its identification of climate-related risks, whether and how the entity prioritizes climate-related risks, how the entity assesses the nature, likelihood and magnitude of the effects of those risks	Sustainability Risk Management

Risk Management	a)	The processes and related policies the entity uses to identify, assess, prioritize and monitor climate-related risks, including information about: the inputs and parameters the entity uses, whether and how the entity uses climate-related scenario analysis to inform its identification of climate-related risks, whether and how the entity prioritizes climate-related risks, how the entity assesses the nature, likelihood and magnitude of the effects of those risks	Sustainability Risk Management Risk Management
	b)	The processes the entity uses to identify, assess, prioritize and monitor climate-related opportunities, including information about whether and how the entity uses climate-related scenario analysis to inform its identification of climate-related opportunities.	Sustainability Risk Management
	c)	The extent to which, and how, the processes for identifying, assessing, prioritizing and monitoring climate-related risks and opportunities are integrated into and inform the entity's overall risk management process.	Sustainability Risk Management Risk Management

Core Elements		Disclosure Recommendations	Disclosure Placement

SASB Index

SASB Topics	Accounting Metrics	Location
Greenhouse Gas Emissions	EM-MM-110a.1: Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations	GHG Emissions Management Data Overview
	EM-MM-110a.2: Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	Addressing Climate Change
Air Quality	EM-MM-120a.1: Air emissions of the following pollutants: (1) CO, (2) NOx (excluding N_2O), (3) SOx, (4) particulate matter (PM10), (5) mercury (Hg), (6) lead (Pb), and (7) volatile organic compounds (VOCs)	Pollutants Emissions Control Data Overview
Energy Management	EM-MM-130a.1: (1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable	GHG Emissions Management Action to Reduce GHG Emissions Data Overview
Water Management	EM-MM-140a.1: (1) Total fresh water withdrawn, (2) total fresh water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Water Conservation Data Overview
	EM-MM-140a.2: Number of incidents of non-compliance associated with water quality permits, standards, and regulations	Pollution Control and Ecosystem Protection

SASB Topics	Accounting Metrics	Location

	EM-MM-150a.4: Total weight of non-mineral waste generated	Pollutants Emissions Control Data Overview
	EM-MM-150a.5: Total weight of tailings produced	Pollutants Emissions Control Data Overview
	EM-MM-150a.6: Total weight of waste rock generated	Pollutants Emissions Control Data Overview
Waste & Hazardous Materials Management	EM-MM-150a.7: Total weight of hazardous waste generated	Pollutants Emissions Control Data Overview
	EM-MM-150a.8: Total weight of hazardous waste recycled	Not covered in this report
	EM-MM-150a.9: Number of significant incidents associated with hazardous materials and waste management	Waste Management
	EM-MM-150a.10: Description of waste and hazardous materials management policies and procedures for active and inactive operations	Waste Management

SASB Topics	Accounting Metrics	Location
Biodiversity Impacts	EM-MM-160a.1: Description of environmental management policies and practices for active sites	Environmental Performance Biodiversity Conservation
	EM-MM-160a.2: Percentage of mine sites where acid rock drainage is: (1) predicted to occur, (2) actively mitigated, and (3) under treatment or remediation	Not applicable
	EM-MM-160a.3: Percentage of (1) proved and (2) probable reserves in or near sites with protected conservation status or endangered species habitat	Not applicable
Security, Human Rights & Rights of Indigenous Peoples	EM-MM-210a.1: Percentage of (1) proved and (2) probable reserves in or near areas of conflict	Not applicable
	EM-MM-210a.2: Percentage of (1) proved and (2) probable reserves in or near indigenous land	Not applicable
	EM-MM-210a.3: Discussion of engagement processes and due diligence practices with respect to human rights, indigenous rights, and operation in areas of conflict	Responsible Mineral Management Harmonious Engagement in Community
Community Relations	EM-MM-210b.1: Discussion of process to manage risks and opportunities associated with community rights and interests	Responsible Mineral Management Harmonious Engagement in Community

SASB Topics	Accounting Metrics	Location
Community Relations	EM-MM-210b.2: Number and duration of non-technical delays	Not applicable
Labor Relations	EM-MM-310a.1: Percentage of active workforce covered under collective bargaining agreements, broken down by U.S. and foreign employees	Employee Communication
	EM-MM-310a.2: Number and duration of strikes and lockouts	Occupational Health and Safety Data Overview
Workforce Health & Safety	EM-MM-320a.1: (1) MSHA all-incidence rate, (2) fatality rate, (3) near miss frequency rate (NMFR) and (4) average hours of health, safety, and emergency response training for (a) full-time employees and (b) contract employees	Occupational Health and Safety Data Overview

