

ENVIRONMENTAL, SOCIAL AND CORPORATE GOVERNANCE REPORT

2021



江西铜业股份有限公司
JIANGXI COPPER COMPANY LIMITED

About the report

This report is the fifth environmental, social and corporate governance report (hereinafter referred to as the "Report") issued by Jiangxi Copper Corporation Limited to disclose and display the company's ESG performance to stakeholders. The board of directors of Jiangxi Copper Corporation Limited has reviewed this report and is responsible for the authenticity and validity of the information contained therein.

Duration

Unless otherwise specified, the duration covered by this report is from January 1 to December 31, 2021 and some information involves previous years.

Scope

This report covers Jiangxi Copper Corporation Limited, its subsidiaries and branches, with a scope consistent with the consolidated financial statements.

Data Source

All information and data herein are sourced from the company's official documents and public disclosure documents. The financial data quoted in the report are subject to the annual report. Unless otherwise specified, the currency is in unit RMB.

Guidelines for Preparation

With reference to the *Guidance on social responsibility (GB/T 36000)*, the *Guidelines for Environmental Information Disclosure of Listed Companies on the Shanghai Stock Exchange*, the *Environmental, Social and Governance Reporting Guide of the Stock Exchange of Hong Kong*, the *Global Reporting Initiative (GRI) Sustainability Reporting Guidelines (Fourth Edition) ("GRI G4")*, *ISO 26000:2010 Guidance on Social Responsibility of the International Organization for Standardization ("ISO 26000")*, and other international and domestic ESG/ sustainable development/social responsibility-related frameworks, this report focuses on the background of the industry and highlights the particularities of the Company.

Title

In this report, "**Jiangxi Copper**", "**JCCL**", "**Company**", "**Enterprise**" and "**We**" all refer to Jiangxi Copper Corporation Limited.

Report Acquisition

This report is released in an online electronic version accessible on the website of the Company (www.jxcc.com), the website of the Shanghai Stock Exchange and the website of the Stock Exchange of Hong Kong

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Leadership remark



2021 is the first year of the "14th Five-Year Plan", the first year to comprehensively start a new journey of socialist modernization, and also a year for Jiangxi Copper to reach a new horizon. In 2021, we assemble the majestic force of Jiangxi Copper employees under "one heart, co-creation, and co-progress", forge ahead with determination, and achieve an operating income of 4,427.68yuan, ranking 35th in the Fortune China 500, and compiling a wonderful chapter in high-quality development. In 2021, we kept a good start in the "14th Five-Year Plan", continually advanced towards the 5-year development goal of "continuously leading the development of China's copper industry and initially building a world-class enterprise with global core competitiveness", achieving new results in high-quality, sustainable development.

Low carbon and environmental protection to promote green development. We abide by the principle of "green development, environmental protection first", take real actions to promote low-carbon development, stimulate green energy, and fully protect the ecological environment. We actively respond to the "dual carbon" policy, vigorously promote energy conservation and emission reduction, and develop a green economy. In addition, we take green mines and green factories as the starting point, cultivate green emerging industries, develop green projects to create a complete ecological industry chain.

Help and support each other to take social responsibilities. We honour our commitment to "fulfilling social responsibilities and acting as an excellent corporate citizen", repay the society with our original intention, and provide precise assistance under the epidemic. We focus on giving full play to the advantages of leading enterprises, enthusiastically perform various public welfare activities, and do our best to provide jobs. At the same time, we dispatch experienced cadres for assistance work in villages, consolidate and expand the achievements in poverty alleviation work, and deepen effective linkage with rural revitalization.

Care about employees to achieve common growth.

We advocate the concept of "common progress between employees and enterprises", actively protect the legitimate rights and interests of employees, broaden the development space of professional talents, and help employees gain growth and happiness at work. We introduce a supplementary medical insurance plan, adjust the payment ratio of enterprise annuity contributions, and protect employees' rights and interests by taking multiple measures. We reform the employee promotion mechanism, launch the "four copper" financial talent training system, and build a broad platform for employees to help them develop. We standardize and carry out various employee care activities, and do a good job in comforting employees in difficulty, so that outstanding talents can enhance their sense of belonging and gain a sense of happiness amid contribution to corporate development.

Optimize the system to improve governance capabilities.

We practice the concept of "fine process, benefit first", perfect the governance system construction, develop ability to avoid risks, and create higher corporate value through effective corporate governance. We adhere to the leadership of the party, optimize the governance structure, and deepen the organic integration of party building and governance. Fully implementing the concept of sustainable development, we set up an ESG development committee, perform information disclosure obligations in accordance with the law, and secure high-quality development with a high-quality governance system.

Thousands of rivers meet in the sea, and the wind is ready for sailing. In 2022, we will further adhere to the core concept of "pondering today by future", and strive to build a strong, technologically innovative, green, digital, international, and vibrant Jiangxi Copper, stride forward in the progressive journey to build a modern and beautiful Jiangxi Copper, march forward bravely to achieve the second centenary goal of struggle!

Zheng Gaoqing
Jiangxi Copper Company Limited
Secretary of the Company's party committee, Chairman and General Manager

About Jiangxi Copper

Company profile

Established in 1997, Jiangxi Copper Corporation Limited is the largest comprehensive copper production enterprise in China. Issuing overseas listed foreign shares (0358.HK) in June 1997, the company was listed and traded on the Hong Kong Stock Exchange and the London Stock Exchange at the same time, becoming the first overseas listed company in the nonferrous metal industry and Jiangxi Province. In January 2002, the company's RMB domestic shares (600362.SH) were listed on the Shanghai Stock Exchange.

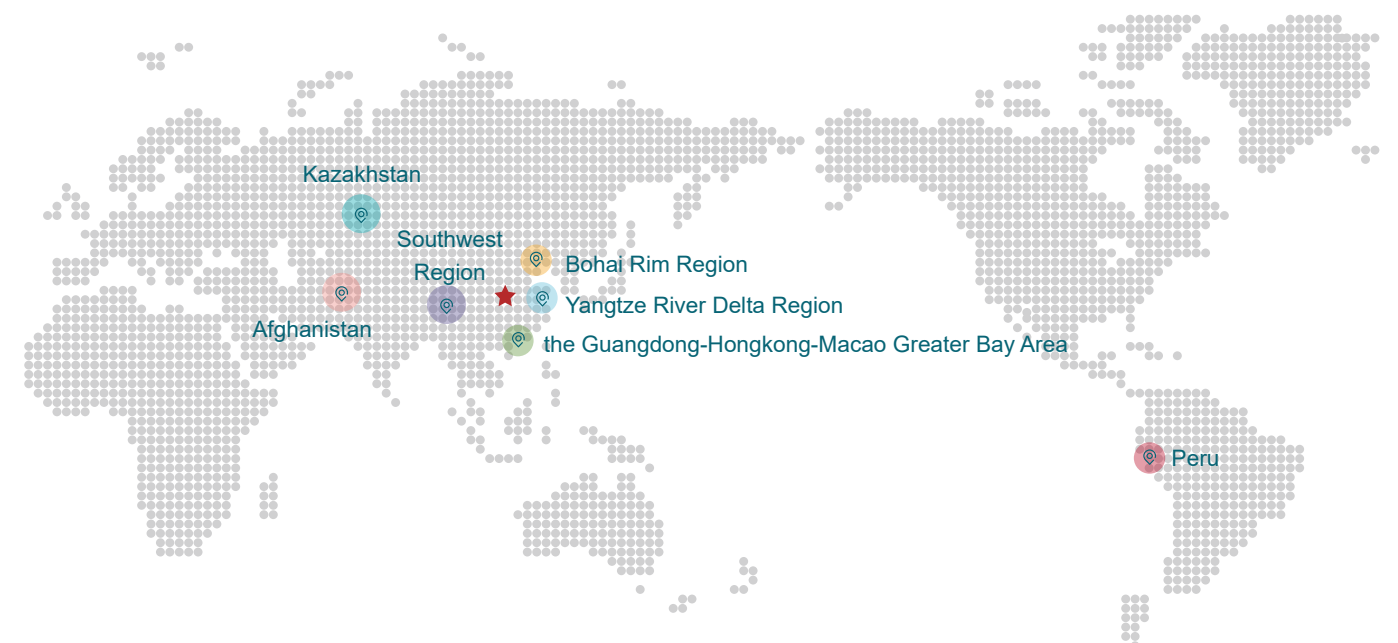
After years of accumulation, the company domestically possesses the most copper and associated and symbiotic mineral resources in the industry, and has built the largest copper processing and production base in China. The company's main business covers the mining, smelting and processing of copper and gold; the extraction and processing of scattered metals; sulfur chemicals, as well as finance, trade, etc. Our products have more than 50 varieties, including cathode copper, gold, silver, sulfuric acid, copper rod, copper tube, copper foil, selenium, tellurium, rhenium, bismuth, etc.

Main Business



The company consolidates and deepens the "T"-shaped layout along the coast and rivers, and has built five industrial bases radiating the Bohai Rim region, the Yangtze River Delta region, the Guangdong-Hong Kong-Macao Greater Bay Area and the southwest region with Jiangxi as the main body. An investment, marketing, financial and trade network with national coverage and international radiation has been built. The company has also gradually built an international development map starting from the mining bases in countries of Peru, Kazakhstan, Afghanistan, etc.

"Jiangxi Copper is not a world, but seeks global development." The company will continue to make full use of two markets and two resources, strive to build a new development pattern of "dual circulation", accelerate the overall industry upgrading and the continuous structure optimization. Meanwhile, the company will continually practice the concept of green development and make continuous efforts to help achieve "carbon neutrality" and build a beautiful China.



Organizational structure

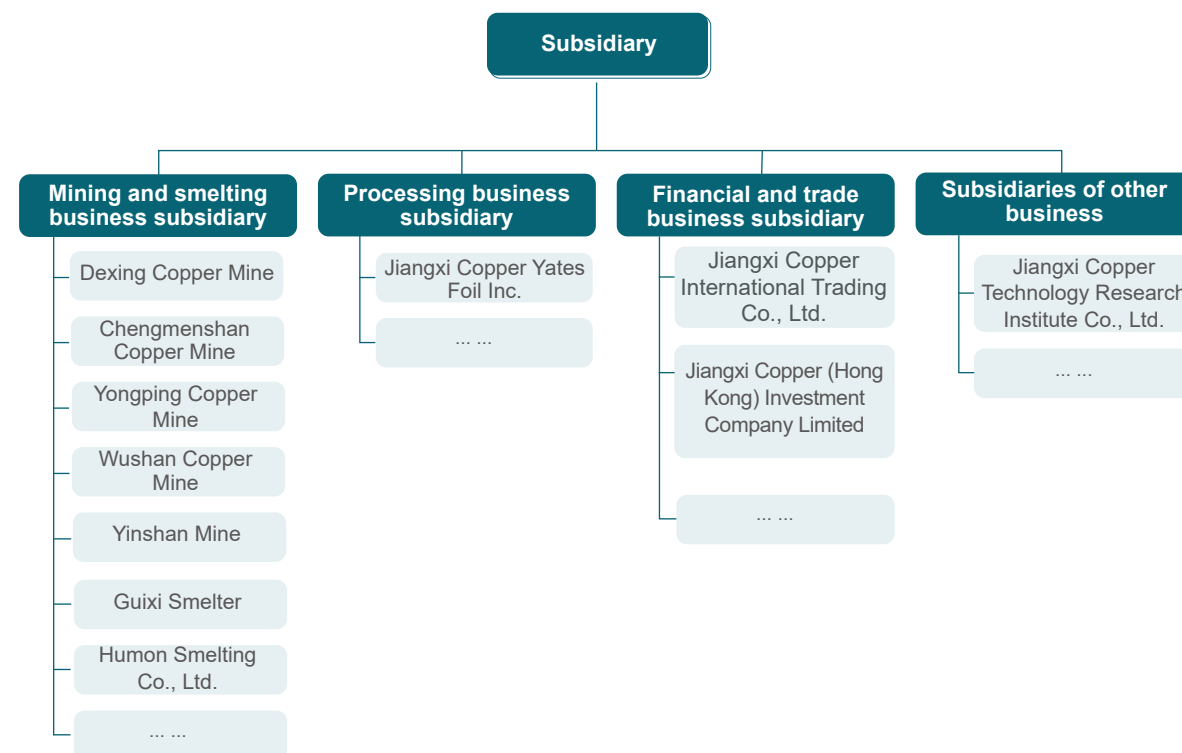
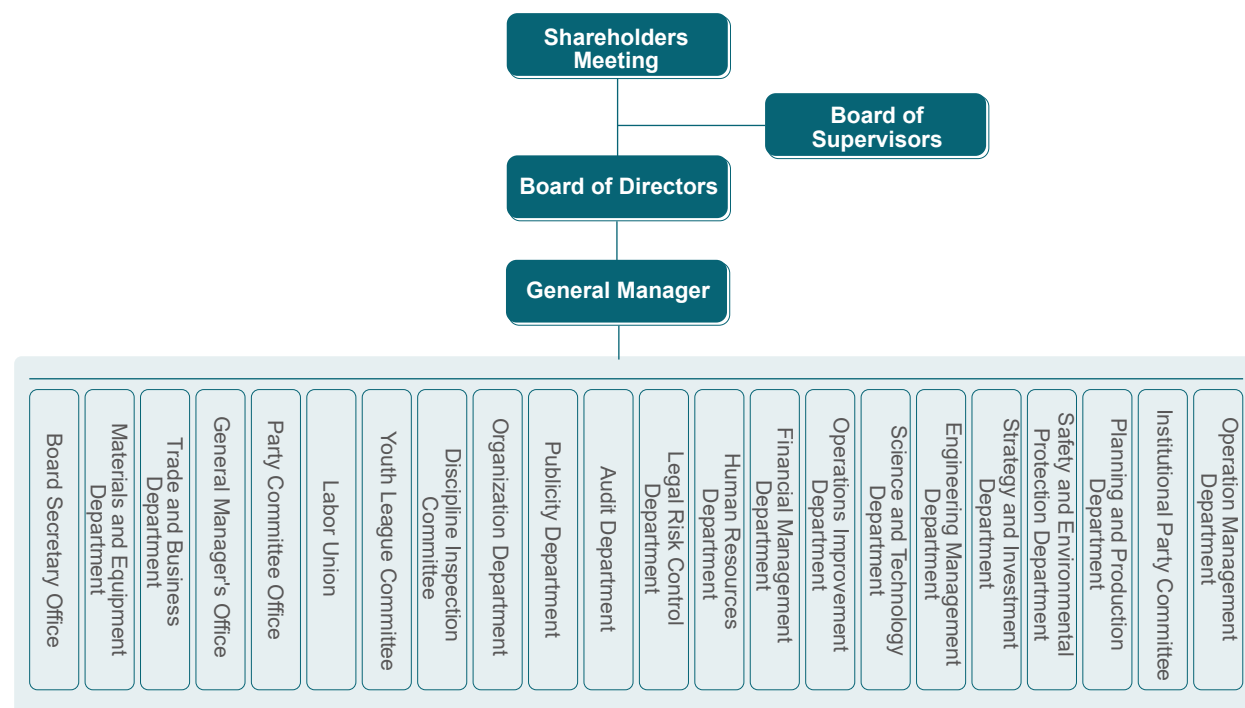
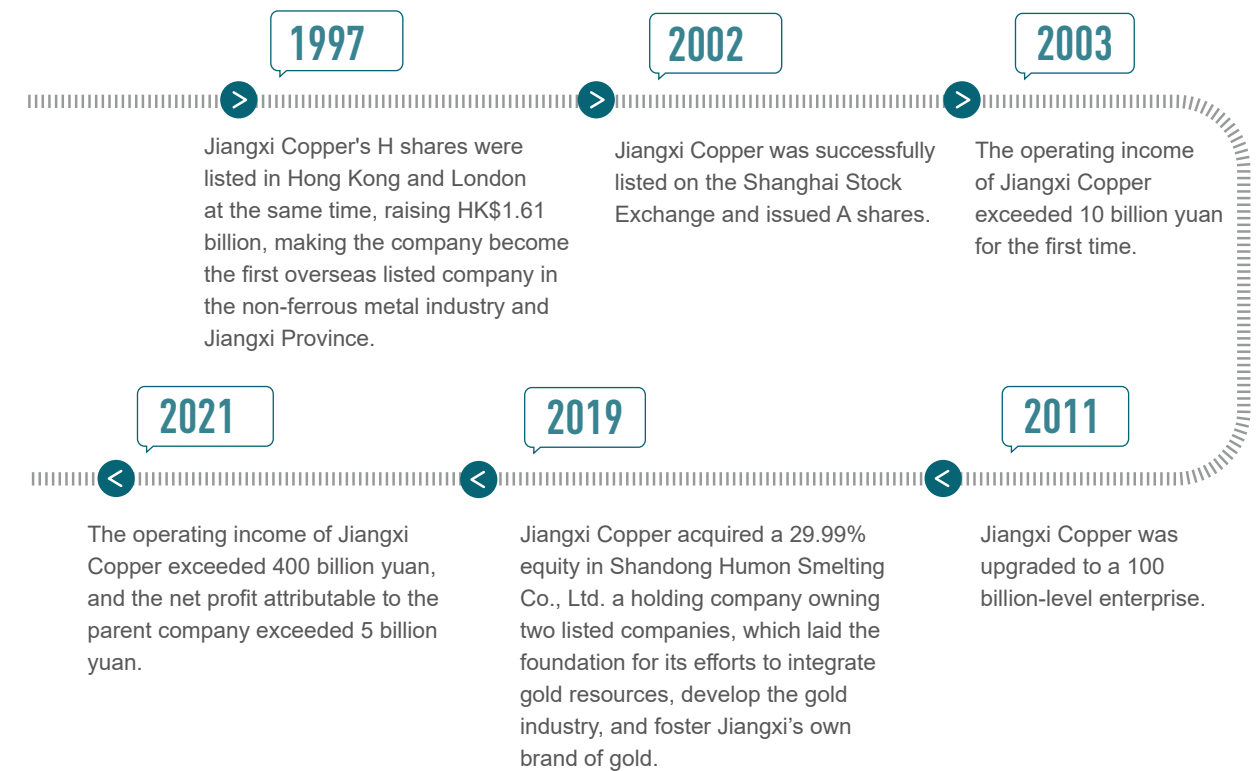
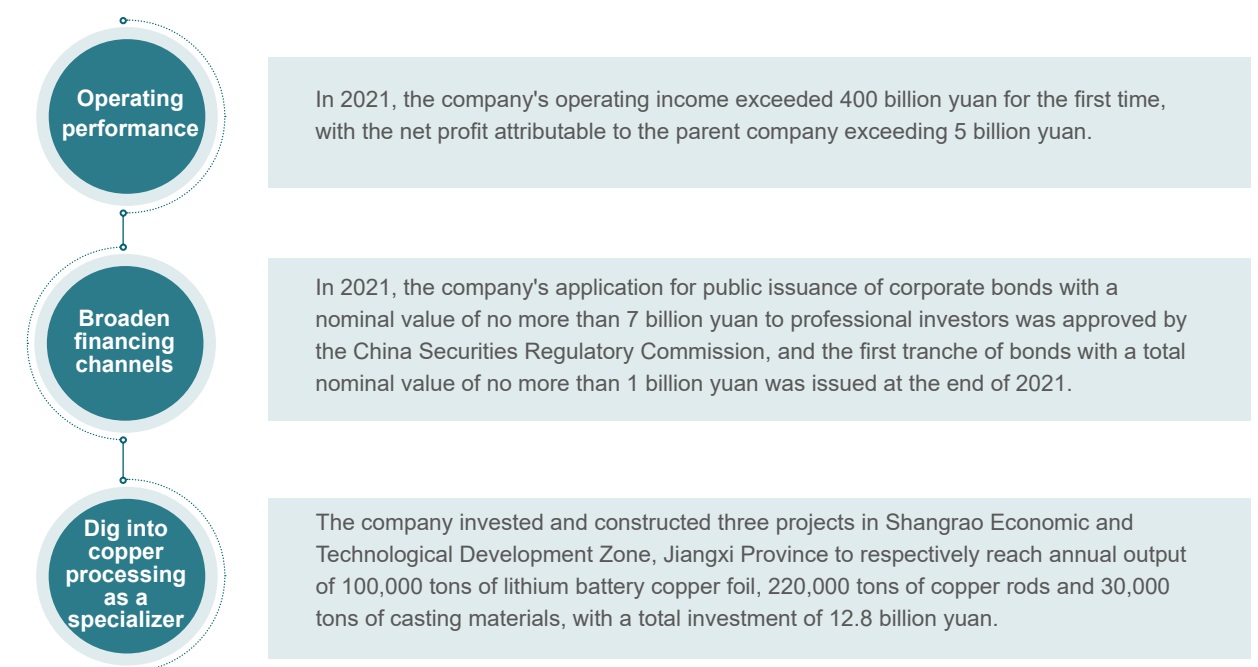


Fig. Organizational Structure of Jiangxi Copper

Historic milestones



2021 Major Events



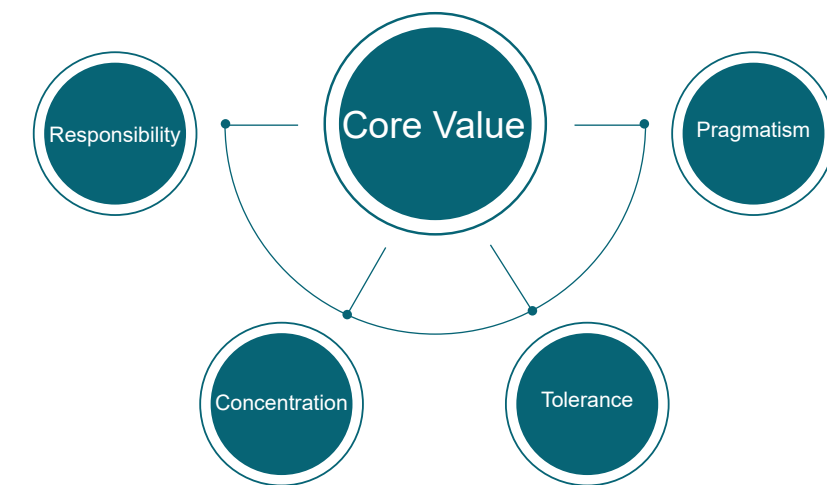
Honorary Award



Company Culture

The company always adheres to the original mission of "revitalizing China's copper industry", follows the core enterprise concept of "pondering today by future", focuses on the main responsibility and the main business, and continually implements cultural construction under "one heart, co-creation, and co-progress". The concept of "one heart, co-creation, and co-progress" is organically integrated into all links of enterprise reform and development, production and operation to instruct cadres and employees to gather strength with "one heart", repeatedly achieve good results by "co-creation", and share glory in "co-progress", thus achieving quality reform, efficiency reform and power reform, and continually boosting sustainable corporate development.

Jiangxi Copper's Corporate Culture System



Mission:

Focusing on exploring and exploiting the value of resources, sincerely pursue the harmonious coexistence between human beings and the nature

Vision:

Grown up to be a global, resource-oriented enterprise with wide respect and sustainable development

Responsibility Management

Stakeholder Communication

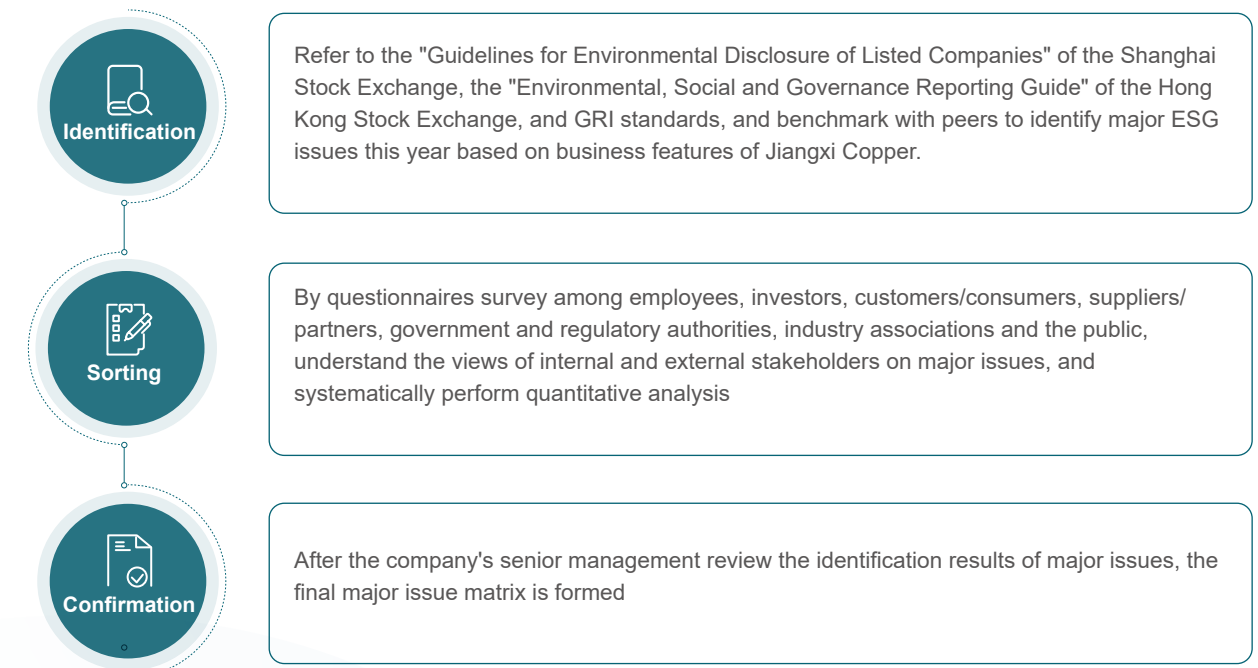
The company attaches great importance to the communication with various stakeholders. During the reporting period, it continually perfected the communication mechanism, broadened the communication channels, understood and responded to the expectations and demands of stakeholders in a timely manner, striving to achieve win-win cooperation with all stakeholders.

Stakeholder	Interest appeal	Communication channel/response way
Employee	<ul style="list-style-type: none"> • Equal Employment • Stable Employment • Welfare treatment • Rights and interests protection • Training and education • Career development • Working environment • Mental and physical health 	<ul style="list-style-type: none"> • Compliance management • Union communication • Employee training • Knowledge contest • Regular physical examination • Cultural and sports activities
Investor	<ul style="list-style-type: none"> • Operating Results • Shareholders' Equity • ESG governance • Risk prevention • Information transparency 	<ul style="list-style-type: none"> • Shareholders meeting • Information disclosure • Performance explanation session • Standardized management
Customer/Consumer	<ul style="list-style-type: none"> • Product Quality • Customer Service • Communication • Privacy security 	<ul style="list-style-type: none"> • Satisfaction Survey • Complaint Hotline • Complaint handling • Quality control
Supplier/Partner	<ul style="list-style-type: none"> • Supply Chain Management • Sunshine Procurement • Integrity and Reciprocity • Communication Channel 	<ul style="list-style-type: none"> • Supplier Inspection • Supplier assessment • Supplier Symposium
Government and regulatory authorities	<ul style="list-style-type: none"> • Compliance operation • Pay taxes according to law • Environmentally friendly 	<ul style="list-style-type: none"> • Compliance with laws and regulations • Accept supervision • Energy saving and emission reduction • Environmental governance
Industry Association	<ul style="list-style-type: none"> • Enaction of standard • Common Progress • Fair competition 	<ul style="list-style-type: none"> • Industry seminar • Project cooperation
Social public	<ul style="list-style-type: none"> • Promote employment • Social welfare • Environmentally friendly 	<ul style="list-style-type: none"> • Employee recruitment • Charity donation • Energy saving and emission reduction • Environmental governance

Analysis of Substantive Issues

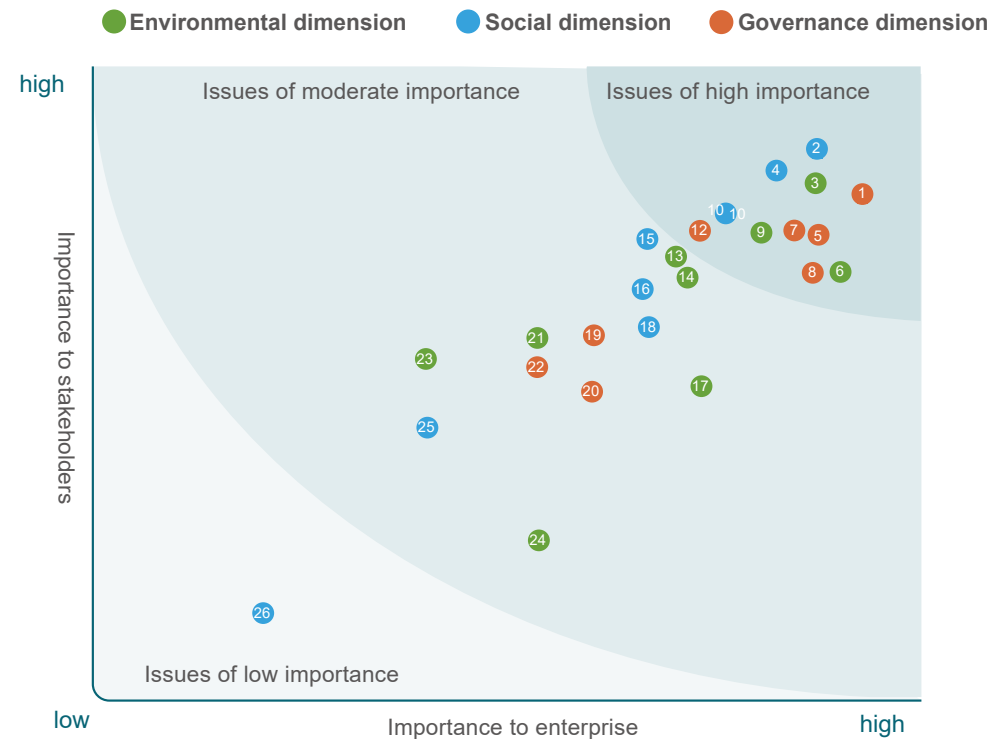
Process for Determining Major Issues

We conducted a questionnaire survey to identify, sort and confirm environmental, social and corporate governance-related issues with significant impacts from "the degree of importance for the company's sustainable development" and "the degree of importance for the decision-making and assessment of stakeholders". Finally, important substantive issues of common concern to the company and stakeholders were selected from 258 valid questionnaires, and the relevant information on these issues is disclosed and elaborated herein.



Matrix of Major ESG Issues in 2021

After identification, ranking and confirmation, the company's 2021 ESG issues are ranked in importance as follows:



Rankin	Issue	Importance
1	Issues of low importance	Issues of high importance
2	Product Safety and Quality	
3	Waste Discharge Management	
4	Occupational Health and Safety of Employees	
5	Intellectual Property Protection of Employees	
6	Ecological Restoration	
7	Compliance Management	
8	Risk Management	
9	Green Production	
10	Employee Training and Development Customer Relationship Management	
12	Technological Innovation	Issues of moderate importance
13	Water Resource Management	
14	Energy Saving and Consumption Reduction	
15	Employee Rights Protection	
16	Supply Chain Management	
17	Biodiversity Protection	
18	Charity	
19	Antitrust	
20	Corporate Governance	
21	Greenhouse Gases and Carbon Emissions	
22	Investor Communication	
23	Green Office	
24	Coping with Climate Change	
25	Community Building	
26	Diversity Employment	Issues of low importance

Shareholder feedback

The company attaches great importance to reporting to shareholders. In June 2021, the company held the 2020 Annual Shareholders Meeting to confirm the distribution of 1 yuan cash dividend (tax included) for every 10 shares to all shareholders. In July 2021, in view of its own development strategy and the characteristics of the industry in which it operates, the company paid a total of 346,272,900yuan cash dividends to shareholders. Since its listing to the end of the reporting period, the company has distributed dividends 22 times in total, with a total amount of dividends exceeding 14 billion yuan.

In July 2021, in view of its own development strategy and the characteristics of the industry in which it operates

the company paid cash dividends to shareholders

a total of

34,627.29 yuan

Since its listing to the end of the reporting period

the company has distributed dividends

22 times in total

Total amount of dividends

14 billion yuan

Year	Revenue (10,000 yuan)	Net profit attributable to the parent company (10,000 yuan)	Dividend amount (10,000 yuan)
2020	31,856,317.48	232,039.47	34,627.29
2019	24,036,033.51	222,872.69	34,627.29



Appropriate governance



A stable and transparent governance system is an important guarantee for building a modern resource-based enterprise. The company adheres to the work pace of seeking improvement in stability, further standardizes governance from organizational structure, compliance risk control, business ethics, science and technology innovation and investor relations to scientifically coordinate various production and operation activities.

01

About Jiangxi Copper

Responsibility management

Appropriate governance

Environmental responsibility

Wise Management

Cherish talents

Powerful feedback

Future outlook

Governance Responsibility

The company strictly abides by the Company Law of the People's Republic of China, Securities Law of the People's Republic of China, Guidelines for the Governance of Listed Companies of the People's Republic of China and other laws, regulations and rules, constantly improves the corporate governance structure, strengthens the implementation of corporate governance decisions to secure smooth operation of the company.

Organizational Structure

The company has established a clear and reasonable organizational structure of "three organizations and one team". The shareholders meeting, the board of directors and its special committees, the board of supervisors and the management team have clear powers and responsibilities and perform their respective duties to constantly boost the healthy corporate development.

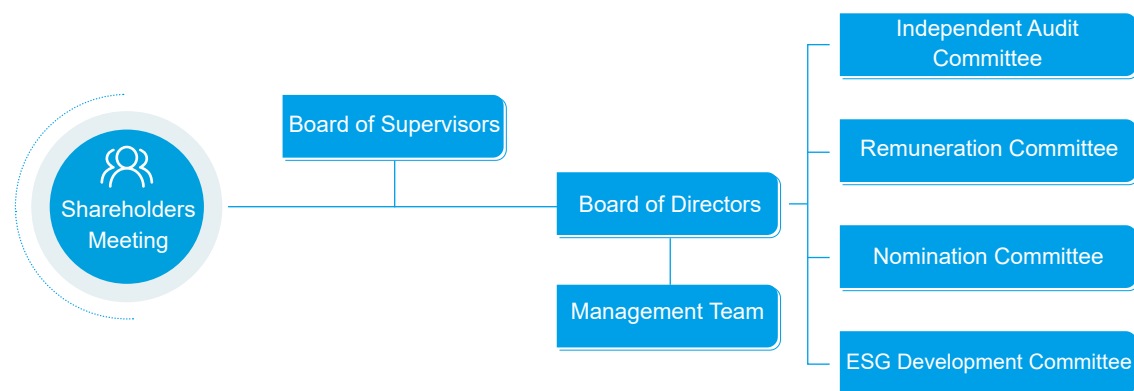
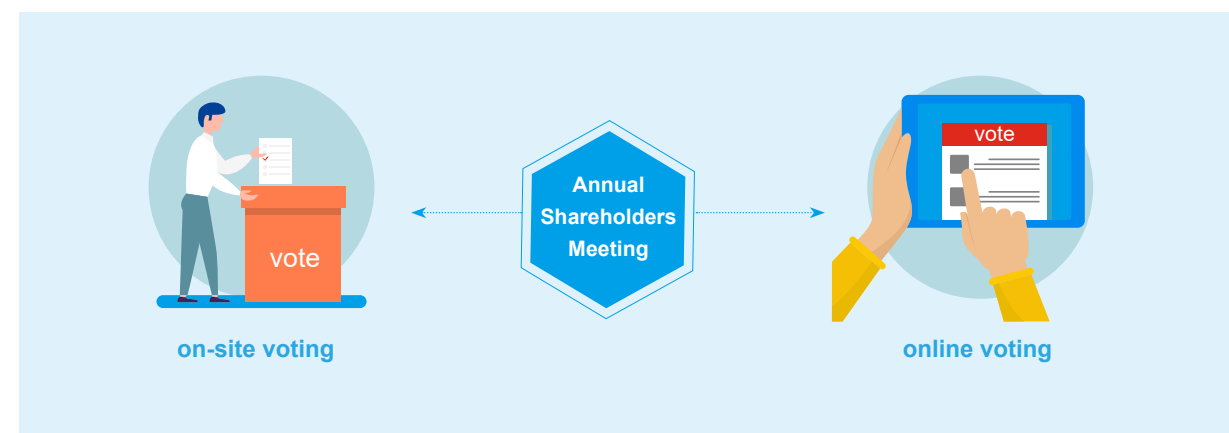


Fig. Corporate Governance Structure of the Board of Directors

• Shareholders Meeting

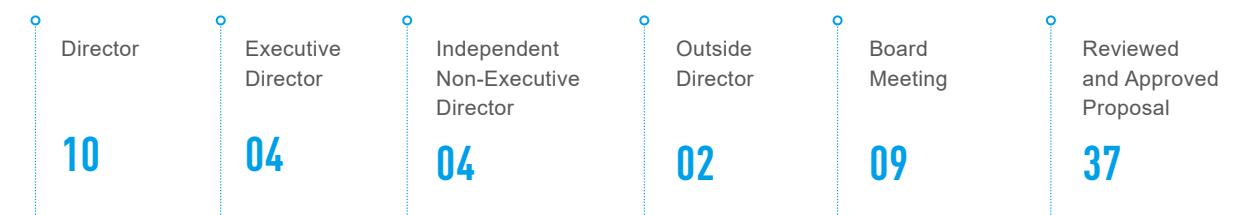
During the reporting period, the company convened an annual shareholders meeting by combining on-site voting and online voting. 13 proposals were reviewed and approved, including 8 proposals on separate voting by minority shareholders.



Directors, Board of Directors and Special Committees

The directors of the company are elected by the shareholders meeting and are responsible to the shareholders. During the reporting period, the company successfully changed the office term of the board of directors. As of the end of the reporting period, the board of directors of the company has a total of 10 directors, including 4 executive directors, 2 external directors, and 4 independent non-executive directors. All directors of the company are diligent and conscientious. During the reporting period, 9 board meetings were held, and 37 proposals were reviewed and approved.

At the end of the reporting period



The Board of Directors has set up Independent Audit Committee, Remuneration Committee, Nomination Committee and ESG Development Committee. Each special committee has precise division of labor, which applies professional knowledge to assist the Board of Directors in decision-making to guarantee the Board's accuracy in decision-making. During the reporting period, the company held 2 audit committee meetings, 1 remuneration committee meeting, and 3 nomination committee meetings.

Name	Gender	Age	Nationality	Internal/External Director	Title	Professional Background
Zheng Gaoqing	Male	56	China	Internal Executive Director	Party Secretary, Chairman, General Manager	Machinery Manufacturing
Wang Bo	Male	58	China		Deputy Secretary of the Party Committee	Chemistry
Liu Fangyun	Male	56	China		Party Committee Member, Deputy General Manager and Headquarter Chief Commander of Jiangxi Copper Cooperation Limited (Shangrao) Industrial Park Project	Mining Machinery
Yu Tong	Male	50	China		Party Committee Member, Chief Financial Officer	Statistics, Finance
Gao Jianmin	Male	62	Hong Kong, China	External Director	None	Economics
Liang Qing	Male	68	China		None	Finance
Wang Feng	Male	45	China	Independent Director(External Director)	None	Corporate Management
Liu Xike	Male	48	China		None	Investment
Liu Erfei	Male	63	Hong Kong, China		None	Finance
Zhu Xingwen	Male	60	China		None	Business accounting

Table. Board Member Information of Jiangxi Copper

Board of Supervisors

The company's board of supervisors supervises and inspects the company's business activities in accordance with the requirements of laws and regulations, strives to protect the legitimate rights and interests of the company and its shareholders, and promotes the standardized operation of the company. During the reporting period, the company successfully changed the office term of the Board of Supervisors. After the change, the Board of Supervisors has a total of 5 supervisors, including 2 employee supervisors. As of the end of the reporting period, the company has held 3 meetings of the Board of Supervisors in total, reviewing and approving 12 proposals.

During the reporting period		During the reporting period	
the Board of Supervisors after the change of term	Employee Supervisor	Supervisory Board Meetings in total	Reviewed and Approved Proposal
05	02	03	12

ESG Governance System

To further improve the company's ESG management system, promote the company's sustainable development, and develop the company into a responsible enterprise trusted by society, the company reviewed and approved the proposal to establish an ESG development committee and an ESG working group and appoint members of ESG Development Committee in May 2021. It raised ESG-related matters to the governance level, built a three-level ESG governance structure composed of the Board of Directors, ESG development committee and ESG working group, and formulated the Detailed Working Rules of Jiangxi Copper Corporation Limited on Environmental, Social and Governance Development Committee of Board of Directors to comprehensively promote the institutionalization and standardization of ESG governance. According to the detailed rules, the chairman of the company shall serve as the chairman of the ESG Development Committee, and independent non-executive director shall serve as the vice-chairman.