Indicators Reference for ESG Report of Listed Chinese Central State-Owned Enterprises

Environmental

Primary Indicators	Secondary Indicators	Tertiary Indicators	Location
E.1 Resource Consumption	E.1.1 Water Resource	E.1.1.1 Fresh-water consumption	Data Overview
		E.1.1.2 Circulating water consumption	Water Conservation Data Overview
		E.1.1.3 The proportion of circulating water consumption	Water Conservation Data Overview
		E.1.1.4 Water resource consumption intensity	Water Conservation Data Overview
	E.1.2 Materials	E.1.2.1 Consumption of non-renewable materials	Data Overview
		E.1.2.2 Consumption of toxic and hazardous materials	Not yet available in this report
		E.1.2.3 Material consumption intensity	Data Overview
	E.1.3 Energy	E.1.3.1 Fossil energy consumption	GHG Emissions Management Data Overview
		E.1.3.2 Non-fossil energy consumption	GHG Emissions Management Action to Reduce GHG Emissions Data Overview
		E.1.3.3 The proportion of non-fossil energy consumption	GHG Emissions Management Action to Reduce GHG Emissions Data Overview

Primary Indicators	Secondary Indicators	Tertiary Indicators	Location
E.1 Resource Consumption	E.1.3 Energy	E.1.3.4 The total energy consumption	GHG Emissions Management Data Overview
		E.1.3.5 The energy consumption intensity	Data Overview
	E.1.4 Packaging materials	E.1.4.1 The amount of packaging materials used	Resource Utilization and Circular Economy Data Overview
		E.1.4.2 Light-weighting and reduction of packaging materials	Resource Utilization and Circular Economy
E.2 Pollution prevention and control	E.2.1Wastewater	E.2.1.1 The compliance status of wastewater discharge	Water Conservation Pollutants Emissions Control
		E.2.1.2 Wastewater management and emission reduction measures	Water Conservation Pollutants Emissions Control Data Overview
		E.2.1.3 Volume of wastewater discharge	Data Overview
		E.2.1.4 The discharge volume of wastewater pollutants	Pollutants Emissions Control Data Overview
		E.2.1.5 Concentration of pollutants discharged in wastewater	Pollutants Emissions Control
	E.2.2 Exhaust Air	E.2.2.1 Compliance status of exhaust gas emissions	Pollutants Emissions Control
		E.2.2.2 Volume of air pollutants emitted	Pollutants Emissions Control Data Overview
		E.2.2.3 Concentration of air pollutants emitted	Pollutants Emissions Control

Primary Indicators	Secondary Indicators	Tertiary Indicators	Location
E.2 Pollution prevention and control	E.2.3 Solid Waste	E.2.3.1 Compliance with legal regulations on solid waste disposal	Pollutants Emissions Control
		E.2.3.2 Management of general industrial solid waste	Pollutants Emissions Control
		E.2.3.3 Disposal volume of general industrial solid waste	Pollutants Emissions Control Data Overview
		E.2.3.4 Management of hazardous waste	Pollutants Emissions Control Data Overview
		E.2.3.5 Volume of hazardous waste disposed	Pollutants Emissions Control Data Overview
E.3 Climate change	E.3.1 GHG Emissions	E.3.1.1 Sources and types of GHG	GHG Emissions Management
		E.3.1.2 Management of GHG Emissions	Strategy GHG Emissions Management Action to Reduce GHG Emissions
		E.3.1.3 Scope 1 emissions	GHG Emissions Management Data Overview
		E.3.1.4 Scope 2 emissions	GHG Emissions Management Data Overview
		E.3.1.5 Scope 3 emissions	GHG Emissions Management Data Overview
		E.3.1.6 GHG emission intensity	GHG Emissions Management Data Overview