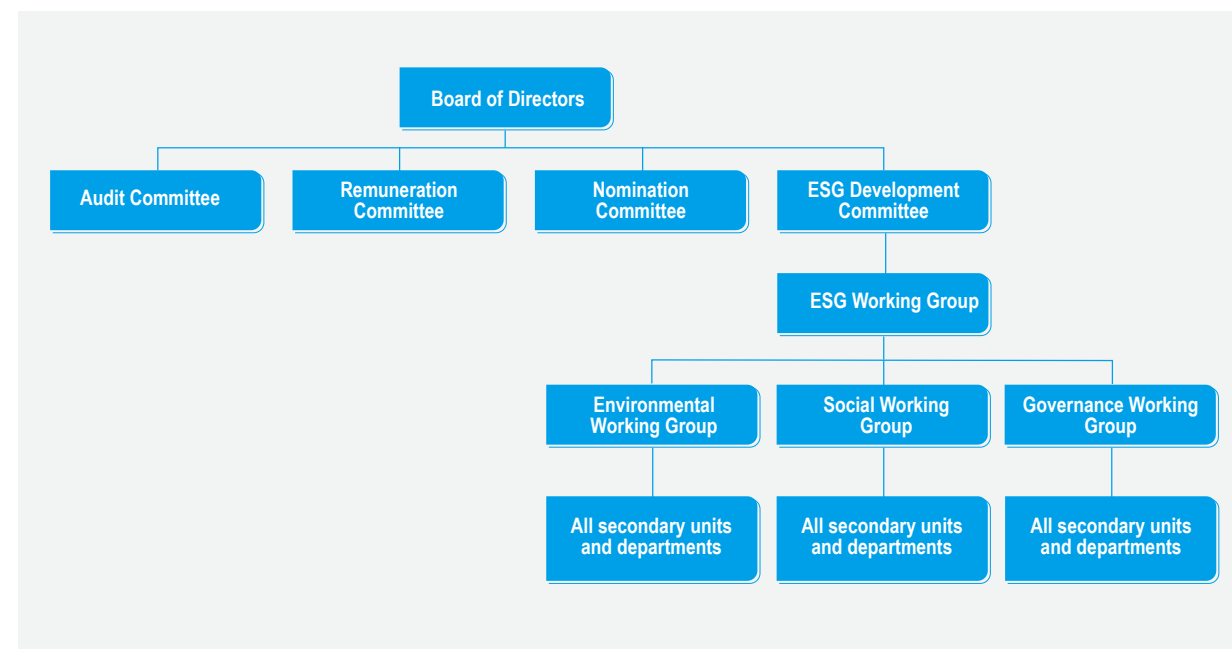
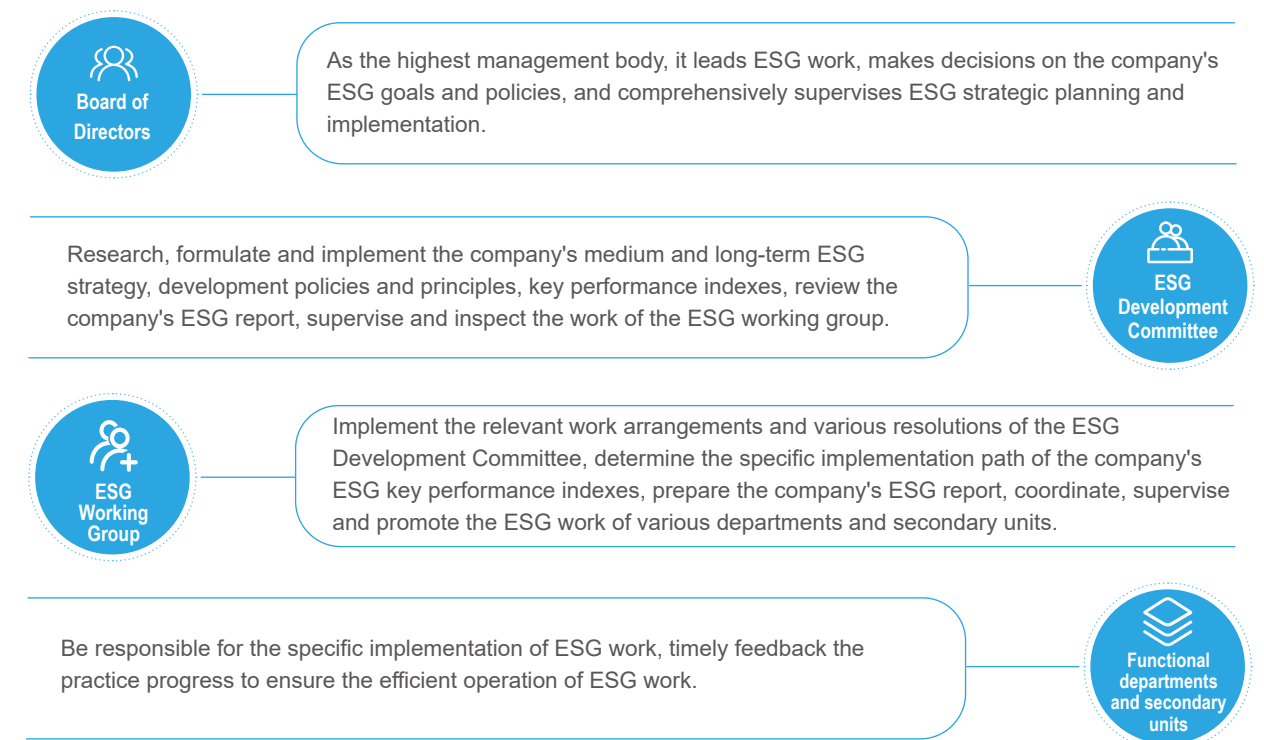


Fig. Company ESG Governance Framework

• Three-level ESG Governance



• ESG Related Training

The company strengthens the awareness of ESG among middle and senior managers through internal communication and training, actively encourages employees to establish and practice ESG development concepts, and helps improve the company's overall ESG capabilities. During the reporting period, the company provided 6 hours of ESG training in total, with cumulative number of participants exceeding 300.

Case Jiangxi Copper successfully held a training course on Environmental, Social, and Governance (ESG) Improvement

In July 2021, Jiangxi Copper held an online training course on Environmental, Social, and Governance (ESG) Improvement. Company leaders, principals of company departments and secondary units, and ESG work communication personnel participated in the training. With in-depth analysis and interpretations on themes such as opportunities and challenges for green development of the non-ferrous metal industry with the background of carbon neutrality, the importance of ESG in helping enterprises develop carbon neutrality, interpretation of ESG information disclosure requirements for listed companies, and ways to conduct ESG information disclosure, the training helped to develop participants' professional awareness of ESG.



Fig. Zheng Gaoqing, Secretary of the Company's Party Committee, Chairman and General Manager, Delivered a Speech at the ESG Training Course



Risk Control Compliance

The company attaches great importance to risk management and compliance, continuously improving the risk control and compliance system. It has established an internal control system consisting of the Board of Directors, the Risk Management Committee, the Legal and Risk Control Department, plus other relevant departments and secondary units. By emphasizing specific management responsibilities and firm risk control and compliance awareness, it continuously improves the level of risk management and control to promote the long-term stable development.

Risk Management and Internal Control

The company continually strengthens comprehensive risk management and internal control, establishes and improves major risk control management system, and actively carries out risk identification and prevention work to further enhance the awareness and ability in risk prevention and control, thereby enabling high-quality development.

• Institutional System

During the reporting period, following the principles of comprehensiveness, importance, practicability, cost-effectiveness, and continuous improvement, the company revised and modified institutional documents such as the *Management Measures of Jiangxi Copper Corporation Limited for Risk Management and Internal Control* and *Access Management Measures of Jiangxi Copper Corporation Limited for High-risk Business*, etc. to supplement the organizational system and responsibilities, establish risk reporting mechanism, and emphasize the content of prior risk management and control. At the same time, the company also formulated the *2021 Work Assessment Plan of Jiangxi Copper Corporation Limited for Risk Control Director of Subordinate Units* to ensure effective implementation of *2021 Implementation Plan for Large-scale Risk Control System Construction*. In addition, the company carried out forward-looking identification and prevention of potential risks in important production and operation fields, revised and modified the *Accounts Receivable Management System*, *Detailed Rules for the Implementation of Trade Credit Business*, *Contract Management Measures* and other related systems to achieve full coverage management of various risks, thereby continuously improving the large-scale risk control management system characterized by one system, two supervisory management, three lines of defense, four in one, five fields, and six improvements.

Fig. The company's large-scale risk control management system



• Management Structure




The company continuously optimizes the risk control management and internal control structure, setting up three defense lines formed by core business departments, supporting functional departments, and guaranteeing functional departments, to establish scientific and effective supervision mechanisms. At the same time, a professional management department is established to continuously track and monitor risk indexes, give early warnings in a timely manner. Moreover, the company's legal risk control department assesses the monitoring status to conduct risk monitoring in an all-round way.





• Performance Assessment




In accordance with the Risk Management and Internal Control Management Measures, the company incorporates the risk management and internal control implementation in relevant departments or units into the company's organizational performance assessment, and establishes an incentive and restraint mechanism for risk management and internal control. During the reporting period, the company carried out the 2021 annual risk control performance assessment, set 38 key risk indexes and rated them based on the index completion status, the construction and operation of the large-scale risk control system, and the internal control management. The internal control evaluation mechanism is strengthened through score feedback to understand the risk management and internal control level of each unit. At the same time, focusing on the weak points, the company took timely countermeasures to further improve risk management level and guarantee the effective operation of the risk management and internal control mechanism.

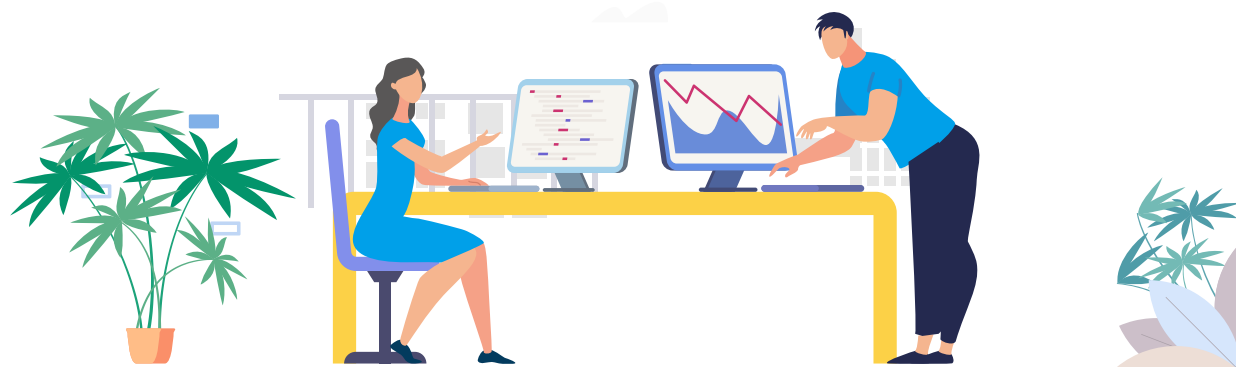
• Risk Identification and Response

The company regularly carries out risk identification and assessment, and classifies risks into five categories for monitoring according to the probability of occurrence, namely basically certain, very probable, probable, unlikely and almost unlikely. During the reporting period, the company identified ten risks, including external investment risks, accounts receivable and its disposal risks, credit risks, collateral management risks, financial business risks, price risks, cash flow risks, compliance risks, technological innovation risks and human resources risks, and countermeasures were taken.

Risk Type	Countermeasure
 External investment risk	<ul style="list-style-type: none"> ● Improve the investment management rules and regulations system: In 2021, the company revised the Equity Investment Management Measures, Legal Person Governance Guidelines of Jiangxi Copper Holding Subsidiaries, and newly created Jiangxi Copper's Interim Regulations on the Supervision of Shareholding Companies and Jiangxi Copper's Interim Provisions on the Disposal of Inefficient and Ineffective Equity Shares. ● Strengthen the construction of professional equity investment & management talents ● Enhance investment opportunity research capabilities ● Risk management in the whole process of investment projects
 Accounts receivable and their disposal risks	<ul style="list-style-type: none"> ● Revise and improve the Accounts Receivable Management System, Customer Credit Management Measures, Overdue Accounts Control Rules and other relevant systems for strict implementation. ● The sales strategy adopted by some affiliated units is payment before delivery or reduced proportion of credit sales. ● The business department, the financial management department, and the customer conduct regular account reconciliation, prepare a statement of changes in accounts receivable, and pay attention to abnormal changes in accounts receivable. ● Establish risk early warning index for overdue accounts receivable to implement real-time monitoring. ● Strengthen communication with units bearing overdue receivables, negotiate on the repayment of overdue receivables, and do a good job in sending letters and conducting door-to-door collection tracking for long-term non-dynamic receivables.
 Credit risk	<ul style="list-style-type: none"> ● Formulate the Credit Management Measures, "Detailed Implementation Rules for Trade Credit Business, Contract Management Measures and other systems to comprehensively control the credit risks of customers and suppliers before, during and after the event. ● Strengthen the review and control of customer and supplier access and credit lines, and let corresponding management personnel conduct access approval according to the credit status. ● Use the risk control system to control the prepayment and credit sales of credit customers and suppliers, strengthen the tracking of contract performance. For contracts encountering abnormalities, business personnel shall contact customers or suppliers to inquire about the reasons, and if necessary, file legal proceedings. ● The internal audit functional department conducts audits on the contract implementation on a regular or irregular basis, and the problems found in the audit will be used as a reference for the year-end performance assessment of the responsible person (department).

 Collateral management risk	<ul style="list-style-type: none"> ● Establish mitigation/collateral full life cycle management mechanism. ● Make periodic value estimation and inventory confirmation for collaterals.
 Financial business risk	<ul style="list-style-type: none"> ● Optimize the risk management organizational structure of each financial unit. ● Develop a risk management strategy. ● Optimize credit rating model. ● Establish and improve the risk performance assessment system. ● Establish a risk early warning and monitoring system. ● Standardize related party transactions. ● Implement strict risk management reporting mechanism. ● For financial businesses such as financial leasing, the business department conducts stress tests in a timely manner to prepare risk treatment plans, conducts field research on external customers in a timely manner, and warns customers of risks in advance.
 Price risk	<ul style="list-style-type: none"> ● Each marketing and trade unit establishes a sales pricing decision-making body to formulate the management measures for product sales prices. ● Strengthen market research, improve market research and judgment capabilities, and adjust product sales pricing strategies in a timely manner. ● To avoid price volatility risk, implement commodity hedging strategy. ● Set futures hedging exposure ratio indexes, issue risk warnings for circumstances beyond the threshold, and actively take countermeasures.
 Cash flow risk	<ul style="list-style-type: none"> ● List operating cash flow as a key risk index, set up risk thresholds and perfect monitoring and early warning mechanisms to provide index monitoring and warning in a timely manner. ● Partial bills of exchange are discounted to expedite cash flow. ● Make reasonable arrangement of raw material procurement and product production to avoid excessive raw material or product inventory which will cause excessive occupation of working capital. ● Predict the company's capital needs and make arrangements for financing. ● To cope with the cash shortage, the financial department makes plans in advance to acquire bank credit lines. ● Expand financing. ● By borrowing from internal units, bear lower interest burdens and ease capital shortages.

 Compliance risk	<ul style="list-style-type: none">Communicate with regulatory authorities, complete rectification in a timely manner according to regulatory requirements and regularly report on the rectification progress.Do a good job in regular tracking, risk investigation and reporting of financial business development in a timely manner.Initiate an exit mechanism for non-compliant products and strengthen screening of sub-funds and sub-fund investment managers.Improve and formulate compliance-related systems, clarify management structure and functional division of labor to further refine job requirements.Organize internal study and research of relevant laws, regulations and regulatory requirements in the company, participate in seminars, and conduct in-depth interpretation and learning of relevant laws, regulations and regulatory requirements.The company's financial unit has formulated anti-money laundering related systems to clarify the company's anti-money laundering risk management structure and functions. Contents such as anti-money laundering risk management strategies and information technology guarantees are added to improve risk management procedures and internal auditing related contents.Contrast the new regulations against the current business structure and risk management status, discuss and investigate how to make rectification to lay a solid foundation for the company's compliance development.Establish a compliance management department to be responsible for formulating the company's compliance management system and conducting compliance risk investigation.
 Technological innovation risk	<ul style="list-style-type: none">Formulate a five-year technological innovation strategic plan, subdivide strategic goals into each research area, and set phased strategic goals for each research field.Optimize the management structure for scientific and technological innovation, establish a scientific and technological innovation committee to assumes the leading role in the company's scientific and technological innovation decision-making.Set up scientific and technological innovation expert committee to give full play to its professional role.Intensify the introduction of high-level talents, and set up R&D teams for new fields such as rare, valuable and scattered materials and metal-based composite materials.Improve the incentive mechanism for scientific and technological innovation, and carry out the transformation of scientific research achievements on a regular basis.
 Human resource risk	<ul style="list-style-type: none">Propose the "Outstanding Student Program" to clarify the closed-loop management system for the introduction, training, assessment, evaluation and employment of outstanding students.Establish a training and evaluation mechanism for outstanding students, establish and implement apprenticeship work mechanism at the company's headquarter in terms of employee management and performance assessment.The Human Resources Department organizes and carries out the construction of the company's position management system, and forms the mechanisms of "promotion and downgrading" for positions, "increase or decrease" for wages, and "enrolment and exit" for jobs.



• Training Activities

In accordance with the 2019-2021 Risk Culture Construction Plan, the company actively cultivates internal control and risk management culture, and strengthens employees' awareness and ability in risk prevention and control. During the reporting period, the company carried out various related trainings with a total duration of 12 hours and 113 participants.

Case The company successfully held the training course on 2021 Internal Corporate Control and Risk Management Improvement

In April 2021, the company organized a two-day training course, 2021 Internal Corporate Control and Risk Management Improvement, in Guixi Education and Training Center. 2 professors from Nanjing Audit University were hired to give centralized lecture-based training, and a total of 113 people participated in the training, including the company's organs and departments, person in charge of risk control and risk control personnel from affiliated units and their subsidiaries. The training gave profound interpretations of internal corporate risk control, audit risk prevention and control, enterprise risk management audit, case analysis of risk management audit, which further improved the company risk control specialist's work level and risk management and control capabilities.

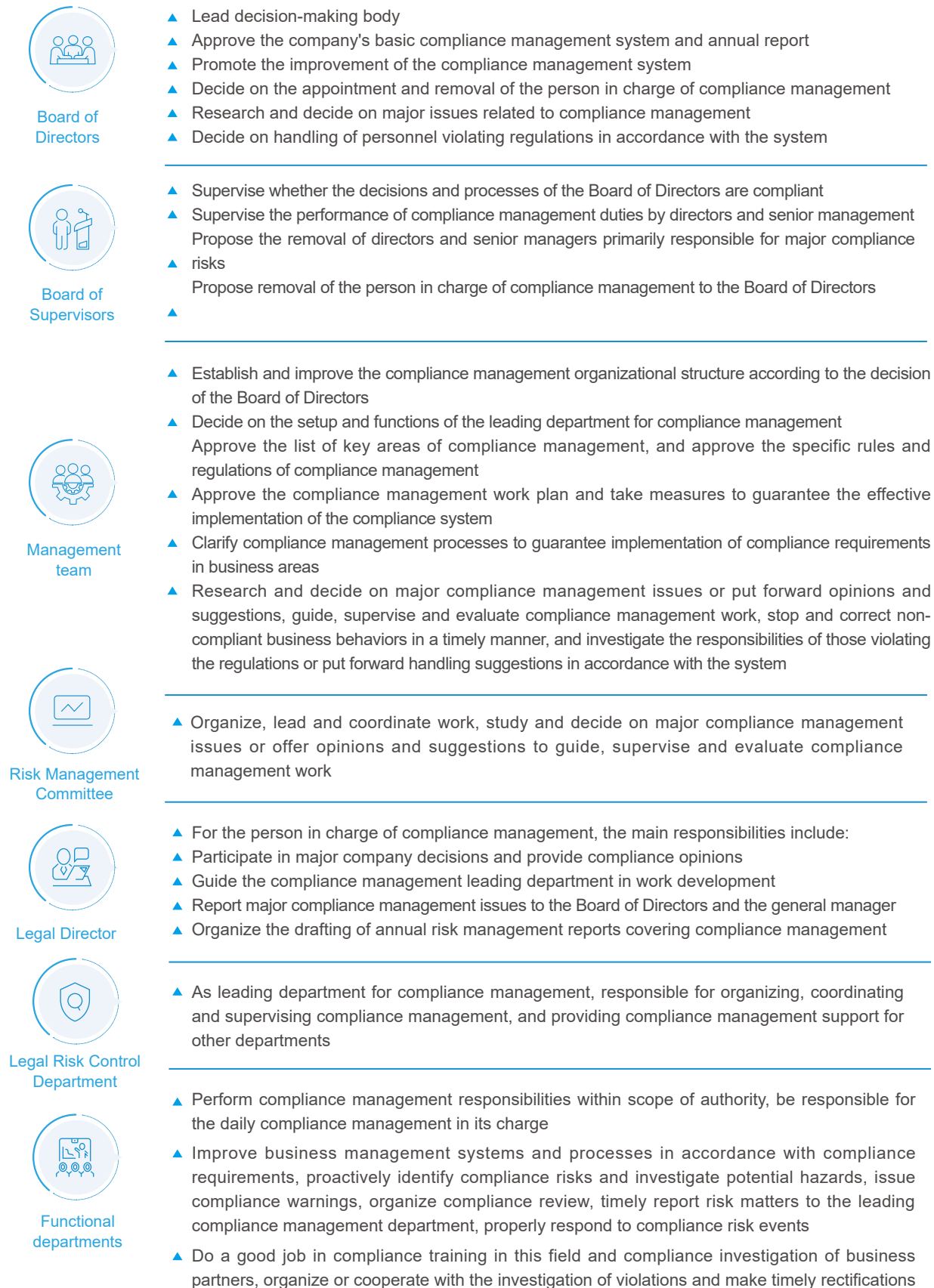


Fig. Training site of 2021 Internal Corporate Control and Risk Management Improvement