一级指标	二级指标	三级指标	披露位置
E.3 Climate change	E.3.2 Emission Reduction Management	E.3.2.1 Management of GHG emission reduction	Strategy Action to Reduce GHG Emissions
		E.3.2.2 GHG emission reduction	Action to Reduce GHG Emissions
	E.3.3 Environmental Rights Trading	E.3.3.1 Participation in the carbon emissions trading market	GHG Emissions Management Action to Reduce GHG Emissions
		E.3.3.2 Participation in the energy rights, water rights, and pollution rights trading markets	Pollutants Emissions Control
		E.3.3.3 Participation in green electricity trading	Action to Reduce GHG Emissions
	E.3.4 Climate-related Risk Management	E.3.4.1 Climate-related Risk Management	Sustainability Risk Management
E.4 Biodiversity	E.4.1 Impact of production, services, and products on biodiversity	E.4.1.1 Impacts of production, services, and products on biodiversity	Biodiversity Conservation
E.5 Measures for resource and environmental management systems	E.5.1 Setting Low-Carbon Development Goals and Strategic Measures	E.5.1.1 Setting low-carbon development goals and strategic measures	Addressing Climate Change Pollution Control and Ecosystem Protection Resource Utilization and Circular Economy
	E.5.2 Resource management measures	E.5.2.1 Water resource management	Water Conservation Pollutants Emissions Control

Primary Indicators	Secondary Indicators	Tertiary Indicators	Location
E.5 Measures for resource and environmental management	E.5.2 Resource management measures	E.5.2.2 Material utilization management	Resource Utilization and Circular Economy
		E.5.2.3 Energy utilization and energy efficiency management	GHG Emissions Management Action to Reduce GHG Emissions
	E.5.3 Energy-saving and carbon reduction monitoring, statistical reporting, and assessment system	E.5.3.1 Energy-saving and carbon reduction monitoring, statistical reporting, and assessment system	GHG Emissions Management Action to Reduce GHG Emissions
	E.5.4 Green environmental actions and measures	E.5.4.1 Clean production	Pollutants Emissions Control
		E.5.4.2 Green technology upgrading and recycling	Action to Reduce GHG Emissions Resource Utilization and Circular Economy
		E.5.4.3 Green building renovation	Not yet available in this report .
		E.5.4.4 Green office and operations	Action to Reduce GHG Emissions Pollutants Emissions Control Resource Utilization and Circular Economy
		E.5.4.5 Green procurement and green supply chain management	Responsible Procurement Responsible Mineral Management
		E.5.4.6 Public activities for environmental protection	Not yet available in this report
	E.5.5 Green Low-Carbon Certification	E.5.5.1 Environmental management system certification	Environmental performance

Primary Indicators	Secondary Indicators	Tertiary Indicators	Location
E.5 Measures for resource and	E.5.5 Green Low-Carbon Certification	E.5.5.2 Green and Low-Carbon Enterprise Certification	Pollution Control and Ecosystem Protection
		E.5.5.3 Green and low-carbon product and service certification	Action to Reduce GHG Emissions Resource Utilization and Circular Economy
	E.5.6 Legal compliance in environmental matters	E.5.6.1 Emergency response plan for environmental incidents	Pollutants Emissions Control Occupational Health and Safety
		E.5.6.2 Environmental violations	Pollution Control and Ecosystem Protection

Social

Primary Indicators	Secondary Indicators	Tertiary Indicators	Location
S1 Employee rights	S1.1Employee recruitment and employment	S1.1.1Corporate recruitment policy and implementation	Human Rights Protection Employee Development
		S1.1.2 Employee structure	Human Rights Protection Employee Development
		S1.1.3 Avoiding child labor and forced labor	Human Rights Protection
	S1.2 Employee compensation and benefits	S1.2.1Compensation philosophy and policy	Human Rights Protection Employee Development
		S1.2.2 Working hours and rest and leave	Employee Development
		S1.2.3 Compensation and benefits guarantee	Employee Development
		S1.2.4 Employee democratic management	Employee Development
S1 Employee rights	S1.3 Employee health and safety	S1.3.1 Employee occupational health and safety management	Occupational Health and Safety Data Overview
		S1.3.2 Employee safety risk prevention	Occupational Health and Safety Data Overview
		S1.3.3 Response to safety incidents and work-related injuries	Occupational Health and Safety Data Overview
		S1.3.4 Employee care and assistance	Occupational Health and Safety
	S1.4 Employee development and training	S1.4.1 Employee motivation and promotion policy	Employee Development
		S1.4.2 Employee education and training	Employee Development
		S1.4.3 Employee career planning and job change support	Employee Development
	S1.5 Employee satisfaction	S1.5.1 Employee satisfaction survey	Employee Development
		S1.5.2 Labor disputes	Employee Development
		S1.5.3 Employee turnover	Data Overview

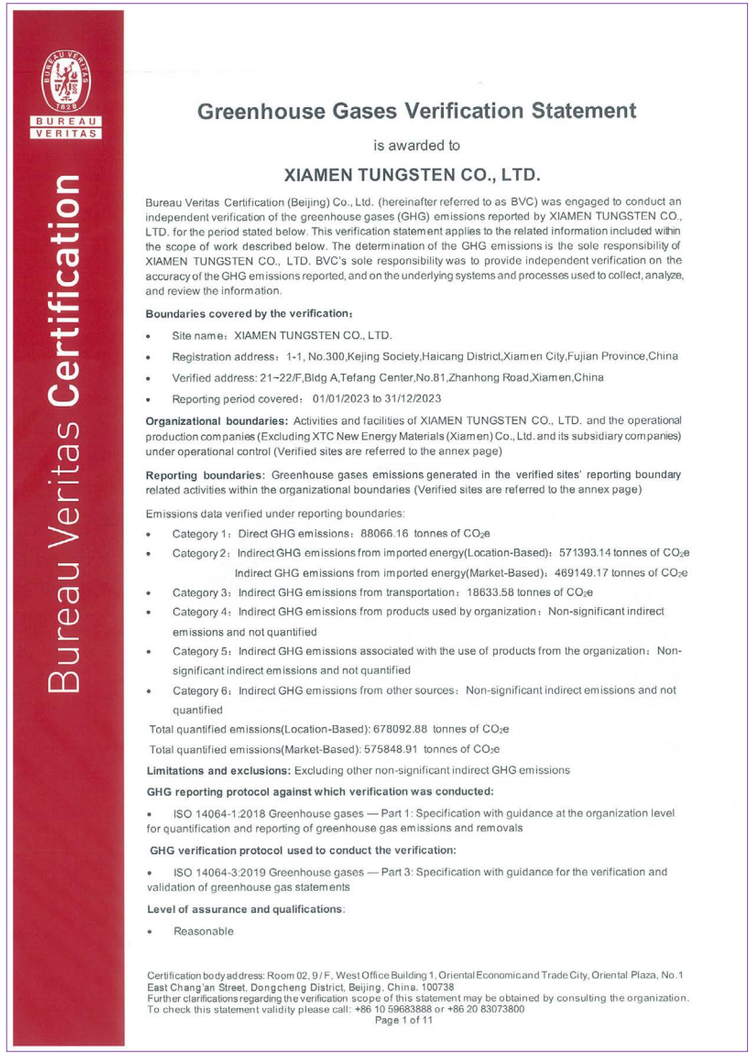
Primary Indicators	Secondary Indicators	Tertiary Indicators	Location
S2 Product and service management	S2.1 Product safety and quality	S2.1.1 Production standard management policies and measures	Responsible Products and Services
		S2.1.2 Quality management	Responsible Products and Services
		S2.1.3 Product recall and withdrawal	Not covered in this report
		S2.1.4 Negative incidents related to products or services	Responsible Products and Services
	S2.2 Customer service and rights	S2.2.1 Customer satisfaction	Responsible Products and Services
		S2.2.2 Customer complaints and handling	Responsible Products and Services
		S2.2.3 Customer information and privacy protection	Information Security and Privacy Protection
	S2.3 Innovation development	S2.3.1 R&D and innovation management system	Innovation-Driven
		S2.3.2 R&D investment	Innovation-Driven
		S2.3.3 Innovation achievements	Innovation-Driven
		S2.3.4 Intellectual property protection	Intellectual Property Rights Protection Data Overview
S3 Supply Chain Safety and Management	S3.1 Supplier Managemen	S3.1.1 Supplier selection and management	Responsible Sourcing
		S3.1.2 Number and distribution of suppliers	Data Overview
S3 Supply Chain Safety and Management	S3.2 Supply Chain Management	S3.2.1 Supply chain management policies and measures	Innovation-Driven, Suppliers, and Customers
		S3.2.2 Supply chain security assurance and emergency plan	Responsible Mineral Management
		S3.2.3 Major risks and impacts (supply chain)	Responsible Mineral Management
S4 Social contribution	S4.1 Tax payment situation	S4.1.1 Tax payment	Tax Compliance Management
	S4.2 Community co-building	S4.2.1 Policies and measures for participating in local community construction	Rural Revitalization and Public Service
		S4.2.2 Contribution and impact on the local community	Rural Revitalization and Public Service
	S4.3 Social welfare activities	S4.3.1 Policies and measures for participating in social welfare activities	Rural Revitalization and Public Service
		S4.3.2 Investment and effectiveness in participating in social welfare activities	Public Welfare Investment for Rural Revitalization Data Overview
		S4.3.3 Construction of an accessible environment	Public Welfare Investment for Rural Revitalization
	S4.4 National strategy response	S4.4.1 Industrial transformation	Innovation-Driven, Suppliers, and Customers Rural Revitalization and Public Service Data Overview
		S4.4.2 Rural revitalization and regional collaborative development	Public Welfare Investment for Rural Revitalization Data Overview
		S4.4.3 Belt and Road initiative and overseas responsibility fulfillment	Innovation-Driven, Suppliers, and Customers Data Overview
		S4.4.4 Industry characteristics and other social responsibility fulfillment	Public Welfare Investment for Rural Revitalization Data Overview