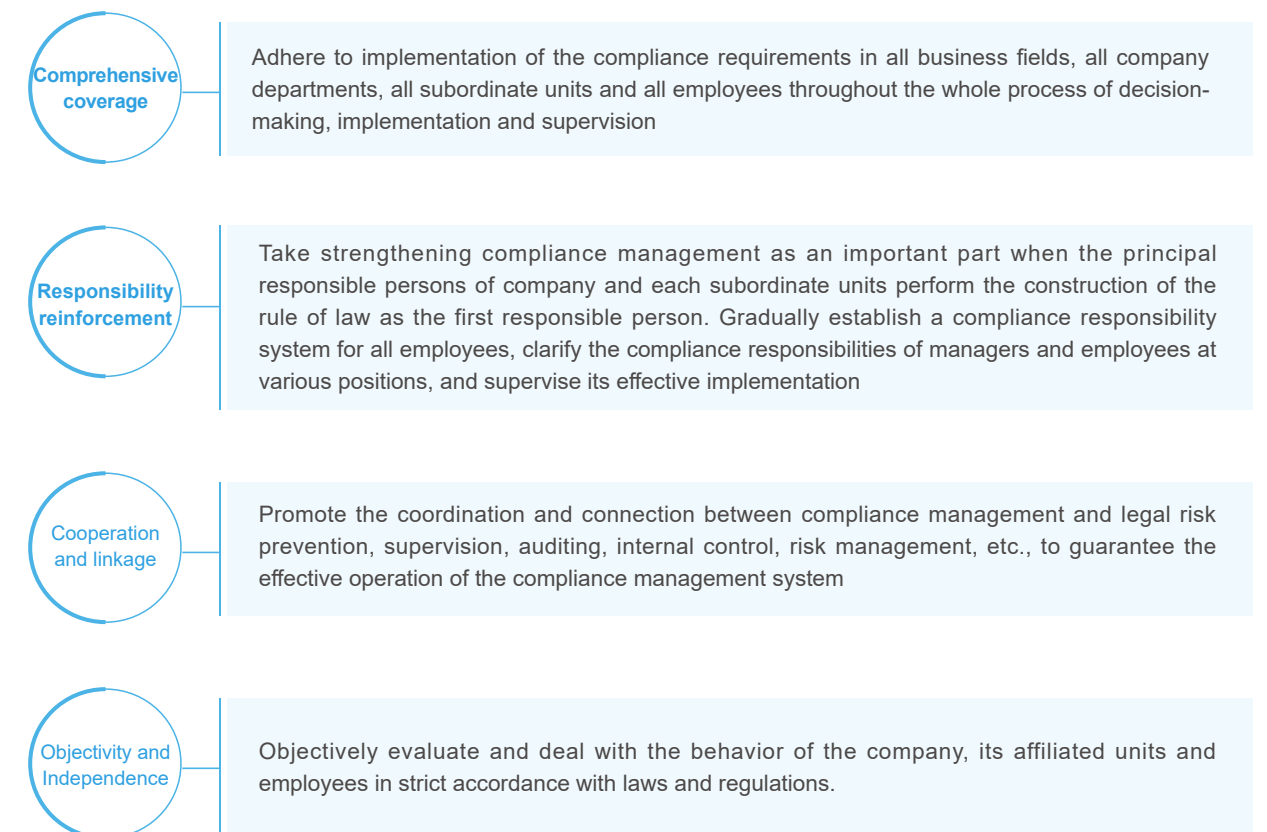
• Compliance Operation

The company always adheres to the Interim Measures of Jiangxi Copper Corporation Limited for Compliance Management and Implementation Measures of Jiangxi Copper Corporation Limited for the Compliance Management of Overseas Operations and other institutional documents, continuously strengthens compliance management and compliance risk prevention capabilities to promote the company's sustained, stable and healthy development. Following the principles of comprehensive coverage, responsibility reinforcement, cooperation and linkage, and objectivity and independence, the company has established a compliance management system in which the Board of Directors make decisions, the Board of Supervisors conduct supervision, the management team makes overall planning, the risk management committee conducts organization and coordination, and the legal director, legal risk control department and other headquarter departments and affiliated units make joint advancement to steadily promote the compliance management work.

• Organizational Structure



• Management Principles



• Management Content

During the reporting period, the company strengthened management in key areas such as market transactions, safety and environmental protection, product quality, labor and employment, finance and taxation, asset management, intellectual property rights, data information, business partners and social responsibility, as well as management in key links such as system formulation, business decision-making and production operations. By breaking through difficulties and making up for shortcomings, it safeguards the company's business compliance.





Righteous Management

Dedicated to creating corporate culture of honesty and integrity, the company consciously fulfils business ethics, abides by laws and regulations, operates with integrity. The company actively performs taxpayer obligations, pays various taxes in a timely manner, and improves market reputation with practical actions to create a good brand image.

Anti-Corruption

The company takes anti-corruption as its primary task in business ethics construction, and strictly abides by laws, regulations and related systems such as the Anti-Money Laundering Law of the People's Republic of China, the Anti-Unfair Competition Law of the People's Republic of China, and the Interim Provisions on Prohibition of Commercial Bribery to continuously optimize the anti-corruption system and promote the construction of clean culture. During the reporting period, the company took the "system implementation year" as an opportunity to establish and improve a long-term mechanism for the construction of integrity system. It improved the Implementation Measures of Jiangxi Copper Corporation Limited for the Prevention and Management of Corruption Risk, the Meeting Rules of the Company Discipline Inspection Committee, the Rules for the Problem Clue Investigation Meeting, Rules for the Collective Review Meeting on Case Trial, and the Interim Provisions of Jiangxi Copper Corporation Limited on the Withdrawal of Leaders from Official Business and other rules and regulations to promote high-quality development of the discipline inspection work, guide the anti-corruption work to a new horizon, which provides a strong guarantee to its high-quality development.

In 2021, the company received 2 paper of sentence and 1 civil ruling paper for corruption. The Discipline Inspection Committee received a total of 74 complaint letters, 45 of which were from the masses, and 29 were handed over from higher authorities, with 80 additional problem clues handled. After verification, 47 people were punished by disciplinary rules.

• Organizational Structure

The company establishes a leading group for the construction of clean administration and anti-corruption work, which is specially responsible for clean administration work. At the same time, to implement the requirements of the Party Central Committee and the Provincial Party Committee on the governance of foreign corruption, promote the extension of the company's micro-corruption governance work to overseas, and establish a long-term mechanism for the governance of foreign corruption, the company established a leading group for the governance of foreign corruption in 2021. The secretary of the company's party committee serves as the team leader to supervise and assess the company's domestic and foreign corruption governance, and issues documents such as integrity risk warning notices as needed to urge responsible departments (units) to implement rectification requirements.

• Main Anti-Corruption Work in 2021



Special governance

During the reporting period, the company carried out special governance around issues such as attending banquet in violation of regulations, receiving or giving gifts and cash in violation of regulations, food waste, and invisible variation of corruptions. Potential corruption risks were comprehensively investigated through open and secret investigations, inspection and supervision. The rectification and correction of relevant problems were supervised, and those suspected of violating laws and disciplines were seriously held accountable.



Investigation of enterprises (individuals) prohibited from trading

During the reporting period, the company issued documents such as the Interim Provisions of Jiangxi Copper Corporation Limited on the Withdrawal of Leaders from Official Business and the Notice on Carrying out Investigation into the Economic Relations between the Relatives of Leaders and the Company's Subordinate Units. 30 units, directly affiliated party (general) branches (including company party committees), and 2,064 party members and leading cadres were investigated. Where, 9 cadres' relatives run companies or work in private companies that have economic relations with the company, and 1 cadre runs business elsewhere.

The company quickly implemented further verification of the enterprises involved, carried out special inspections of related businesses, seriously handled suspected violations of regulations and disciplines, and carried out warning education, etc. to further build a work atmosphere that puts supervision and discipline in the first place.



Inspection work

During the reporting period, the inspection work leading group of the Provincial Party Committee officially approved to carry out inspection work in Jiangxi Copper. The company startw from the basic work, steadily promotes the standardized construction of inspection work, and further standardizes the inspection work mechanism, procedures and documents. The company insists on communication and coordination without negligence, connects the top and bottom, links the left and right to guarantee the orderly development of the inspection work. During the reporting period, the company investigated and dealt with 11 problem clues, filed 1 case, reminded 3 people, warned 2 people, admonished 3 people, dismissed 2 people, removed 1 person from office, and placed 1 person on probation within the party.

According to the inspection results, the company always adheres to the work policy of "discovering problems, forming deterrence, promoting reform and boosting development". It established and improved 102 related systems during the reporting period, and urged four units to complete rectification of 148 problems and 349 measures.



Daily supervision

A total of 304 people including top leaders of the unit, members of the leadership team, and chief and subsidiary members of the organs and departments were given a full-coverage political conversation to encourage cadres to exercise their powers according to the law and work in a clean and honest manner.

The company conducted four batches of collective integrity talks to 75 people selected from the newly appointed direct management officers and trustee cadres of the company to build a solid line of defense against corruption and degeneration.

The company gave honest opinions on the promotion and reuse of 81 cadres, and checked the integrity in personnel selection and employment.

• Integrity Education Activities

The company's party committee held an education month activity under the theme of party conduct and clean administration. Taking the Zhong Xiaoyun case and Li Jinlin case as examples, the company carried out in-depth warning education activities, continuously strengthened employees' awareness of integrity, and promoted the full implementation of 20 work measures through cases.

Case The company held a warning education meeting to make in-depth analysis of the Zhong Xiaoyun case

In June 2021, the company's Discipline Inspection Committee organized a warning education meeting on the Zhong Xiaoyun case to learn from Zhong Xiaoyun's confession materials, earnestly draw profound lessons from Zhong Xiaoyun's wrong doing of hanging party building, ineffective supervision, self-willed employment, and backward governance, comprehensively correct style and strictly enforce disciplines, urge party members and leading cadres to conscientiously implement the political responsibility of comprehensively and strictly governing the party.



Fig. Site of Warning Education Meeting on Zhong Xiaoyun Case

To inherit the clean administration style and create a righteous working atmosphere, the company held a collective clean administration meeting for newly-appointed direct management and trustee section-level cadres to provide education and guidance from four aspects, namely improving political position, enhancing organizational concepts, strictly abiding by work disciplines, and keeping the bottom line of cleanliness.



Fig. Collective integrity meeting on newly appointed direct management (trustee) cadres

• Integrity Training

To further strengthen employees' awareness of honesty and integrity, the company actively conducts integrity trainings. During the reporting period, the company carried out 11 various anti-corruption trainings, with a total of 705 participants.



Fig. Party History Learning and Education & Concentrated Training on Discipline Inspection and Supervision Business



• Informatization of Clean Administration Archives

During the reporting period, according to the unified deployment arrangement of the Provincial Commission for Discipline Inspection and the Provincial Supervision Commission, the company completed the collection and introduction of clean governance archives information of 21 departments, 35 directly affiliated and overseas units, 2,144 leaders and cadres above the middle level in holding and shareholding enterprises dispatching labor abroad. At the same time, we conducted a comprehensive investigation of 9,707 monitoring objects across the company to accurately understand the number and employee composition of monitoring objects.

In addition, the company has also established and improved the four basic databases, including discipline and law knowledge question database, inspection talent database, case supervision and management database, and grass-roots branch supervisor database, which improves the procedural, standardized and professional level of supervision and discipline enforcement.

Antitrust

The company strictly abides by the Antitrust Law of the People's Republic of China, Anti-Unfair Competition Law of the People's Republic of China and other laws and regulations, follows the principle of fair competition, resolutely resists industry monopoly behavior, opposes unfair competition in any form, and strives to maintain a fair and orderly market environment.



Science and Technology Innovation

To focus on innovation is to focus on development, and to seek innovation is to seek the future. The company established a scientific and technological innovation committee to implement the innovation-driven development strategy, drive industrial transformation through technological innovation, and efficiently promote the implementation of technological innovation matters. During the reporting period, the company released 5 batches of scientific research project plans in accordance with the principle of "mature projects for approval by batch", and a total of 59 original scientific research projects were approved. A total of 164.601 million yuan was invested in scientific research, and 57.6091 million yuan was invested in efficiency improvement of scientific and technological innovations. 154 patents were authorized, with an increase of 59 compared with last year. Where, the project "Key Technology and Application of Intelligent Optimization of Copper Smelting Material Flow" won the first prize of the 2021 China Nonferrous Metals Industry Science and Technology Award.

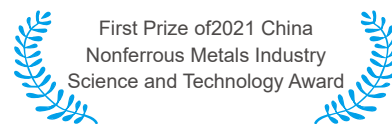
Science and Technology Innovation Management

The company continuously perfects the scientific research management system, optimizes the scientific research management system. A series of institutional documents are published, including the Administrative Measures for Scientific and Technological Development, Administrative Measures for the Construction of Scientific Research Supporting Projects, Administrative Measures for Scientific Research Funds, Administrative Measures for Promoting the Transformation of Scientific and Technological Achievements, Patent Management Measures, Administrative Measures for Selecting the Best Candidates via Open Competition in Science and Technology, and Innovation and Efficiency Incentive Schemes, to continually increase science and technology investment, deepen the training of scientific research talents, and improve the support capacity for scientific research and innovation.

Science and Technology Innovation Project

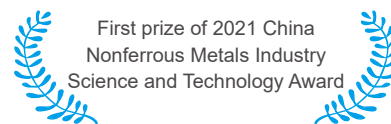
During the reporting period, the company completed the research and development of new technologies such as high-performance ultra-fine wire copper-silver alloy wire blank and full tailings paste filling mining method, and built a total of 59 original projects of safety and environmental protection.

Some Scientific Research Projects and Awards



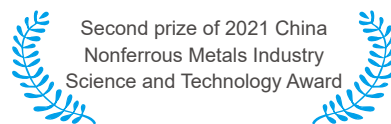
First Prize of 2021 China Nonferrous Metals Industry Science and Technology Award

Key technology and application of intelligent optimization of copper smelting material flow



First prize of 2021 China Nonferrous Metals Industry Science and Technology Award

New technology and application of advanced treatment and intelligent control of heterogeneous catalytic oxidation of copper-molybdenum mining and beneficiation wastewater



Second prize of 2021 China Nonferrous Metals Industry Science and Technology Award

Intelligent optimization technology of metal ore flotation process

Achievement Transformation and Reward



The company has established a mechanism for the transformation and reward of scientific research achievements, and formulated the Administrative Measures for Promoting the Transformation of Scientific and Technological Achievements. Through the incentive scheme of extracting a certain proportion of earnings and distributing them to relevant scientific researchers for five consecutive years, the independence and enthusiasm of scientific researchers are fully mobilized, forming a virtuous cycle in innovative operation mechanism.



During the reporting period, the company issued a total of 16.6348 million yuan of awards to 52 projects that won the 2020 Jiangxi Copper Science and Technology Achievement Transformation Award, including research on the replacement of filling medium for vertical mills and Establishment and application of electrolysis industrial test platform. A total of 11,249,600 yuan was awarded to 237 projects that won the 3rd Jiangxi Copper Innovation and Efficiency Award.

Training and Exchange

To promote scientific and technological innovation and construction, the company actively cultivates key scientific research personnel. In 2021, the company organized special training and exchange activities to give training on patent mining, patent writing, patent layout and vacuum smelting related equipment, attracting a total of 77 participants.

Case Case Jiangxi Copper Science and Technology Department held an on-site exchange meeting on vacuum smelting technology

In June 2021, the company carried out "vacuum smelting technology" training, which explained in detail the vacuum smelting related equipment and the use of this equipment in Jiangxi Copper Lead & Zinc Metal Co., Ltd. The discussion focused on the promotion prospects, material delivery, raw material adaptability, etc. of vacuum smelting technology.



Fig. On-site Exchange Meeting on Vacuum Smelting Technology

Scientific Research Training Performance

Scientific research personnel training times

02 Times

Person-times of scientific research personnel training

77 Person-time

Scientific researcher training days

02 Day

Digital Transformation

Digital transformation is an important development opportunity for industrial transformation and upgrading. The company closely follows with the historic development opportunity. It fully implements the new development concepts, and actively embraces the new development dividends brought by digital economy. The acceleration of the company's digital transformation and development promotes the transformation from digital to intelligent and reshapes the core competitiveness of company development.

The company effectively promotes scientific and technology innovation, accelerates digitalization, informatization, and intelligent construction. It steadily propels the construction of mine intelligent projects with focuses on transformation and upgrading to build the mine of safe, efficient, intelligent, and green.

Meanwhile, the company devotes itself to improve its digital operation capabilities, accelerate the promotion of digital management platforms such as information management and control platforms for supervisory results, procurement e-commerce platforms and trade informatization platforms. It effectively improves business processes management and control capabilities and the company's risk prevention capabilities, laying a solid foundation for building Digital JCCL.

• Intelligent Mine Construction

The company continuously promotes the intelligent mine construction, and has built an intelligent mine service platform. Through collection of big data from the general to the refined scope, optimization of the process from the bottom to the top, and integration of Internet + technology from the inside and then the outside, the company reduces personnel and improves efficiency, provides the copper industry with services such as technical support, technical innovation, technical verification, and technical derivation throughout the life cycle. On this basis, the company continued to carry out a number of mine intelligence projects during the reporting period, such as the Research on the Joint Early Warning against Multi-source Monitoring Data for Slopes, to promote accurate management, centralized monitoring and remote control throughout the entire process.



Case Focus on 5G+full-process integration of mine, create the intelligent mine integration and transformation model

Centering around Internet + mines, Jiujiang Chengmenshan Copper Mine focuses on the whole process improvement of intelligent mining, intelligent beneficiation, and intelligent management and control, and builds a mining programmatic production scheduling platform consisting of one center, three platforms, and five systems. An intelligent beneficiation system is established, including a whole-process management and control, two sets of DCS system control platforms, three expert systems (grinding, flotation, thickening and dewatering process), N variable data collection, analysis, execution and supporting systems, thus achieving intelligent management and control of One Cloud, Three Networks. Scientific management is achieved through programmed, intelligent and digital transformation and upgrading of mines, so that the company embarks on the road of intelligent mining development via transformation of traditional industries.

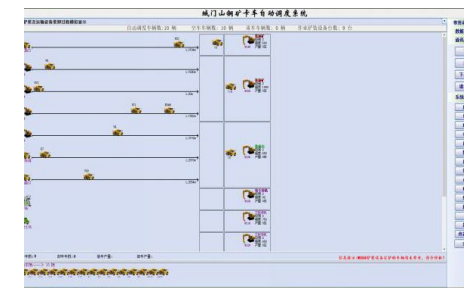


Fig. Intelligent Dispatching System of Mine Truck Networking Platform



Fig. Grinding Expert Control System



Fig. Data Center of Chengmenshan Copper Mine

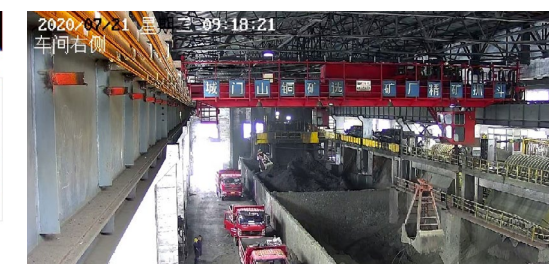


Fig. Concentrate Store Site of Chengmenshan Copper Mine

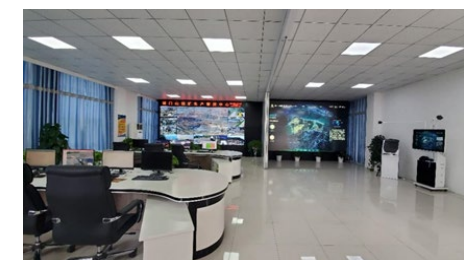





Fig. Production Management and Control Center of Chengmenshan Copper Mine



Fig. Remote Control Driving Site of Chengmenshan Copper Mine

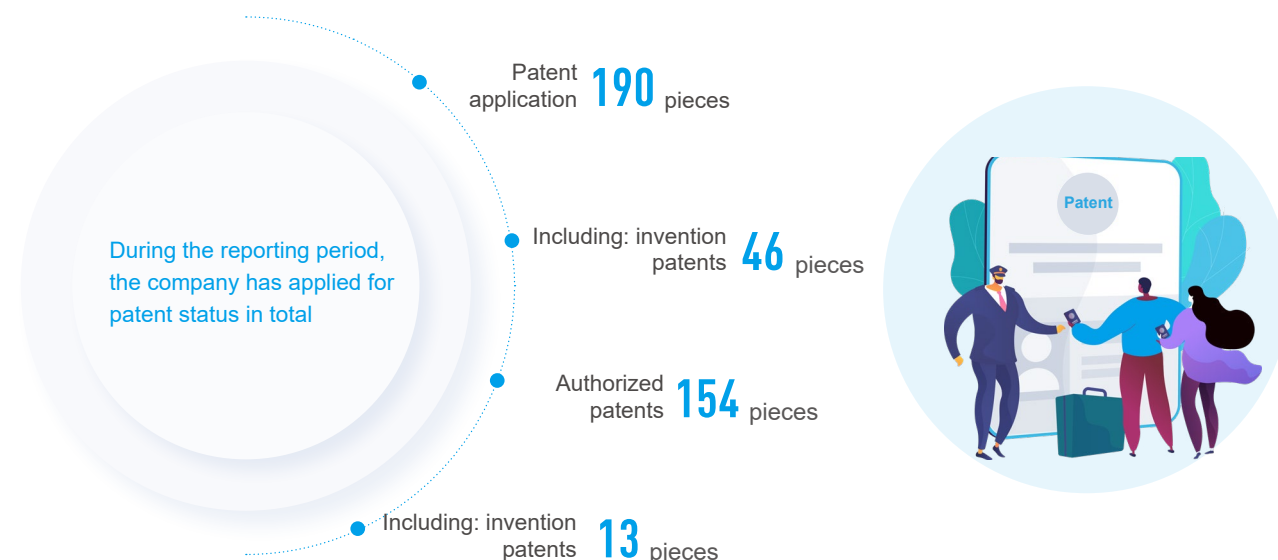
• Digital Platform Construction

During the reporting period, the company creates an intelligent and digital platform based on ERP, OA systems, integrating artificial intelligences, big data, cloud computing and other technologies. It carries out online management and the control of compliance supervision, material procurement, and supplier management, promotes the high integration of digitalization and company operation management.

Platform	Function
 Supervision Achievement Information Management and Control Platform	Give full play to the function of supervision information sharing, standardize work processes of petition reporting, clue management, supervision and inspection, review and trial, and provide scientific and technological support to promote the construction of party conduct and clean governance
 Procurement e-commerce platform	Establish a company-wide unified procurement system framework, improve material procurement management and control, and achieve the transformation from traditional offline paper procurement to online paperless procurement
 Trade information platform	Increase the supplier evaluation efficiency, classify and manage qualified suppliers through the platform to ensure fairness, impartiality and openness when relevant personnel accesses supplier information

Intellectual Property Protection

The company attaches great importance to the maintenance and protection of intellectual property rights, strictly abides by the Advertising Law of the People's Republic of China, Trademark Law of the People's Republic of China, Copyright Law of the People's Republic of China and other laws and regulations. Administrative Measures of Jiangxi Copper Corporation Limited on Intellectual Property Rights, Administrative Measures of Jiangxi Copper Corporation Limited on Trademark Use, Guidelines for Licensing and Standardized Use of 'Jiangxi Copper' Brand Trademark and other intellectual property related rules and regulations are formulated to further standardize the company's intellectual property protection, trademark use and management. Meanwhile, it respects intellectual property rights of others, and avoids infringing upon the rights and interests of others.



Investor Relations

The company establishes the Investor Relations Management System of Jiangxi Copper Corporation Limited to form an effective two-way communication mechanism with investors. It improves the efficiency of communication with investors by means of communication and interaction, information disclosure and protection of shareholder interests, thus establishing and maintaining good relations with investors to enhance investors' understanding and recognition of the company.

Smoothen communication channels

During the reporting period, the company actively broadened the communication channels with investors, continuously optimized the communication mechanism with investors through various means such as strategy meetings, telephone conferences, on-site research, online platforms and activities to effectively safeguard the legal rights and interests of investors.

- Received visits from 44 domestic and foreign intermediaries and funds companies;
- Actively participated in the 2021 Investor Collective Reception Day of Jiangxi Listed Companies, and communicated with investors online;
- Maintained daily communication with investors through the investor hotline and the SSE E Interaction platform of the Shanghai Stock Exchange, providing a more convenient and efficient channel for investors to keep abreast of the company's situation;
- Organized a special exchange meeting with overseas institutional investors to discuss the company's ESG status, and answered ESG-related questions raised by investors in detail;
- Held the 2020 annual performance briefing, and fully communicated with investors on the company's operating performance, profit distribution plan and other matters in the form of video and text interaction.



Fig. The company's 2020 annual performance briefing

Standardize Information Disclosure

In accordance with the requirements of guidelines such as the Administrative Measures for Information Disclosure of Listed Companies of the China Securities Regulatory Commission, the company formulates the Management System of Jiangxi Copper Corporation Limited for Information Disclosure Affairs, sets clear requirements for information disclosure matters to ensure the authenticity, accuracy and integrity of information disclosure, guarantee that stakeholders have equal rights to access company-related information.

During the reporting period, the company actively fulfilled its information disclosure obligations, and issued a total of 172 announcements to the A-share and H-share markets, including the 2020 A/H Share Annual Report, the 2020 Environmental, Social and Governance Report, and the 2020 Social Responsibility Report, etc.

Environmental responsibility



From the perspective of creating a better environment, the company has always been moving towards a greener, more environmentally friendly and healthier direction. While committed to energy conservation and emission reduction, ecological protection, cleaner production and low-carbon circular economy, the company also hopes to join hands with the industry to lay the foundation for the green development of the global copper industry.

02

About Jiangxi Copper

Responsibility management

Appropriate governance

Environmental responsibility

Wise Management

Cherish talents

Powerful feedback

Future outlook

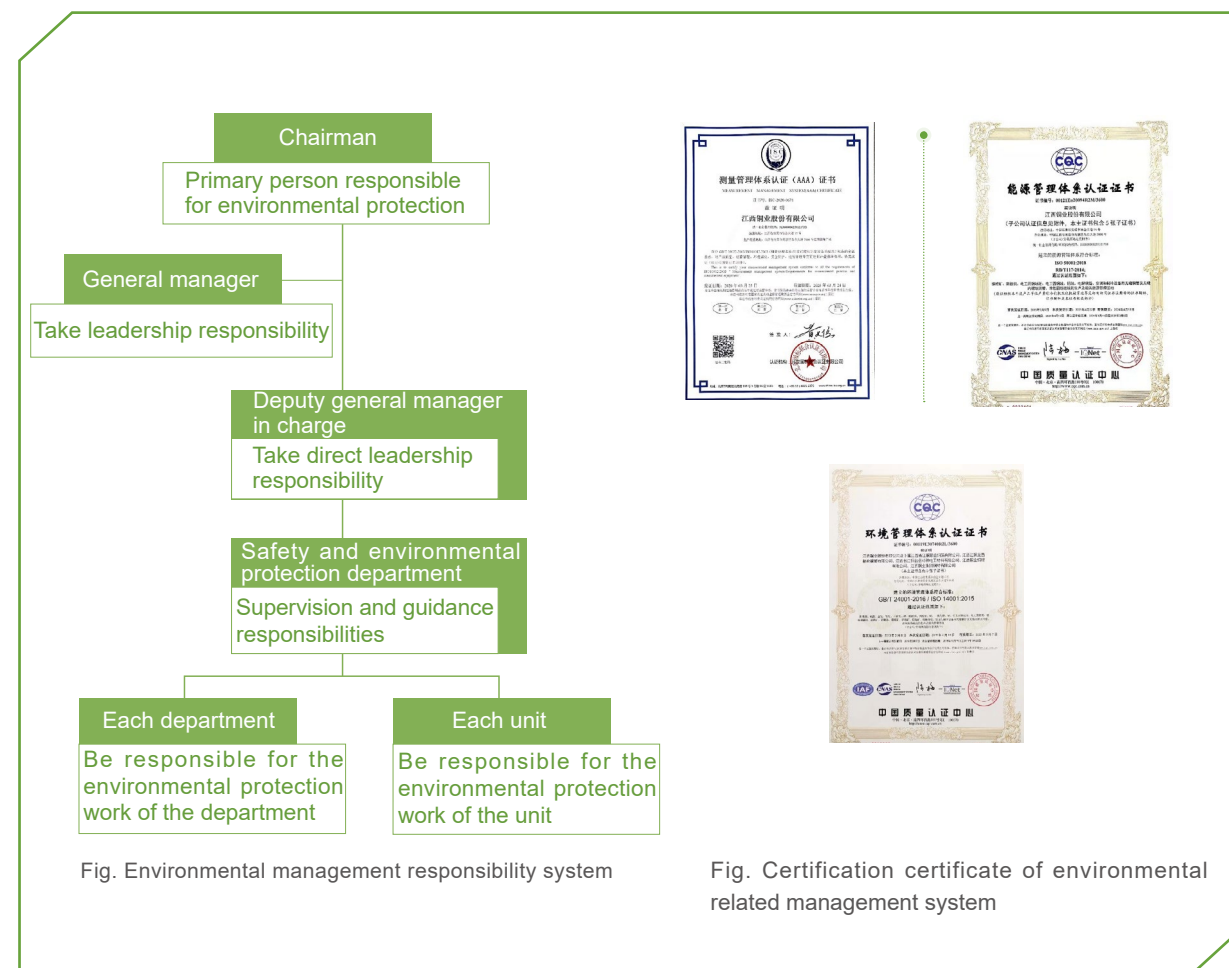
Environmental Management

Adhering to the concept of green development, the company has strictly implemented the requirements of laws, regulations and standards such as the *Environmental Protection Law of the People's Republic of China*, and formulated internal systems such as the *Management Measures for Ecological Environmental Protection*. The company integrated the concept of environmental management into daily operation and continues to build a green production-oriented enterprise. During the reporting period, the company invested 786 million yuan in environmental protection projects.

Environmental Management System

Based on the "integration in one" management system, the company has implemented the environmental protection management mechanism of "principal supervisor, deputy in charge, joint management of the party, administration, Labor Union and Youth League, each business department took its own responsibility, and the safety and environmental protection management department supervises and inspects". A full-time safety and environmental protection responsibility system covering "company leaders", "safety and environmental protection committee", "functional departments" and "employees" has been established to comprehensively and systematically promote environmental management.

The company comprehensively evaluated the effectiveness and compliance of the operation of the management system with the annual audit. As of the end of the reporting period, the company had obtained ISO10012 measurement management system, ISO50001 energy management system and ISO14001 environmental management system certification and successfully passed the audit.



Environmental Impact Assessment and Pollutant Discharge Permi

The company has prepared environmental impact report (form), registration form and other documents in accordance with the law and strictly implemented the environmental impact assessment system. According to the requirements of the *Environmental Impa ment Law* and other relevant laws and regulations, the company needed to carry out the construction management of the project and ensure that the pollution prevention and control facilities and the main construction project were designed, constructed and put into operation at the same time.

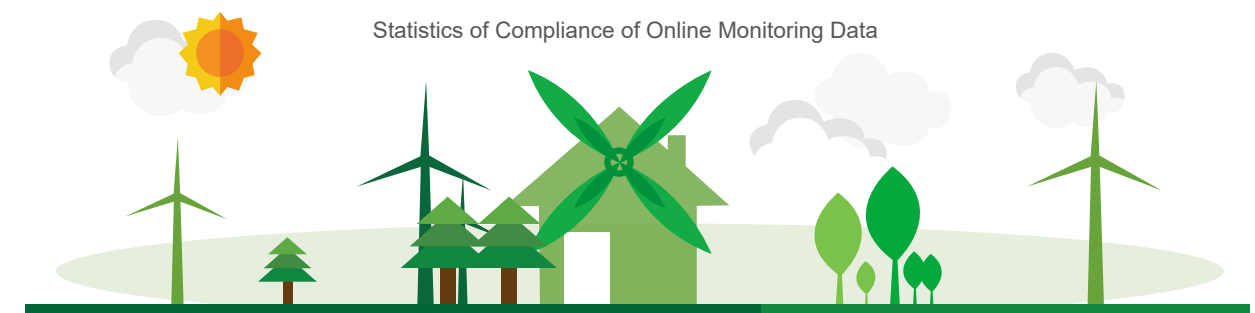
The subordinate production enterprises of the company have obtained the pollutant discharge license or pollutant discharge license registration. During the reporting period, the company discharged pollutants according to law. The total discharge of major pollutants was lower than the total limit.

Environmental Risk Control

1.Environmental Supervision and Monitoring

According to the requirements of relevant documents such as the *Measures for Self-Monitoring and Information Disclosure of National Key Monitoring Enterprises* and the *Technical Guide for Self-Monitoring of Pollutant Discharge Units*, the company has published the monitoring scheme and monitoring data on the environmental quality information release platform specified by the government. The company installed on-line monitoring devices in key state-controlled monitoring units, strictly implemented the on-line monitoring and management system of pollutants, and uploaded the monitoring data to the supervision platform. During the reporting period, the compliance rate of the company's online monitoring data was 100%.

Unit	Online Monitoring of Compliance (daily average)					Compliance Rate (%)
	Monitoring Points	Monitoring Days	Total Monitoring Times	Exceedance Times		
Dexing Copper Mine	1	365	365	0		100%
Yongping Copper Mine	1	365	365	0		100%
Wushan Copper Mine	2	365	730	0		100%
Chengmenshan Copper Mine	1	365	365	0		100%
Yinshan Mine	1	365	365	0		100%
Guixi Smelter	6	365	2,190	0		100%
Jiangxi Copper Yates Foil Inc.	1	365	365	0		100%





2. Troubleshooting of Environmental Hazards

The company has organized managers, professional technicians and other relevant personnel to actively carry out regular (quarterly, annual, etc.) and irregular investigation of environmental hazards, and rectify and implement the investigation results.

During the reporting period, the company formulated the *Notice of 2021 Flood Control Safety and Environmental Protection Inspection* and the *Work Plan for Investigation and Treatment of Potential Risks of Tailings Pond*. A safety and environmental protection inspection team composed of leaders of the company, and personnel from departments and secondary units has been established to inspect the open-pit mines, underground mines, hazardous chemicals, environmental protection equipment and facilities, tailings pond and other conditions of each production unit. All production units have rectified the hidden dangers found in time according to the requirements of the company.



3. Environmental Emergency Management

In order to effectively prevent, timely control and eliminate the harm of environmental emergencies, all subsidiaries of the company have formulated the Emergency Plan for Environmental Emergencies and reported it to the local competent department of ecological and environmental protection for the record. The plan included comprehensive plan, special plan and on-site disposal plan. Various emergency plans were connected with each other, and an emergency linkage mechanism was established with the local government and community to improve the ability of rapid collaborative disposal of emergencies.

The company's subordinate units involved in the production, operation, storage and transportation of dangerous goods, as well as mining, metal smelting and construction, have established full-time and part-time emergency rescue teams, or signed emergency rescue agreements with adjacent emergency rescue teams to ensure the emergency rescue work after the accident.

In addition, the company actively carried out emergency drills to improve its emergency response capacity. During the reporting period, the company carried out more than 40 environmental emergency drills, with 1,000 participants.

Case

Actively carry out flood control emergency drill, improve the capability of emergency flood control

In June 2021, Yinshan Mine organized 70 mining leaders and concentrator employees to carry out flood control emergency drill to further test the response of emergency command system, disposal capacity and the scientificity and suitability of effect evaluation. This drill strengthened the emergency response ability and coordination and organization ability of all departments. At the same time, it also improved the proficiency of employees in operating rescue equipment and equipment, and further improved the ability of flood control, rescue and emergency disposal in the mining area.



Fig. Yinshan Mine flood control emergency drill site

Environmental Protection Training

In order to carry out the concept of environmental protection "lucid waters and lush mountains are invaluable assets", and strengthen the consciousness of ecological civilization of the majority of workers, the company, with online media publicity and offline education and training, has organized the staff of the headquarters and its subsidiaries to carry out environmental protection education and training in Xi Jinping thought on ecological civilization, laws and regulations on ecological environmental protection, hazardous waste management, emergency response to environmental emergencies and other aspects. During the reporting period, the company has carried out 38 environmental protection training at all levels, with 2,386 employees participating in the training.

Ecological Protection

" Civilization prosperity is closely tied to its relationship with ecology ". Having a beautiful home with blue sky, green land and clean water is the dream of the Chinese, and also the constant pursuit and adherence of the company for a long time.

The company strictly abides by the concept of ecological civilization and do not carry out any exploration, mining and construction activities in nature reserves, ecologically sensitive areas and ecological red line control areas. We have strictly followed the *Law of the People's Republic of China on Water and Soil Conservation*, the *Law of the People's Republic of China on Wildlife Protection*, the *Regulations of the People's Republic of China on Nature Reserves*, the *Regulations of the People's Republic of China on Wildlife Protection* and other relevant laws and regulations. In strict accordance with the provisions of the company's Management Measures for Ecological Environmental Protection, we have carried out the ecological management of the whole process of project construction, reduced the impact of the project on the ecological environment of the surrounding areas, and promoted the continuous improvement of regional ecological environment quality and the sustainable development of the company. During the reporting period, the ecological restoration area achieved by the company reached 2,346,800 square meters.

Indicator	Unit	2021 value	2020 Value
Ecological Restoration Area	10,000 m ²	234.68	59.19

Performance of Ecological Restoration

Strengthen the Ecological Environment Protection in Mining Areas

The company continues to pay more attention to the ecological environmental protection in the mining areas. In the early stage of the project construction, the company prepared the environmental impact assessment report to make a prior assessment to reduce the disturbance to animals, plants and land. In the production process, the company reduced the production of acid wastewater and the release of heavy metals through source control to reduce the impact on the ecological environment. After the completion of the project, the company timely carried out ecological restoration and biodiversity restoration of the damaged surrounding environment, and continued to promote the improvement of regional ecological environment quality.

Promote Green Mine Construction

Focusing on the construction of green mines, the company formulated the Implementation Plan for Jiangxi Copper to Comprehensively Promote the Construction of Green Mines (Factories), and carried out the ecological environment management of the mine in the whole life cycle. At the end of the reporting period, 4 mines have been selected into the list of national green mines.



List of National Green Mines

Selected Year	Mine Name
Selected in 2020	» Dexing Copper Mine
	» Wushan Copper Mine
	» Yinshan Mine
Selected in 2021	» Chengmenshan Copper Mine

In April 2021, the "2021 National Green Mine Annual Meeting" hosted by Zhongguancun Green Mine Industry Alliance commended the company's units and individuals who led the industry progress, set the industry benchmark, promoted discipline development and made outstanding contributions to the research and development of key core technologies in the construction of green mines and the development of green mining. The deputy general manager of the company was awarded the "Outstanding Individual Contribution to Green Mines in 2020", and Dexing Copper Mine subordinate to the company was awarded the "Top 20 Mines for National Green and High-Quality Development".

Innovative Ecological Restoration Methods

The company continued to innovate the technology of ecological restoration. After cooperating with Sun Yat Sen University to carry out the direct vegetation technology and application of ecological restoration of heavy metal mining wasteland in 2019, the company launched the ecological restoration process of "in-situ matrix improvement + direct vegetation" and the technologies of "hanging net + wet spraying planting of sediment" and "ecological long bag planting" in Dexing Copper Mine in 2021, which has effectively improved the phenomenon of soil erosion and the current situation of ecological environment in the repaired area. Nearly 20 plant species have grown on the 125.2 hectares of abandoned land repaired, and the vegetation coverage has reached more than 95%, forming a stable vegetation system that was self-sustaining and does not degrade.

Dexing Copper Mine cooperated with Dexing Natural Resources Bureau to carry out the pilot project of greening and utilization of industrial and mining wasteland left over by history in No. 1 tailings pond. On the basis of harnessing and improving the ecological environment of No. 1 tailings pond, it will be transformed into agricultural land and replaced with 700 mu of construction land.

Meanwhile, Dexing Copper Mine has built many artificial landscapes in the process of ecological restoration of Yangtaowu waste rock yard, which has improved the additional benefits of ecological restoration.



Fig. Implementation effect of greening project of Yangtaowu Waste Dump

Case Ecological environment restoration, rare birds and migratory birds appear

Dexing Copper Mine subordinate to the company has adhered to the road of green and sustainable development for many years, deeply promoted the construction of ecological environment, and completed the ecological reclamation of 569.2 hectares of abandoned land. During the reporting period, Dexing Copper Mine completed a total of 27.7 hectares of slope ecological restoration in open-pit mining area, 37.6 hectares of waste quarry reclamation and 59.9 hectares of tailings pond greening, with a total investment of about 102.45 million yuan.

After ecological restoration and stabilization, No. 4 tailings pond of Dexing Copper Mine has attracted egrets, mandarin ducks, pheasants, muntjacs, little squirrels and other wild animals to settle here. In addition, during the migration of migratory birds to the south, hundreds of white swans appeared on the water surface of reservoir 4, which effectively improved the ecological environment of the tailings pond and enriched the biodiversity of the mining area.