Governance

Primary Indicators	Secondary Indicators	Tertiary Indicators	Location
G1 Governance strategy and organizational structure	G1.1 Governance strategy and processes	G1.1.1 Governance strategy formulation	ESG Governance Structure ESG Policies Corporate Compliance Operations Protection of Shareholder Rights
		G1.1.2 Governance strategy supervision process	Risk Management Internal Control Compliance Stakeholders Communication
		G1.1.3 Governance strategy approval and review process	ESG Governance Structure Corporate Compliance Operations
		G1.1.4 Leadership in Party-building	The Party Building
	G1.2 Organizational structure and functions	G1.2.1 Ownership responsibilities	Corporate Compliance Operations Risk Management
		G1.2.2 Board of directors, board of supervisors, and management structure and functions	ESG Governance Structure Corporate Compliance Operations
		G1.2.3 Appointment procedures and composition of the board of directors, board of supervisors, and management	Corporate Compliance Operations
	G1.3 Compensation management	G1.3.1 Compensation plan for directors and supervisors	Corporate Compliance Operations
		G1.3.2 Transparency of the board's compensation	Corporate Compliance Operations
		G1.3.3 Reasonableness of management compensation	Corporate Compliance Operations GHG Emissions Management Occupational Health and Safety
G2 Standardized governance	G2.1 Internal control	G2.1.1 Internal audit	Internal Control Compliance
		G2.1.2 Internal control structure, mechanisms, and procedures	Internal Control Compliance
	G2.2 Construction	G2.2.1 Integrity construction systems and standards	Anti-corruption and Anti-bribery
		G2.2.2 Effectiveness of integrity construction measures	Anti-corruption and Anti-bribery
	G2.3 Fair competition	G2.3.1 Fair competition system and standards	Anti-monopoly and Anti-unfair Competition
		G2.3.2 Effectiveness of fair competition measures	Anti-monopoly and Anti-unfair Competition Anti-corruption and Anti-bribery
G3 Investor relations management and shareholder rights	G3.1 Investor relations management	G3.1.1 Investor relations management strategy	Protection of Shareholder Rights
		G3.1.2 Investor communication	Protection of Shareholder Rights Stakeholders Communication
		G3.1.3 Construction of investor relations management department	Protection of Shareholder Rights
	G3.2 Shareholder rights	G3.2.1 Shareholders' (general) meeting	Corporate Compliance Operations Protection of Shareholder Rights
		G3.2.2 Shareholder communication	Corporate Compliance Operations Protection of Shareholder Rights
		G3.2.3 Shareholder's right to know and participate in decision-making	Corporate Compliance Operations Protection of Shareholder Rights

Primary Indicators	Secondary Indicators	Tertiary Indicators	Location
G3 Investor relations management and share-holder rights	G3.3 Creditor rights	G3.3.1 Credit situation	Not yet available in thisreport
		G3.3.2 Bond market performance	Not yet available in thisreport
G4 Informa-tion disclosure transparency	G4.1 Informa-tion disclosure system	G4.1.1 Financial information disclosure	Protection of Shareholder Rights
		G4.1.2 Non-financial information disclo-sure	Protection of Shareholder Rights
	G4.2 Quality of information disclosure	G4.2.1Regular supervision, audit, and evaluation of all disclosed information	Not covered in the report
G5 Compliant operation and risk manage-ment	G5.1 Compliant operation	G5.1.1 Compliant operation system	Risk Management Internal Control Compliance
		G5.1.2 Construction of the compliance system	Risk Management Internal Control Compliance
		G5.1.3 Specific compliance review proce-dures	Internal Control Compliance
	G5.2 Risk man-agement	G5.2.1 Risk identification and early warn-ing	Sustainability Risk Manage-ment Risk Management Internal Control Compliance
		G5.2.2 Risk control and tracking	Sustainability Risk Manage-ment Risk Management Internal Control Compliance
		G5.2.3 Risk reporting and management	Sustainability Risk Manage-ment Risk Management

Greenhouse Gas Verification Report



BUREAU VERITAS

Bureau Veritas Certification

Greenhouse Gases Verification Statement

is awarded to

XIAMEN TUNGSTEN CO., LTD.

Bureau Veritas Certification (Beijing) Co., Ltd. (hereinafter referred to as BVC) was engaged to conduct an independent verification of the greenhouse gases (GHG) emissions reported by XIAMEN TUNGSTEN CO., LTD. for the period stated below. This verification statement applies to the related information included within the scope of work described below. The determination of the GHG emissions is the sole responsibility of XIAMEN TUNGSTEN CO., LTD. BVC's sole responsibility was to provide independent verification on the accuracy of the GHG emissions reported, and on the underlying systems and processes used to collect, analyze, and review the information.

Boundaries covered by the verification:

- Site name: XIAMEN TUNGSTEN CO., LTD.
- Registration address: 1-1, No.300,Kejing Society,Haicang District,Xiamen City,Fujian Province,China
- Verified address: 21~22/F,Bldg A,Tefang Center,No.81,Zhanhong Road,Xiamen,China
- Reporting period covered: 01/01/2023 to 31/12/2023

Organizational boundaries: Activities and facilities of XIAMEN TUNGSTEN CO., LTD. and the operational production companies (Excluding XTC New Energy Materials (Xiamen) Co., Ltd. and its subsidiary companies) under operational control (Verified sites are referred to the annex page)

Reporting boundaries: Greenhouse gases emissions generated in the verified sites' reporting boundary related activities within the organizational boundaries (Verified sites are referred to the annex page)

Emissions data verified under reporting boundaries:

- Category 1: Direct GHG emissions: 88066.16 tonnes of CO_2e
- Category 2: Indirect GHG emissions from imported energy(Location-Based): 571393.14 tonnes of CO_2e
  Indirect GHG emissions from imported energy(Market-Based): 469149.17 tonnes of CO_2e
- Category 3: Indirect GHG emissions from transportation: 18633.58 tonnes of CO_2e
- Category 4: Indirect GHG emissions from products used by organization: Non-significant indirect emissions and not quantified
- Category 5: Indirect GHG emissions associated with the use of products from the organization: Non-significant indirect emissions and not quantified
- Category 6: Indirect GHG emissions from other sources: Non-significant indirect emissions and not quantified

Total quantified emissions(Location-Based): 678092.88 tonnes of CO_2e

Total quantified emissions(Market-Based): 575848.91 tonnes of CO_2e

Limitations and exclusions: Excluding other non-significant indirect GHG emissions

GHG reporting protocol against which verification was conducted:

- ISO 14064-1:2018 Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals

GHG verification protocol used to conduct the verification:

- ISO 14064-3:2019 Greenhouse gases — Part 3: Specification with guidance for the verification and validation of greenhouse gas statements

Level of assurance and qualifications:

- Reasonable

Certification body address: Room 02, 9/F, West Office Building 1, Oriental Economic and Trade City, Oriental Plaza, No.1 East Chang'an Street, Dongcheng District, Beijing, China. 100738
Further clarifications regarding the verification scope of this statement may be obtained by consulting the organization.
To check this statement validity please call: +86 10 59683888 or +86 20 83073800
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Greenhouse Gas Verification Report

BUREAU VERITAS 1828

Bureau Veritas **Certification**

GHG verification methodology:

- Interviews with relevant personnel;
- Review of documentary evidence;
- Review of data and information systems and methodology for GHG emissions data collection, aggregation, analysis, and review of information used to determine GHG emissions;
- Sample verification of data to determine GHG emissions.

Assurance opinion:

Based on the verification process and findings, the GHG emission data in the GHG inventory report from XIAMEN TUNGSTEN CO., LTD. is in conformance with ISO 14064-1:2018.

Statement of independence, impartiality, and competence

Bureau Veritas Group is an independent professional services company that specializes in Quality, Health, Safety, Social and Environmental management with over 190 years' history in providing independent assurance services.

No member of the verification team has a business relationship with XIAMEN TUNGSTEN CO., LTD. and its directors or managers beyond that required by this assignment. We conducted this verification independently and to our knowledge there has been no conflict of interest.

Bureau Veritas Group has implemented a Code of Ethics across the business to maintain high ethical standards among staff in their day-to-day business activities.

Lead verifier:Guoqiao FENG
Statment No.: EMI21506552GZ-JT
Version No.: No.1

Verification date: 18-19/3/2024
Issue date: 29/3/2024

Signed on behalf of
Bureau Veritas Certification (Beijing) Co., Ltd.