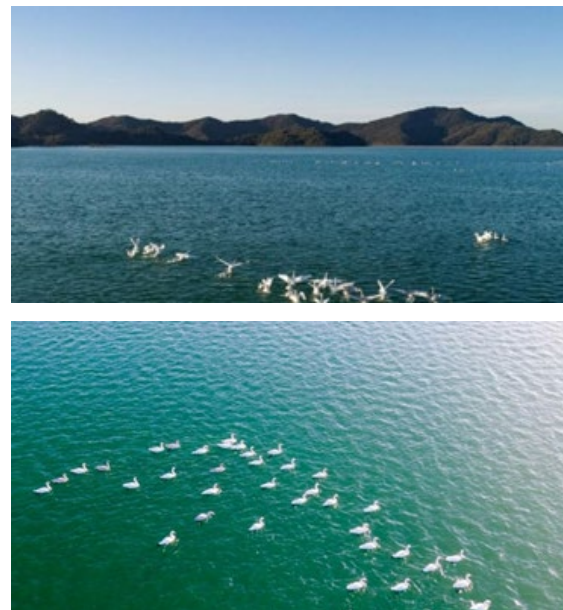


Fig. White swan was a guest in No. 4 tailings pond of Dexing Copper Mine

Emission Management

Adhering to the concept of "putting the emphasis on prevention and combining prevention and control", the company strictly abided by the Environmental Protection Law of the People's Republic of China, the Law of the People's Republic of China on the Prevention and Control of Air Pollution, the Law of the People's Republic of China on the Prevention and Control of Water Pollution, the Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste and other pollutant emission management laws and regulations, improved the internal system of the Management Measures for Ecological Environmental Protection, actively carried out the transformation and technical upgrading of the "three wastes" treatment process, and combined the source management with process control to comprehensively ensure the up to standard discharge of pollutants.

Water Pollution Management

The company's wastewater discharge mainly came from mining acidic wastewater and beneficiation alkaline wastewater, contributing to reduce the generation and discharge of pollutants. According to the Management Measures for Ecological Environmental Protection, we have carried out strict management, strengthened wastewater treatment and ensured the discharge of water pollutants up to the standard.

Whole Process Control		Measures
Source control	»	Advanced equipment and technology were selected for the construction of the project to reduce the discharge of water pollutants.
	»	Separate clean water and sewage from factories and mines to separate surface runoff from industrial wastewater and reduce the total amount of wastewater.
Process control	»	Upgrade the existing process and equipment to further improve efficiency and reduce emissions.
Emission control	»	Discharge pollutants in strict accordance with national and local standards.
	»	Configure the online monitoring system of pH, COD, ammonia nitrogen and other monitoring factors. Real time monitoring of wastewater discharge.
	»	Waste water resource treatment can reduce pollutants and save resources at the same time.

During the reporting period, the total amount of wastewater discharged by the company was 5.39237 million tons. The emission index of major pollutants was far lower than the national standard. The emission of pollutants such as COD, ammonia nitrogen and heavy metal (copper) decreased by about 25%, 57% and 30% respectively compared with last year.

Indicator		Unit	2021 Value	2020 Value
Water pollutants	Total wastewater discharge	Ton	53,923,727.00	54,481,562.00
	COD emission	Ton	1,054.09	1,404.77
	Ammonia nitrogen	Ton	58.08	133.68
	Total copper	Ton	1.02	1.45
	Total lead	Ton	1.58	1.97
	Total zinc	Ton	2.61	2.42
	Total wastewater discharge	Ton	262.34	332.57

Table. Performance of water pollutant discharge company1

Note 1: the statistical scope includes 11 secondary units: Chengmenshan Copper Mine, Dexing Copper Mine, Dexing Copper Chemical, Jiangxi Copper Yates Foil Inc, Longchang Precise Copper Pipe, Wushan Copper Mine, Yinshan Mine, Qingyuan Copper, Yongping Copper Mine and Wengfu Chemical.

Case → Heap leaching process transformation and upgrading, sulfide copper extraction and turning waste into treasure

During the reporting period, Dexing Copper Mine adopted a more economical and efficient chemical vulcanization technology to replace the original "heap leaching-extraction -electrolysis" wastewater recovery process, which solved the problems of the aging equipment, the reduction of the concentration of copper ions in raw water, the increase of energy consumption and cost, and the difficult subsequent treatment of wastewater. After the transformation, the project was expected to recover nearly 460 tons of copper metal from acid wastewater every year, improve the resource utilization level and the comprehensive utilization capacity of acid wastewater, and save the neutralization cost of up to standard treatment. At the same time, the content of heavy metals discharged into the environment was reduced, which has significant environmental, economic and social benefits.



Fig. New Zhujia treatment station after vulcanization technology transformation

Case → Build a new acid water regulation reservoir to improve the ability to cope with environmental risks

To deal with the problem of insufficient total regulation capacity of acid water treatment system in terrible weather, the company built Zhujia acid water regulation reservoir at the downstream of Zhujia acid reservoir, which was completed and put into use in January 2021. The new reservoir adopts the latest anti-seepage technical standards and the anti-seepage system of "dam curtain grouting + HDPE membrane in the whole reservoir area + seepage collection and reuse" to control the leakage risk in the reservoir area. After the completion of the reservoir, an additional 146.49 × 104m3 regulating storage capacity. The reservoir meets the demand of regulating storage capacity in the mining area of copper plant in the rainy year with a return period of 30 years, and improves the ability of Zhujia acid water regulating reservoir to deal with extreme weather.

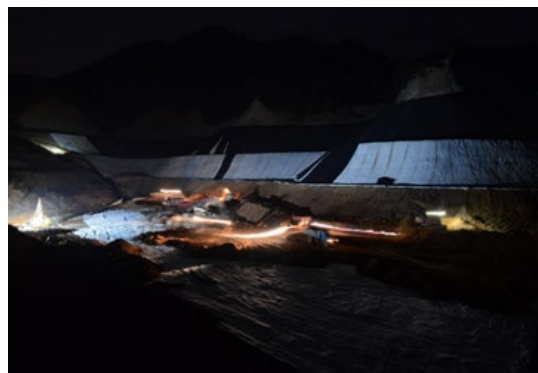


Fig. Construction site of new Zhujia regulating reservoir



Fig. Effect drawing of completion of new Zhujia regulating reservoir



Fig. Water storage operation diagram of newly built Zhujia regulating reservoir

Air Pollution Control

The company's air pollution emissions mainly came from sulfur oxides and dust produced in the process of mining and smelting. During the reporting period, the company reduced pollutant emissions through fuel substitution, optimization of desulfurization and dust removal process and equipment, centralized treatment after collection and other means, and continued to promote the treatment of air pollutants. During the reporting period, the emission indicators of major air pollutants of the company were far lower than the national standards.

Indicator		Unit	2021 Value	Total National Emission Limit in 2021	2020 Value
Emissions of air pollutants	NOx emission	Ton	11.11	74.68	42.54
	SO ₂ emission	Ton	1,458.51	7,484.61	1,453.50
	Dust	Ton	196.67	776.70	209.75

Table. Air Pollutant Emission Performance of the Company 2

Case → Dust reduction and dedusting by multiple means, alleviate environmental pollution

During the reporting period, Chengmenshan Copper Mine adopted a variety of dust removal methods. Implement the dust pollution controlled in the process of ore crushing, unloading, internal transportation and external transportation.

Equipped with watering and dust reduction facilities at the unloading point and ore storage bin, which effectively reduced the generation of dust during unloading. The automatic flushing platform set for internal transportation operation improves the cleaning efficiency of transportation vehicles and reduces the dust in the process of vehicle transportation. The dust generated in the process of product outward transportation and ore crushing in the mining site was treated by wet dust collector. The emission concentration was monitored by a third party every quarter, which meets the standard limit requirements.



Fig. Dust removal device of Chengmenshan Copper Mine

Note 2: the statistical scope includes 5 secondary units: Dexing Copper Chemical, Guixi Smelter, Qingyuan Copper, Dexing Copper Mine and Wengfu Chemical

Case Newly added ionic liquid desulfurization facilities to effectively reduce exhaust emissions

Guixi Smelter continued to promote the upgrading and transformation of tail gas treatment equipment, and added sulfuric acid I and sulfuric acid III series ionic liquid desulfurization facilities, which effectively reduced the emission of sulfur dioxide in the exhaust. After the stable operation of the equipment, the sulfur dioxide emission will be reduced by nearly 150 tons every year.



Fig. Sulfuric acid I (left) and sulfuric acid III (right) series desulfurization facilities

Solid Waste Treatment and Disposal

The company adhered to the principle of "reduction, recycling and harmless" in solid waste treatment and disposal. Strictly comply with the requirements of laws and regulations such as the *Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste*, the *national list of hazardous waste* and the *pollution control standard for hazardous waste storage*, and *recycle recyclable solid waste*, the company did a good job in the classification, storage, seepage prevention, leakage prevention and transfer of solid wastes that cannot be used temporarily, and solve the problems of solid waste disposal and utilization.

At the same time, the company actively participates in and expands non-ferrous metal solid waste disposal and utilization and other environmental protection industries, and strengthens the comprehensive utilization of tailings. During the reporting period, the company's total comprehensive utilization of tailings reached 8.2924 million tons, an increase of 19% compared with last year.



Indicator		Unit	2021 Value	2020 Value	Explain
Hazardous waste	Total	Ton	41,308.13	39,416.27	———
	Mine waste mineral oil	Ton	703.42	600.00	In 2021, some units repaired annually and replaced a large amount of waste engine oil. Therefore, the discharge of waste mineral oil from mines increases.
	Hazardous waste from smelting	Ton	37,220.59	36,800.00	———
	Other hazardous wastes	Ton	3,384.12	2,016.27	In 2021, sulfate ions were removed from the wastewater treatment station of Jiangxi Copper Yates Foil Inc., and the amount of sediment
General production waste	Total	Ton	54,616,727.26	55,275,697.97	———
	Waste slag	Ton	69.60	199.8	———
	Other general wastes	Ton	70,015.34	80,562.88	———
	Tailings production	Ton	54,546,642.32	55,194,935.29	———
	Comprehensive utilization of tailings	Ton	8,292,415.42	6,984,600.00	———

Table. Solid Waste Discharge and Utilization Performance of the Company3

Case Innovate copper tailing resource utilization technology, to improve the environment and economic benefits of mine

The company actively responded to the call of "joint protection and no large-scale development" in the Yangtze River Basin. In the field of building materials, large-scale development and utilization of copper tailings resources, and cooperation with Shanghai Tongji, Tsinghua University and other universities, have made major breakthroughs in the innovative research on the comprehensive utilization of tailings as cement and concrete raw materials.

During the reporting period, Jiangxi Wantong Environmental Protection Materials Co., Ltd. has obtained two patents of the utilization of copper tailings resources to successfully convert idle tailings into green building materials such as concrete admixture, aerated concrete and siliceous raw materials for building materials. Among them, the annual treatment capacity of tailings of silicon raw material production line can reach 2.5 million tons. While realizing the reduction and recycling of tailings waste from Chengmenshan Copper Mine, it has effectively improved the current situation of ecological environment and effectively promoted the regional economic development.

Case Apply filling technology of mine tailings to improve tailings utilization rate

In 2021, all mining sites of Wushan copper mine realized the application of cemented filling or paste filling technology, and the filling materials were cement, water and full tailings mixture. During the reporting period, the Wushan copper mine produced 1,613,970 tons of tailings and consumed 532,716 tons of tailings for filling. The utilization rate reached 33%, an increase of 5% over last year, which greatly improved the utilization rate of tailings.

Note 3: the statistical scope includes 11 secondary units: Chengmenshan Copper Mine, Dexing Copper Mine, Dexing Copper Chemical, Guixi Smelter, Jiangxi Copper Yates Foil Inc., Longchang Precise Copper Pipe, Wushan Copper Mine, Yinshan Mine, Qingyuan Copper, Yongping Copper Mine and Wengfu Chemical

Resources and Energy

The company has strictly implemented the requirements of laws and regulations such as *Energy Conservation Law of the People's Republic of China*, *Renewable Energy Law of the people's Republic of China* and *Circular Economy Promotion Law of the People's Republic of China*, and formulated internal management systems such as *Energy Management Measures of Jiangxi Copper Corporation Limited* and *Implementation Measures for Energy Consumption Assessment*, continuing to optimize the use and management capacity of energy, water and other resources, and vigorously promoting the efficient utilization and recycling of resources and energy.

Water Conservation

The main water sources of the company are municipal pipe network and surface water. The company reduces water consumption by adjusting water use structure, applying water-saving technology, using reclaimed water and improving industrial water reuse rate. During the reporting period, the total water consumption of the company was 776.917 million tons, and the reuse rate of industrial water reached 95.86%.



2021

Total consumption of
water resources
776.917 million tons




Reuse rate of i
ndustrial water
95.86%

Indicator		Unit	2021 value	2020 value
Water resource	Total water consumption	10,000 tons	77,691.70	83,713.00
	Water consumption intensity	10,000 yuan income / ton	17.55	26.28
	Fresh water consumption	10,000 tons	3,217.90	5,026.00
	Reuse rate of industrial water	%	95.86	95.67

Table. Water Consumption Performance of the Company4

Energy Saving

According to the *Energy Management Measures*, the company has continuously improved the construction of energy management system. Through technological innovation, technological transformation, upgrading the energy structure and improving the energy-saving assessment and evaluation mechanism, the company improved energy efficiency and reduced energy consumption.

Method	Specific Measures
 Improve energy efficiency	Promote the transformation of energy-saving processes, equipment, materials and technologies
 Refine the indicator assessment of energy	Implement the assessment of total energy consumption and intensity indicators
 Improve the use structure of energy	We should vigorously develop clean energy and develop and build green projects such as wind power and photovoltaic.

Note 4: the statistical scope includes Dexing Copper Mine, Yongping Copper Mine, Chengmenshan Copper Mine, Yinshan Mine, Wushan Copper Mine and Guixi Smelter

During the reporting period, the main types of energy consumed by the company were electricity, steam, natural gas, coal, gasoline, diesel and fuel oil. The comprehensive energy consumption was 582,964.68 tons of standard coal.

Indicator			Unit	2021 value	2020 value
Energy	Direct energy consumption	natural gas	10,000 m ³	3,110.81	3,264.61
		coal	Ton	315.44	694.68
		gasoline	Ton	358.92	346.99
		diesel	Ton	56,043.18	55,289.35
		fuel oil	Ton	14,406.95	16,529.65
	Indirect energy consumption	Consumption of purchased steam	10,000 tons	13.27	23.85
		Consumption of purchased power	gwh	350.44	352.16
	Comprehensive energy consumption		Ton standard coal	582,964.68	589,272.27
Comprehensive energy consumption intensity		Ton / 10,000 yuan	0.069	0.093	

Table. Energy Consumption Performance of the Company56

Case

Optimize the process technology and reduced the use of purchased steam

The company established a collaborative group to reduce the purchased steam volume of Guixi Smelter, formulated a collaborative research plan, and defined the collaborative goal of reducing the purchased steam volume of the whole plant by 80,000 tons in 2021 compared with 2020. The team improved the steam efficiency and reduced the steam consumption by checking the "running, emitting, dripping and leakage" of steam, cooperating with MVR evaporation technology, process parameter optimization, technical optimization, reaction tank paste insulation and waste heat recovery.



Fig. Effect of workshop process / equipment transformation

During the reporting period, the company purchased 132,700 tons of steam in the whole year, a decrease of 44.94% compared with the same period last year, reducing 31,862.93 tons of carbon dioxide emissions.

Note 5: the statistical scope refers to the production units in the province, including Dexing Copper Mine, Yongping Copper Mine, Wushan Copper Mine, Chengmenshan Copper Mine, Guixi Smelter, Jiangxi Copper Products Co., Ltd., Yinshan Mine, Jiangxi Copper Yates Foil Inc., Longchang Precise Copper Pipe, JCCL Taiyi Special Electric Materials, and JCCL (Guixi) Logistics Co., Ltd.

Note 6: the income of 10,000 yuan used in the comprehensive energy consumption intensity is the company's operating income in 2021.

Case Develop clean energy to promote green development

Shandong Humon Smelting Co., Ltd., a subsidiary of the company, has built a 60MWp distributed photovoltaic power generation project in Shuidao Town, Mouping District, Yantai City, Shandong Province. The project can deliver 77.6 million kwh of clean electricity to Shandong Humon Smelting Co., Ltd. every year, save about 25864.82 tons of standard coal, reduce about 237.37 tons of SO₂ and 503,000 tons of CO₂.



Fig. 50MWp distributed photovoltaic power generation project

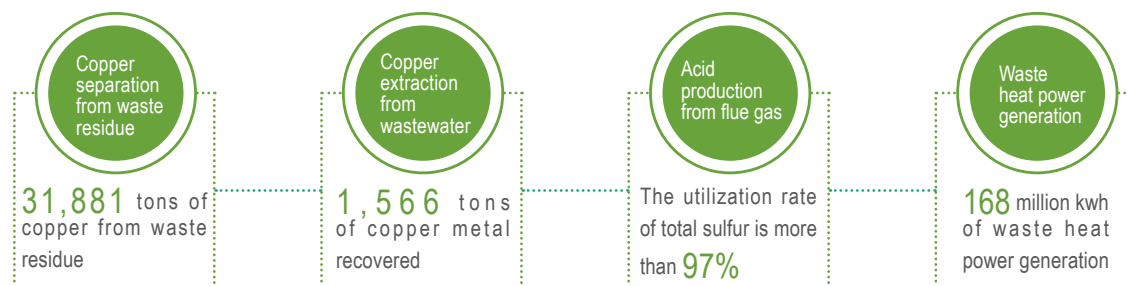


Fig. 10MWp distributed photovoltaic power generation project

Circular Economy

According to the *Circular Economy Promotion Law of the People's Republic of China* and other relevant laws and regulations, the company actively uses and recycles recyclable materials, promotes the recycling of waste, recycles wooden cases and other packaging, and promotes the reduction of packaging materials. During the reporting period, the recovery rate of packaging materials of the company reached 83%.

The company has actively explored the path of green circular development from "three wastes" to "three treasures". During the reporting period, the company has formed a number of sustainable development industrial chains, such as copper separation from waste residue, copper extraction from wastewater, acid production from flue gas, waste heat power generation, wet heap leaching and so on:



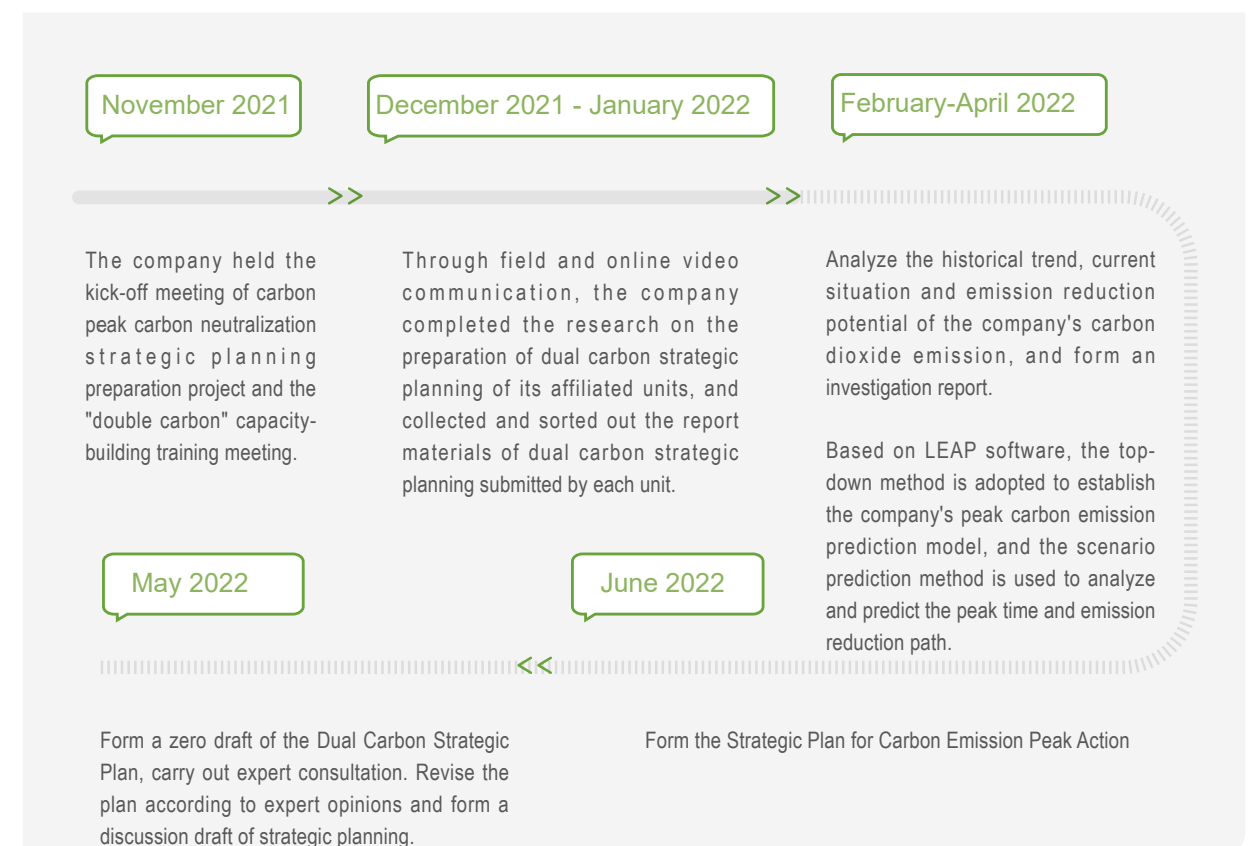
In addition, by purchasing recycled copper raw materials, the company also promoted the recycling of waste wires and cables and other dismantling products containing copper waste of recycling and processing enterprises, and helped the growth of renewable resource recycling enterprises, reducing environmental pollution simultaneously. During the reporting period, the company purchased 61,715 tons of recycled copper raw materials such as waste miscellaneous copper, copper rice and gold, silver and copper rice.