Certification body address: Room 02, 9 / F, West Office Building 1, Oriental Economic and Trade City, Oriental Plaza, No.1 East Chang'an Street, Dongcheng District, Beijing, China. 100738
Further clarifications regarding the verification scope of this statement may be obtained by consulting the organization.
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SGS

Statement of Conformity CN24/00001504

Greenhouse Gas Verification Statement

The inventory of Greenhouse Gas emissions in
1 Jan. 2023 to 31 Dec. 2023 of

XTC New Energy Materials (Xiamen) Co., LTD.

Business address: No. 1 of No. 300, Kejingshe, Xiamen Area of Pilot Free Trade Zone, Xiamen City, Fujian Province P.R. China
Organization boundary: Detail organization boundary information has been listed in Annex, for multi-site statement

has been verified in accordance with ISO 14064-3:2019 as meeting the requirements of

ISO 14064-1:2018

GHG INVENTORY VERIFICATION ISO 14064-1 SGS

Direct Emissions [Category 1]
30,984.33 tonnes of CO2e
Indirect Emissions from imported Energy [Category 2]
86,790.16 tonnes of CO2e
Indirect Emissions from Transportation [Category 3]
32,938.77 tonnes of CO2e
Indirect Emissions from Products Used by An Organization [Category 4]
1,374,913.11 tonnes of CO2e
Indirect Emissions Associated with The Use of Products from The Organization [Category 5]
[be determined as non-significant indirect emissions and not quantified]
Indirect Emissions from Other Sources [Category 6]
[be determined as non-significant indirect emissions and not quantified]
Total Emissions Quantified
1,525,626.37 tonnes of CO2e

Authorized by
David Xin
Sr. Director - Business Assurance
DATE: 2 Mar. 2024
SGS-CSTC Standards Technical Services Co., Ltd.
16F Century YuHui Mansion, No. 73 Fucheng Road, Beijing, P.R. CHINA 100142
t +86 (0)10 58251188 www.sgsgroup.com.cn
Several statements have been issued for this scope, this is main statement

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Greenhouse Gas Verification Report

RSM 容诚

RSM CHINA CPA LLP
15F/922-926, Waijingmao Building, 22
Fuwaida St., Xicheng, Beijing
POST CODE: 100037
TEL: 0086-10-6600 1391
FAX: 0086-10-6600 1392

Independent Limited Assurance Report

RSMZZ[2024]NO.361Z0362

To the Directors of the board of Xiamen Tungsten Co.,Ltd.

We were engaged by Xiamen Tungsten Co.,Ltd.(the "Company") to undertake a limited assurance engagement of the key indicators (the "Indicators") for the period from January 1,2023 to December 31,2023 included in its Sustainability Report 2023(the "Report").

The Company's Responsibility

The Company was responsible for selecting the Criteria, and preparing and fairly presenting information presented in the Report in accordance with that Criteria. This responsibility includes establishing and maintaining internal controls, adequate records and making estimates that are reasonable in the circumstances.

RSM's Responsibility

Our responsibility was to express limited assurance conclusions on the Indicators as defined in the "what we assured" column in the tables below.

We conducted our procedures in accordance with the International Federation of Accountants' International Standard for Assurance Engagements Other Than Audits or Reviews of Historical Financial Information (ISAE 3000) and the terms of reference for this engagement as agreed with the Company. The procedures we performed were based on our professional judgement, and for our reasonable assurance scope, our work was carried out only at the Company's headquarters. Our assurance procedures included:

- Interviewing the Company's responsible personnel to obtain an understanding of its policy for preparing the Report and methods used to collect and process the Indicators.
- Performing analytical procedures on the Indicators.
- Examining, on a test basis, evidence supporting the generation, aggregation and reporting of the Indicators in conformity with the Company's reporting criteria.
- Recalculating the Indicators.
- Other procedures that we deem necessary.

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What we assured	
• **GHG Emissions** — Scope 1 – Direct GHG emissions (tCO_2e) — Scope 2 – Indirect GHG emissions (Market based) (tCO_2e) — Total GHG emissions(Scope 1+ Scope 2) (tCO_2e)	• **Energy Consumption** — Electricity consumption (kWh) — Green electricity consumption (kWh) — Nuclear electricity consumption (kWh) — Photovoltaic power consumption (kWh) — Wind power consumption (kWh) — Hydropower consumption (kWh) — Steam consumption (Ton) — Natural gas consumption (m^3) — Coal consumption (Ton) — Liquefied petroleum gas consumption (Ton) — Gasoline consumption (Litre) — Diesel consumption (Litre)
• **Air Pollutants** — NOx emissions (Ton) — SOx emissions (Ton) — PM emissions (Ton) — Non-methane hydrocarbons emissions (Ton) — Ammonia emissions (Ton) — Cobalt and its compound emissions (Ton) — Nickel and its compound emissions (Ton) — Manganese and its compound emissions (Ton) — Sulfuric acid mist emissions (Ton) — Volatile organic compound emissions (Ton) — Hydrogen chloride emissions (Ton)	• **Wastewater and Related Pollutants** — Wastewater discharge (m^3) — Ammonia Nitrogen discharge (Ton) — Chemical oxygen demand discharge (Ton) — Total Nitrogen discharge (Ton) — Total lead discharge (Ton) — Total arsenic discharge (Ton) — Total nickel discharge (Ton) — Total chromium discharge (Ton) — Total cadmium discharge (Ton) — Total cobalt discharge (Ton) — Total molybdenum discharge (Ton) — Total zinc discharge (Ton) — Total copper discharge (Ton) — Total manganese discharge (Ton) — Total phosphorus discharge (Ton) — Total iron discharge (Ton)
• **Hazardous Waste** — Transfer and disposal volume of hazardous waste (Ton)	• **Water Resource** — Water withdrawal (m^3) — Water consumption (m^3)
• **Total Employees (Person)** — Total Employees (Person)	• **Employee Composition by Gender** — Male (Person) — Female (Person)
• **Employee Composition by Age** — Under 30 (Person) — 30 to 50 (Person) — Over 50 (Person)	• **Employee Composition by Education** — Doctors (Person) — Masters (Person) — Bachelors (Person) — Colleges (Person)

事务所(特
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	— Under-Colleges (Person)
• **Employee Composition by Profession** — Production employees (Person) — Sales employees (Person) — Technical employees (Person) — Finance employees (Person) — Administrative employees (Person) — Female production employees (Person) — Female sales employees (Person) — Female technical employees (Person) — Female finance employees (Person) — Female administrative employees (Person)	• **Management Team Composition** — Management (Middle and upper, including senior management) (Person) — Senior management (Person) — Female Management (Middle and upper, including senior management) (Person) — Female senior management (Person)
• **Labor Contracts** — Employment contract signing rate (%) • **Employee Turnover** — Total employees at the beginning of the year (Person) — Total number of resignations (Person) — Total new recruiters in the year (Person)	• **Employment of People with Disabilities** — Number of employees with disabilities (Person) — Ratio of employees with disabilities (%)
• **Safety Training** — Total participants in safety training (Participant) — Total participant time in safety training (Hour) — Number of safety emergency drill (Time)	• **Work Safety Accident** — Number of extremely severe accident (Case) — Number of severe accident (Case) — Number of major accident (Case) — Work-related accident (Case)
• **Occupational Health and Safety Performance** — Occupational injuries (Person) — Occupational fatalities (Person)	• **Intellectual Property** — Number of new patent applications (Item) — Number of new patent grants (Item) — Number of new copyright registrations (Item) — Number of new trademark applications (Item) — Number of new trademark registrations (Item)
• **Non-affiliated Suppliers (by Regional Distribution)** — Number of non-affiliated suppliers from Mainland China (Unit) — Number of non-affiliated suppliers from other regions (Unit) — Total number of non-affiliated suppliers (Unit)	• **Volunteer Service** — Number of volunteer service participants (Participant) — Number of volunteer service hours (Hour)

Limited Assurance

Procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed. We have not performed assurance procedures in respect of any indicators relating to prior reporting periods, including those presented in the Report.

We need to remind the users of the Report that for non-financial Indicators, there is no recognized system of assessment and measurement standards, so there is a lack of uniform measurement methods, which will affect the comparability of data between companies.

Our Conclusions

Based on the procedures performed, as described above, nothing has come to our attention that causes us to believe that the Indicators in the Report are not prepared, in all material respects, in accordance with the Company's reporting criteria described in the Report.

Our Independence and Quality Control

We have complied with the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which includes independence and other requirements founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior. In accordance with International Standard on Quality Control1, we maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

(This is the official seal page of Independen Limied Assurance Report RSMZZJ2024IWQ361Z0362 of Xiamen Tungsten Co.,Ltd.)

RSM CHI[illegible]PA LLP

Beijing, China

April 17, 2024

厦门钨业
XIAMEN TUNGSTEN

Xiamen Tungsten Co., Ltd.
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Tel: +86 592 3351797