Indicator		Unit	2021 value
Resource cycle	Usage of packaging materials (wooden cases)	Pcs	280,868
	Recovery of packaging materials (wooden cases)	Pcs	232,225
	Procurement of recycled copper raw materials	Ton	61,715
	Beneficiation recovery	%	85.70 ⁷

Table. Performance of Resource Recycling

Climate Change

Climate change is a common challenge facing the world, which requires all parties to work together. As a major country, China attaches great importance to addressing climate change, and has put forward the "30-60" Dual-Carbon goal. As the responsible nation-owned company, JCCL actively responded to the United Nations Framework Convention on Climate Change and the Paris Agreement. In accordance with the Opinions of the CPC Central Committee and the State Council on Completely, Accurately and Comprehensively Implementing the New Development Concept and Doing a Good Job in Carbon Neutralization of Carbon Peak and the Notice of the State Council on Printing and Distributing the Action Plan for Carbon Peak before 2030, as well as the requirements of Jiangxi Province's peak carbon work, the company started the preparation of the "double carbon" strategic plan and issued the notice on the preparation of the "double carbon" strategic plan in November 2021, to clarify the company's carbon emission reduction target, roadmap and implementation path.



Note 7: refers to the beneficiation recovery rate of Dexing Copper Mine



Green Gas Emissions

The company continued to develop new energy industry, improve the energy use and gradually reduce the proportion of fossil fuel energy. Meanwhile, the company continued to promote the use of low-energy production processes and energy-saving equipment and created carbon sinks through mine ecological reclamation to effectively reduce greenhouse gas emissions.

During the reporting period, the company's total greenhouse gas emissions were 2.1697 million tons of carbon dioxide equivalent, a decrease of 34,600 tons over last year.

Indicator		Unit	2021 value	2020 value
Greenhouse gas emissions	Greenhouse gas emissions (scope I)	10,000 tons of carbon dioxide equivalent	28.81	28.23
	Greenhouse gas emissions (scope II)	10,000 tons of carbon dioxide equivalent	188.16	192.20
	Total greenhouse gas emissions	10,000 tons of carbon dioxide equivalent	216.97	220.43
	Greenhouse gas emission intensity	Ton / 10,000 yuan	0.255	0.346

Table. Performance of Greenhouse Gas Emission of the Company⁸

Climate Risk Response Measures

The company is highly concerned about the physical risks posed by climate change, as well as transition risks related to regulatory changes, laws, technology, markets and reputation. It is now taking proactive measures to respond.

Combined with the experience of the impact of climate change on production and operation in previous years, the company has formulated emergency plans for various meteorological disaster such as flood, typhoon, lightning, rain and snow, freezing and high temperature. The company continued to improve the infrastructure construction, establish the joint commissioning and linkage mechanism of environmental protection facilities, and further improve the resilience to extreme weather. In addition, the company strengthened the regulation of the water level of tailings pond, acid reservoir and regulating pond to ensure that the wastewater does not overflow and prevent environmental protection accidents caused by heavy rainfall and other weather.

Note 8: the statistical scope refers to the production units in the province, including Dexing Copper Mine, Yongping Copper Mine, Wushan Copper Mine, Chengmenshan Copper Mine, Guixi Smelter, Jiangxi Copper Products Co., Ltd., Yinshan Mine, Jiangxi Copper Yates Foil Inc., Longchang Precise Copper Pipe, JCCLTaiyi Special Electric Materials, and JCCL (Guixi) Logistics Co., Ltd.

Note 9: the income of 10,000 yuan used in greenhouse gas emission intensity is the company's operating income in 2021.

Green Transformation

Green Project

The company actively responded to the national green development strategy, seized the current strategic opportunity for the development of environmental protection and energy conservation industry, cultivated and developed green emerging projects, achieved high output and low pollution, and minimized the impact on the environment. During the reporting period, the company's green projects include:



- Copper, gold and silver separation from smelting slag of Guixi Smelter and anode slime extraction of rare and precious metals such as gold, silver, selenium, tellurium, bismuth, rhenium, platinum and palladium in Guixi Smelter
- Copper extraction from waste rock heap (electrodeposited copper), copper extraction from waste water (copper sulfide) and tailings copper separation project in Dexing Copper Mine
- Tailings sulfur reduction system project of Chengmenshan Copper Mine
- Acid making from flue gas and waste heat power generation project in smelting enterprises
- Tailings filling engineering of underground mine
- Comprehensive development and utilization project of tailings of Jiangxi Wantong Environmental Protection Materials Co., Ltd
- Process transformation project of replacing primary lead concentrate with lead containing waste in zinc smelting enterprises

Cleaner Production

The company has actively complied with the requirements of the national industrial policy, adopted environment-friendly mining and smelting technologies and equipment to continuously reduce the impact of production and operation on the environment to build a circular, energy-saving, clean and resource-based enterprise.

Case Implement process transformation, promote cleaner production

In December 2021, the reconstruction project of coal-fired hot blast stove in molybdenum dressing section of Dexing Copper Mine new technology plant was officially completed. After the transformation from coal to gas, the hot blast stove has greatly improved the sanitary environment of the operation site, eliminated the influence of pollutants such as coal slag, solid waste and dust, and greatly reduced the total amount of discharged flue gas and the contents of pollutants such as SO₂, NO_x and particulate matter. At the same time, the newly added supporting automatic control system greatly improved the efficiency of the process section, which better controls the water content of molybdenum concentrate and improves the quality of molybdenum concentrate.



Fig. Equipment diagram after reconstruction of gas hot blast stove

Green Investment and Financing

Starting from the vision of creating a beautiful environment, Jiangxi Copper actively responds to the national call for green and low-carbon development, and invests in environmental protection enterprises and green projects. At the same time, by issuing green bonds and other financing modes, the company advance green project construction in the company to help it promote the company's green transformation and high-quality development.

Case Jiangxi Copper made overall arrangement for "green industry" and acquired Guangdong Taolin Ecological Environment Co., Ltd.

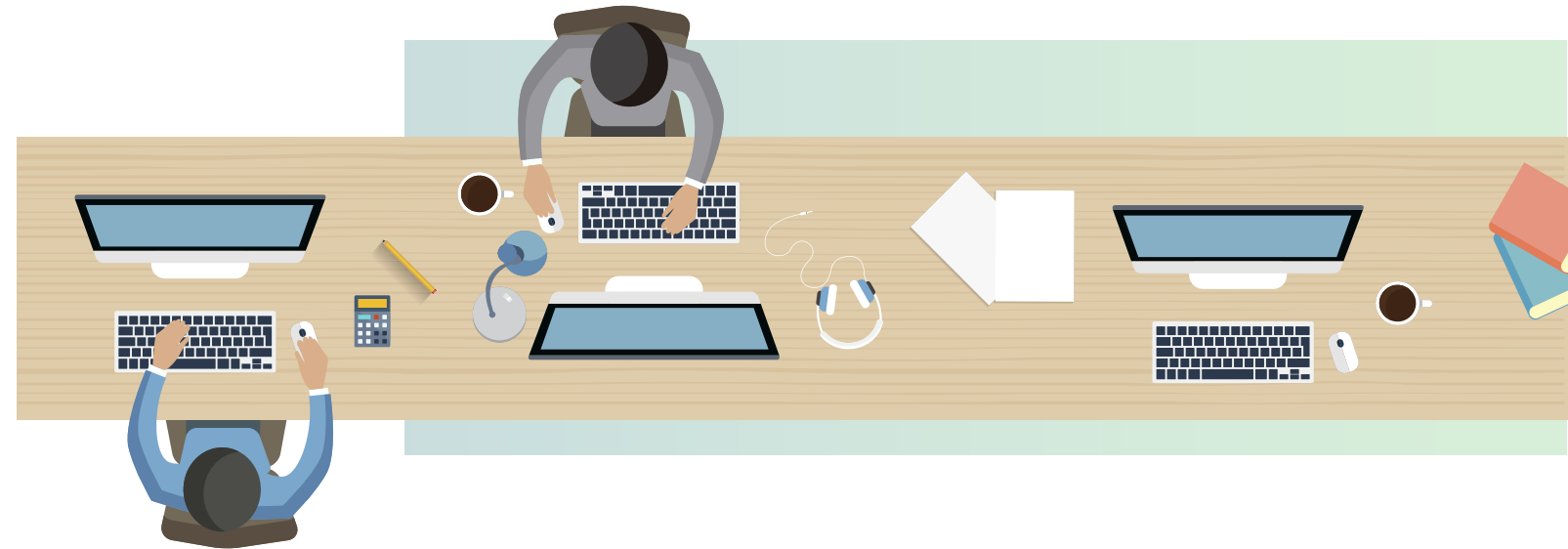
In August 2021, Jiangxi Jiangtong Environmental Resources Technology Co., Ltd. (hereinafter referred to as "Jiangtong Environment"), a wholly-owned subsidiary of Jiangxi Copper, acquired 49% equity of Guangdong Taolin Ecological Environment Co., Ltd. (hereinafter referred to as "Guangdong Taolin"). The acquisition has enhanced the company's comprehensive service capabilities in the entire industrial chain of heavy metal and mine ecological restoration, symbolizing that the company enters a stage of comprehensive improvement in the field of environmental protection technology. It is of great significance to further optimize the company's environmental protection resource allocation and industrial layout and promote the company's high-quality development in environmental protection industry.



Fig. Jiangtong Environment and Guangdong Taolin jointly signed an equity transfer agreement

Green Life

The company actively advocated employees to save water and electricity and reduce catering waste. Employees were required to implement the concept of saving resources and protecting the environment into their daily life and work, carry out the concept of ecological and environmental protection with practical actions, in order to guard our green home.



- Paper management:** Promote paperless office and use online OA approval procedures to reduce paper consumption
- Water management:** Put up water conservation slogans in toilets and tea rooms
- Energy management:** Turn off office electrical equipment in time and reduce standby energy consumption
Give priority to green energy-saving lamps and try to use natural light
Specify the setting temperature of air conditioner and reduce energy consumption
Strictly controlled the number of official vehicles and reduced the use of official vehicles in accordance with the Management Measures for the Edition, Allocation and renewal of Official Vehicles of the Company and the principles of economy, applicability and stringency
- Catering Management:** According to the requirements of the Work Plan for Strictly Practicing Economy to Stop Catering Waste, improve the management measures for business reception, and establish and improve the economical dining system in the canteen. Strict procurement process, scientific and simple catering, providing service methods of "half and half price" and "small and appropriate price", guiding employees to establish a strong sense of conservation, implementing "Operation Empty Plate", and actively promoting the resource treatment and reuse of kitchen waste. During the reporting period, the total amount of kitchen waste in the canteen remained low, with a year-on-year decrease of 10%.



Jiangxi Copper Technology Research Institute Co., Ltd. (hereinafter referred to as "JCCL Institute") was established in February 2014. It is a science and technology enterprise integrating technology development and service, analysis and testing, pilot incubation, etc., the "strongest brain" of "scientific innovation Jiangxi Copper", and the "source" of the company's key technologies, and the "gravitational field" to attract core innovation elements. JCCL Institute has continuously strengthened the concept of innovation and development of all staff, with the goal of realizing "world-class innovative enterprise" and the means of reward for the transformation of scientific and technological achievements, so as to effectively stimulate the enthusiasm and initiative of technicians and managers at all levels in the transformation of scientific research achievements. Guide scientific and technological personnel to produce early, more and good results, and accelerate the transformation and upgrading of the company from a technology application-oriented enterprise to a technology innovation driven enterprise. During the reporting period, the institute became the first collective of Jiangxi Copper to win the honor of "Jiangxi Youth May 4th Medal".



Fig. Collective Honor of Jiangxi Youth May 4th Award

Construction of Scientific and Technology Team

JCCL Institute integrated the four science and technology platform resources of the company's technology center, postdoctoral scientific research workstation, academician workstation and national copper smelting and processing engineering technology research center, created a R & D department and special research team covering mining, beneficiation, metallurgy and processing, continuously introduces experts and constructs a talent system with strong innovation ability.

During the reporting period, JCCL Institute introduced 5 leading talents through special employment, joint venture and high-end joint R & D platform. At the end of the reporting period, the total number of leading talents reaches 8. At the same time, with leading talents as the core, the company has also established research teams for rare, precious and scattered metals, metal matrix composites, carbon nano materials and so on. As of the end of the reporting period, the Institute had 132 R & D personnel, including 56 doctors and 76 masters.



Fig. Enterprise Technology Center



Fig. Academician Workstation

Till the End of the Reporting Period

R & D personnel
132

Doctor Degree
56

Master Degree
76



Fig. Carbon Nanomaterials Team

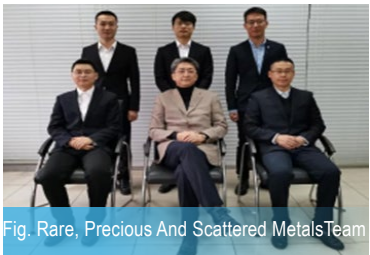


Fig. Rare, Precious And Scattered Metals Team



Fig. Group Photo of the Institute

JCCL scientific and technological personnel of the Institute are innovative, diligent in thinking, practical and willing to work, and constantly make contributions to technology research and development. During the reporting period, they won many honorary titles such as "National May Day Labor Medal", "Model Worker of Jiangxi Province", "Excellent Communist Party Member of Jiangxi Province", "Jiangxi Poyang Pioneer in the New Era" and "Excellent Communist Party Member of SASAC".



Dr. Hu Yiwen, National May Day Labor Medal

In 2018, he was rated as the "Top Ten Youth" of Jiangxi Copper Corporation and was selected as the first batch of innovative leading young talents in the "Double Thousand Plan" of Jiangxi Province. In 2019, he was rated as the "Top Ten Scientific and Technological Pacesetters" of Jiangxi Copper Corporation, won the honorary title of "Jiangxi Poyang Pioneer in the New Era" in Jiangxi Province, and won the May Day Labor Medal of Jiangxi Province.

In 2020, he was rated as "the 20th National Youth Post Expert Model". In 2021, he won the National May Day Labor Medal.



Dr. Yang Wei, outstanding communist of Jiangxi SASAC system

In 2020, he won the title of Excellent Communist Party of Jiangxi Copper Research Institute. In 2021, he won the title of Excellent Communist Party member of Jiangxi SASAC system and the title of Excellent Communist Party member of Jiangxi Copper Corporation.



Dr. Lin Qingquan, a double thousand plan and provincial model worker in Jiangxi Province

In 2019, he received the first grant from China Postdoctoral Science Foundation in Jiangxi Copper. In 2019, he won the title of "Excellent Communist Party Member" and "Advanced Worker" of Jiangxi Copper Corporation. In 2020, he was selected as the innovation leading young talent of the "Double Thousand Plan" of Jiangxi Province, or the title of "Model Worker of Jiangxi Province".



Wu Li, pioneer of new Jiangxi Poyang

In 2020, he won the second award of the "Jiangxi Provincial Science and Technology Progress Award" and won the title of "Excellent Communist Party Member in the COVID-19 Prevention and Control Work of Jiangxi Copper". In July 2021, he won the honorary title of "Serving the People as a Good Secretary" of Jiangxi New Era Jiangxi Poyang Pioneer.



By constantly exploring new modes of management, incentive and service, JCCL Institute continued to innovate the talent incentive mechanism by opening up channels for the promotion of technicians, giving scientific research incentives to industrialization achievements, selecting and rewarding scientific and technological progress awards, and exploring the mechanism of technology shares and intellectual property rights sharing. The Institute constantly stimulated innovation momentum, enabled innovative talents to share innovation dividends and jointly obtain development achievements, and drove the high-quality development of Jiangxi Copper with continuous innovation. During the reporting period, the Institute's R & D incentivized investment amounted to 2.6845 million yuan.

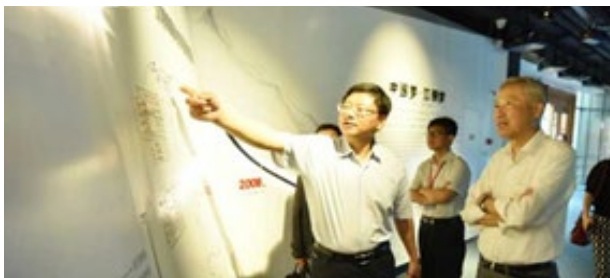
External Cooperation and Exchange

JCCL Institute actively explored the scientific research collaboration mode of cooperation and sharing, and carried out in-depth exchanges and cooperation with other research institutes, universities and other scientific research institutions. Through the tripartite cooperation of "school, local and enterprise", the Institute actively explored the combination of production, learning and research with a more active attitude, and promoted the further development of scientific research ability and level.

Invite Academician of Chinese Academy of Sciences to visit and exchange with the company and make academic reports



Academician Huang Chongqi of Chinese Academy of Engineering came to Jiangxi Copper Research Institute for exchange



Academician Huang Chongqi of Chinese Academy of Engineering visited Jiangxi Copper

Invite Southwestern Institute of Physics of nuclear industry to exchange rare precious and rare metal alloy technology



Liu Xiang and his party from Southwest Institute of Physics of nuclear industry came to Jiangxi Copper Research Institute for exchange

Invite Ningbo Institute of Materials, Chinese Academy of Sciences, and Xiamen Rare Earth Research Institute to JCCL Institute for exchanges



Yang Su, deputy director of Ningbo Institute of Materials, Chinese Academy of Sciences, visited Jiangxi Copper Research Institute

Exchange "Double Carbon Technology" with Peking University



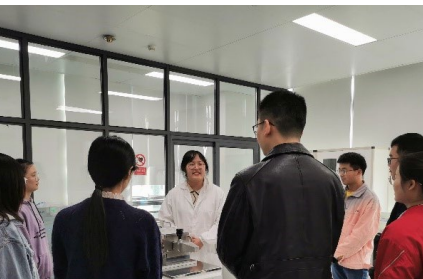
Professor Wang Hao of Peking University came to the Institute for exchange

Invite the College of Engineering(COE)PKU to negotiate cooperation with the company



Duan Huijing, president of the College of Engineering (COE)PKU, and her party went to Jiangxi Copper Research Institute to discuss cooperation

Introduce advanced instruments and equipment, and provide field visits, learning opportunities and testing services for local college students



Students from East China Jiaotong University come to the Institute to visit and study

Green Scientific Research Poroject

JCCL Institute continued to increase investment in scientific research, arranged a series of green projects around energy conservation and environmental protection, cleaner production, ultra-low emission and other fields, and focused on the research and development of green technologies and green products. In terms of copper processing and new materials, the company has made key breakthroughs, formed competitive new products, and promoted the green development of the company and even the industry. During the reporting period, JCCL Institute added 28 new projects, with a total investment of 56.1578 million yuan in scientific and technological research and development.

S/N	Project Name	Project Details
01	Experimental study on sulfur reduction of copper mine tailings	Use the tailings as building materials after treatment to reduce the discharge of tailings and solve the problem of serious shortage of tailings storage capacity faced by copper mines. Promoting the tailless and sustainable development of copper mines can also effectively alleviate the shortage of raw material resources in the building materials industry in the Yangtze River Basin
02	Optimize copper ore process and improve molybdenum recovery	Promote and apply of ore dressing plant to optimize technical processes, resulting in the recovery rate of molybdenum in copper concentrate increased from 26.5% to 47%.
03	Improvement and optimization of slag making process for reducing copper content in slag - crude copper smelting	Study the scientific proportion of materials into the furnace, and improve and optimize the slag making and impurity removal process of miscellaneous copper. Reduce the copper content in slag, improve the direct yield of smelting copper, reduce smelting cost and metal loss, and achieve remarkable economic benefits.
04	Experimental study on reducing molybdenum loss in ammonia slag and optimizing molybdenum recovery	Through process optimization, the production of MSA-1 ammonium molybdate products that met the national standard could reduce the production cost and reduce the pressure of environmental protection.
05	Research and development of high performance microalloyed rare earth copper	The problems of preparation of high-purity rare earth copper master alloy and rare earth addition and casting molding of large tonnage copper melt have been overcome, and rare earth impurity removal and purification, microalloying and grain refinement have been realized. The thermal conductivity, high-temperature strength and high-temperature sintering resistance of pure copper tubes have been improved, reaching the leading level in China.

Exhibition of Green Scientific Research Projects of JCCL Institute

In 2016, the company actively explored the new energy business of Yongping Copper Mine and established Jiangxi Copper (Qianshan) Photovoltaic Power Generation Co., Ltd. (hereinafter referred to as "JCCL Photovoltaic Company"), which was an exploratory construction of photovoltaic power stations on waste dump and developed a 20MWp photovoltaic power generation project in Yongping Copper Mine.. During the reporting period, JCCL photovoltaic company achieved 21.56 million kWh of power generation, completing 102.67% of the annual plan. Compared with last year, the power generation increased by 670,000 kWh, creating an operating profit of 6.5 million.

Create a New Chapter in Ecological Restoration

The waste dump is a giant artificial loose pile, accompanied by serious safety issues. For the high fill slopes in the western and southern dumps of Yongping Copper Mine, about 600 mu, JCCL Photovoltaic Company has carried out ecological reclamation Work. Through the soil improvement, water and soil conservation, drainage system reconstruction, vegetation maintenance and restoration of the waste dump, JCCL photovoltaic company finally realized the overall balance of vegetation coverage and the new situation of natural transition with the surrounding ecological environment. After the restoration, the barren soil regained its vitality, meeting the growth of a variety of plants, and the biodiversity was significantly improved. As of the end of the reporting period, a total of 6 biological species have been recorded in the restoration site, including rhus chinensis, robinia pseudoacacia, paulownia, pinus elliottii, ligustrum lucidum and gesang flower, with a vegetation coverage rate of more than 90%.

In addition, JCCL photovoltaic company actively cooperated with the mining area to carry out environmental protection renovation, implemented the on-site supervision and coordination of ground hardening and drainage ditch cleaning works, and made every effort to ensure the safe operation of equipment and facilities in the site during the reporting period. JCCL photovoltaic company has also established environmental protection rules and regulations, actively carried out environmental protection registration and declaration, strengthened the storage and management of hazardous wastes, and maintained the healthy development of reclamation areas through multiple approaches.



Before Reclamation of Western Waste Dump



After Reclamation of Western Waste Dump



Before Reclamation of Southern Waste Dump



After Reclamation of Southern Waste Dump

Promote a New Model of "Photovoltaic + Ecological Restoration"

JCCL Photovoltaic Company actively explores the "photovoltaic+" comprehensive utilization mode and integrates the solar photovoltaic industry, a rapidly emerging sunrise industry, into the mine construction. Taking the geographical advantage of being located in the stable and rich zone of solar energy resources, the photovoltaic company has integrated the solar photovoltaic industry, a rapidly rising sunrise industry, into the mine construction. In the construction of photovoltaic power generation projects in the waste dump in the west and south of Yongping Copper Mine, the company has installed 75,592 solar cell modules with a capacity of 265wp. It covered an area of 397,600m2, with an actual installed capacity of 20.03 MWP and a project life of 25 years. It was estimated that the cumulative power generation that could be connected to the State Grid was 448,545,300 kWh, and the average annual on grid power generation was 17,941,800 kWh.

During the reporting period, the on-grid power generation of the project was 21.56 million kWh, saving about 6,726 tons of standard coal compared with traditional thermal power projects. The carbon dioxide emission reduction was about 17,099 tons.

JCCL Photovoltaic Company explores and promotes the new model of "Photovoltaic + Ecological restoration" in Yongping Copper Mine. It adopts the parallel method of new energy promotion and ecological environmental protection and makes full use of idle land resources in the mining area. JCCL Photovoltaic Company has increased the supply of clean energy, and provided scientific references that can be learned, promoted and applied for the future exploration of mine restoration and new energy technologies.

Meet New Opportunities for Photovoltaic Development

The company closely follows the national “30-60” carbon peaking and neutrality targets and makes full use of the geographical advantage of JCCL Photovoltaic Company in the stable and rich belt of solar energy resources. It actively deploys new energy industries and innovatively explores distributed project of photovoltaic + plant roofs, new energy + transportation systems, photovoltaic + parking sheds and charging piles and other comprehensive utilization models of new energy to promote the sustainable development of the company.

In addition, under the promising opportunities of the photovoltaic industry, JCCL Photovoltaic Company plans to carry out intelligent and automatic upgrades of existing projects according to the status quo. It reduces the workload of operation and maintenance, increases power generation, strengthens the construction of digital, intelligent and automatic functions of power stations, and provide support for the vigorous development of the new energy industry.

Case

Building a green factory photovoltaic shed demonstration project

During the reporting period, JCCL photovoltaic company participated in the design of the 295.2KWp photovoltaic shed demonstration project of its subsidiary, making the shed have the functions of vehicle parking and vehicle charging. The project installed 820 photovoltaic modules in a parking area of about 6,000m2. In that year, the power generation reached 300,000 kWh and the annual income reached 174,000 yuan. While providing green power, it can also effectively enhance the land use value.



Roof Photovoltaic Shed Site



Photovoltaic Power Generation Inverter Device of Parking Shed

Jiangxi Copper Yates Foil Inc. (hereinafter referred to as "JCCL Copper Foil Company") is a modern high-tech enterprise jointly established by Jiangxi Copper and American Yates Copper Foil Corporation, with the main products of HTE, VLP, RTF, FCF that are used in medium and high-end electronic basic material markets such as copper clad laminate industry, printed circuit board industry, as well as lithium battery industry of new energy vehicles. During the reporting period, JCCL copper foil company produced 18,624.50 tons of copper foil and 2,160.70 tons of lithium battery copper foil, realizing an output value of 202.112 million yuan and paying taxes of nearly 3,479 million yuan.

JCCL Copper Foil Company implemented the strategic plan of "intensive processing", and integrated the concepts of "environmental protection first, strict safety production" and "win-win for society, employees and customers" into its daily operation and development. While fulfilling its social responsibilities, the company has gradually expanded its production capacity, comprehensively improved product quality, and promoted the coordinated, harmonious and sustainable development of the enterprise and society.

Indicator	Unit	Value
Standard foil design capacity	Ton/year	15,000
Design capacity of lithium foil	Ton/year	15,000
Standard foil output	Ton	16,463.80
Output of lithium foil	Ton	2,160.70
Output value	10,000yuan	202,112
Industrial output	10,000yuan	42,315

Operation and Production Performance of the Copper Foil Company in 2021

Technology Leader

JCCL Copper Foil Company has independently developed the preparation process of copper foil products, and has successively obtained the "certificate of high-tech enterprise" and "certificate of high-tech products in Jiangxi Province". It has been rated as "top 10 enterprises in China's copper foil industry" by China Electronic Materials Industry Association for many years.

During the reporting period

JCCL Copper Foil Company has obtained Authorized Patents

30 Pieces

including Invention Patents

04 Pieces

Utility Model Patents

26 Pieces

Layout of New Energy Industry Chain

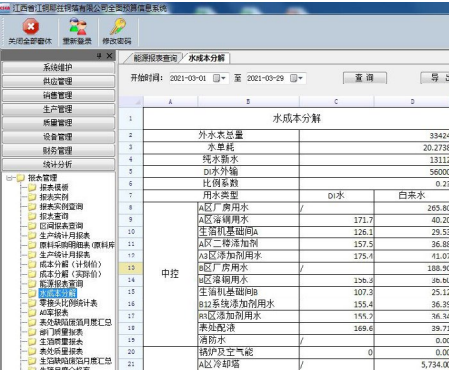
JCCL Copper Foil Company focused on the hot spot of new energy industry and lithium battery, an important link in the new energy vehicle industry chain. Relying on its own business characteristics and technical advantages, the company actively developed lithium copper foil business. By optimizing the process flow of "dissolving copper to make liquid, green foil electrolysis, surface treatment and slitting packaging", drove the development of lithium battery copper foil products in the direction of high density, low profile, ultra light and thin, high tensile strength and high elongation, reduce resistance, prolong the service life of lithium battery, improve the energy density of lithium battery, increase the endurance of new energy vehicles, and then promote the development of new energy vehicle industry. During the reporting period, JCCL copper foil company passed IATF16949 automobile industry quality management system certification to ensure that the electrolytic copper foil produced met the highest manufacturing and safety standards.



Building a Green Supply Chain

According to the national Industrial Green Development Plan and the Implementation Guide of Green Manufacturing Engineering, JCCL Copper Foil Company put forward the requirements of "accelerating the construction of green manufacturing system, continuing to build advanced models of green manufacturing and leading the green transformation of industry in relevant fields", formulated the plan of green supply chain management, implemented green supply chain management, and drove the upstream and downstream supply chains and enterprises to jointly move towards green transformation and development. During the reporting period, the copper foil company was rated as a provincial green supply chain management enterprise in Jiangxi Province.

JCCL Copper Foil Company incorporated environmental protection and social factors into the supplier management mechanism, and paid high attention to the performance of suppliers in



Green Supply Chain Management Information Platform

energy conservation, emission reduction, carbon reduction, social responsibility, business ethics and so on. During the reporting period, JCCL copper foil company continued to improve the green supply chain management information platform by establishing an online monitoring system for resource consumption and an online monitoring system for energy consumption. Relying on provincial and municipal emission reduction monitoring databases, real-time monitoring of resource consumption, energy consumption of main equipment in each process and emission reduction indicators, timely identification and prevention of suppliers' environmental and social risks, and building a sustainable supply chain.

In addition, JCCL Copper Foil Company resolutely resisted environmental degradation and human rights violations caused by the use of illegal mining profits, and formulated the Conflict Mineral Procurement Policy. The company requires all suppliers in the supply chain not to use and purchase conflict minerals listed as special restrictions, and requires suppliers to extend this requirement to lower-level suppliers to create a responsible procurement environment.

Build a Green Factory

JCCL Copper Foil Company strictly abided by the Environmental Protection Law of the People's Republic of China, the Energy Conservation Law of the People's Republic of China and other laws and regulations, and deeply implements the thought of Xi Jinping ecological civilization. The company integrated the concept of green and low-carbon circular development into the whole production and operation process, practiced the concept of green procurement, promoted the construction of green factories, created a green office environment and promotes the green transformation of the company. The copper foil company has passed ISO 14001 environmental management system certification and ISO 50001 energy management system certification, and has been successfully selected into the list of green factories of the Ministry of industry and information technology.

• Green Production

JCCL Copper Foil Company took the lead in responding to the national call for cleaner production. In 2011, the company passed the inspection and acceptance of cleaner production work by Jiangxi Provincial Commission of Industry and Information Technology, and the Environmental Protection Department. The company actively cooperated with the establishment of the Eco-Industrial Park in the High-tech Zone and carried out a series of energy-saving and emission-reduction work, such as the audit of clean production, the establishment of an industrial water-saving society, and the conversion of boiler oil to gas. It eventually promoted the establishment of an energy-saving and environmentally friendly enterprise model.

(1) Energy Saving and Carbon Reduction

JCCL Copper Foil Company improves efficiency and reduces energy consumption by eliminating high energy consuming equipment, accelerating the upgrading of production equipment, realizing the energy-saving transformation of production line and equipment steam temperature rise. During the reporting period, JCCL comprehensive energy consumption of the company was 23,899.418 tons of standard coal and the emission of carbon dioxide was 107,656 tons

S/N	Main Energy-Saving Transformation Projects	Energy Saving (kg ce/year)
1	1# Chiller changed to permanent magnet frequency conversion control chiller	91,069
2	Change roots blower into magnetic suspension blower	——
3	Transformation of two # or two foil making machines	45.42
4	Eliminate high energy consumption motors	10

Carbon Dioxide Emission Data in 2021

Process	2021 Value (Unit:tCO2)
1. Fossil energy consumption and emissions	1,018
2. Industrial process emissions	0.1233
3. Indirect emissions from electricity consumption	106,638
Total carbon emissions	107,656

Carbon Dioxide Emission Data

In addition, JCCL Copper Foil Company will increase investment in clean energy, and use the clean energy to replace traditional coal-fired power generation through the development of rooftop photovoltaic power generation projects, thereby reducing carbon dioxide emissions.

(2) Pollution and Emission Reduction

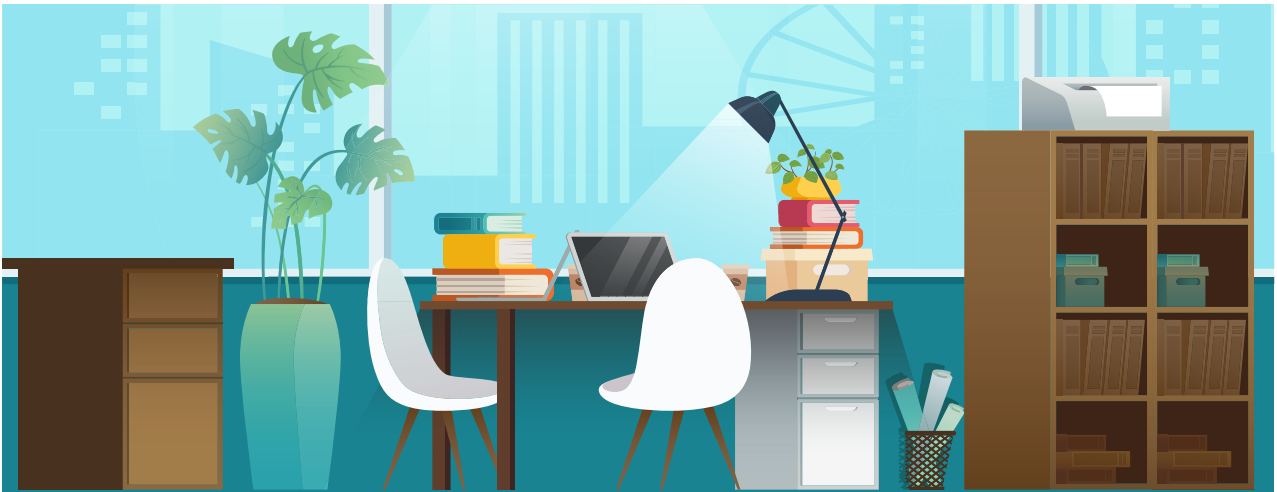
JCCL Copper Foil Company always adheres to the principle of clean production. Under the unfavorable conditions that the domestic electroplating wastewater treatment process and technology are relatively backward, the company has actively explored the method of recycling non-ferrous metals in electroplating wastewater. The principle is to further recover the copper resources in the low-copper-containing waste liquid.

During the reporting period, the copper foil company improved 14 sets of acid waste gas emission systems of production building 1 (phase I and II), and replaced 5 sets of acid mist scrubbers. After the transformation, the collection effect of acid mist in the plant was improved, the concentration of acid mist escaping into the air exposed to the operating staff was further reduced, and the working environment was improved. At the same time, the new scrubber realizes automatic liquid preparation and neutralization, further ensuring the standard discharge of acid mist to the outside world.



• Green Office

JCCL Copper Foil Company fully implemented the guiding opinions of the 19th National Congress of the Communist Party of China on "advocating a simple, moderate, green and low-carbon lifestyle", continuously reduced daily office energy consumption, established the concept of green development and practiced the green office mode. JCCL copper foil company standardized office power, strictly controlled lighting equipment, and made daily patrol inspection. The company required all staff to turn off the lights and turn off the lights when walking. The control system of the air-conditioning machine room shall be used, and the operation of the air-conditioning equipment shall be adjusted at any time according to the needs to ensure high efficiency and energy saving. We should establish the concept of water saving, apply water-saving technologies such as reclaimed water recovery and treatment, and reduce the use of fresh water through the use of recycled water in toilets and other measures.



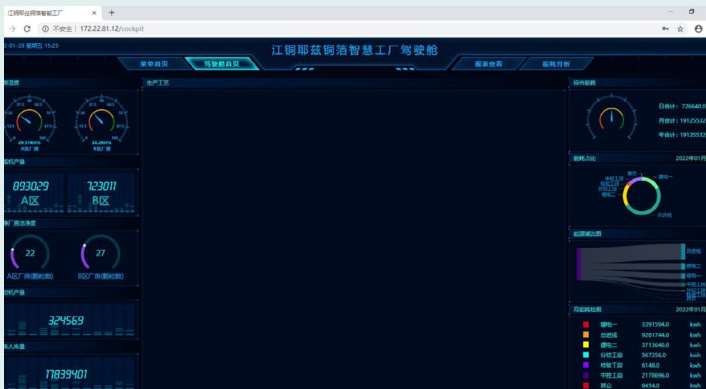
Build a Smart Factory

With the help of digital information technology, JCCL Copper Foil Company has realized the digital perception, networked transmission, big data processing and intelligent application of all elements of the factory, and efficiently provided customers with high-quality products with lower cost, higher efficiency and more accurate technology.

• Intelligent Application Scenarios of JCCL Copper Foil Company

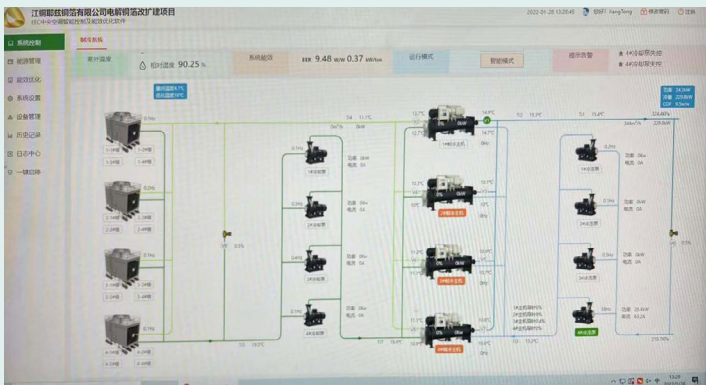
Cockpit of copper foil smart factory:

Through the data center, the company collected the data of the whole production process and generates the daily report, weekly report and monthly report data required by different managers, letting the administrator know the production operation in an all-round way and issue the adjustment production order in time

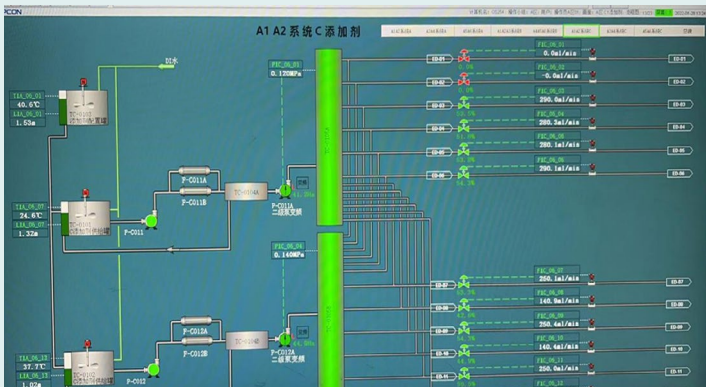


Control system of air conditioning high efficiency machine room:

Permanent magnet synchronous frequency conversion centrifugal unit, intelligent control system and other equipment were adopted to adjust the equipment operation according to the needs at any time to ensure high efficiency and energy saving.

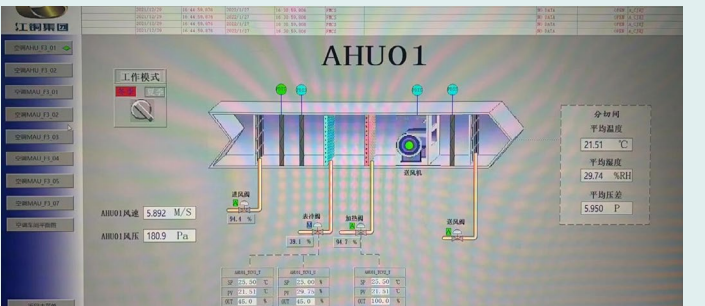


Use the camera to monitor the scene. Through DCS software, the key data of on-site operation such as equipment status, tank liquid level, water pump flow, pipeline pressure, solution temperature, solution pH value and solution metal ion composition were uploaded to the control center, and the operation was automatically controlled by PLC to ensure the stability of process parameters.



Plant constant temperature and humidity system:

Through the PLC control system, the company has changed the operation frequency of the air conditioning fan and the opening of the chilled water valve and hot water valve to ensure the constant temperature and humidity of the plant and ensure the production environment.



Intelligent vertical storage system:

Using laser slam navigation technology, the company has realized the direct flexible docking of product processes in the production area. Through agv, the automatic transfer function of raw foil roll off-line to the buffer area for storage and finished products in the buffer area to raw materials on the slitting line was realized.

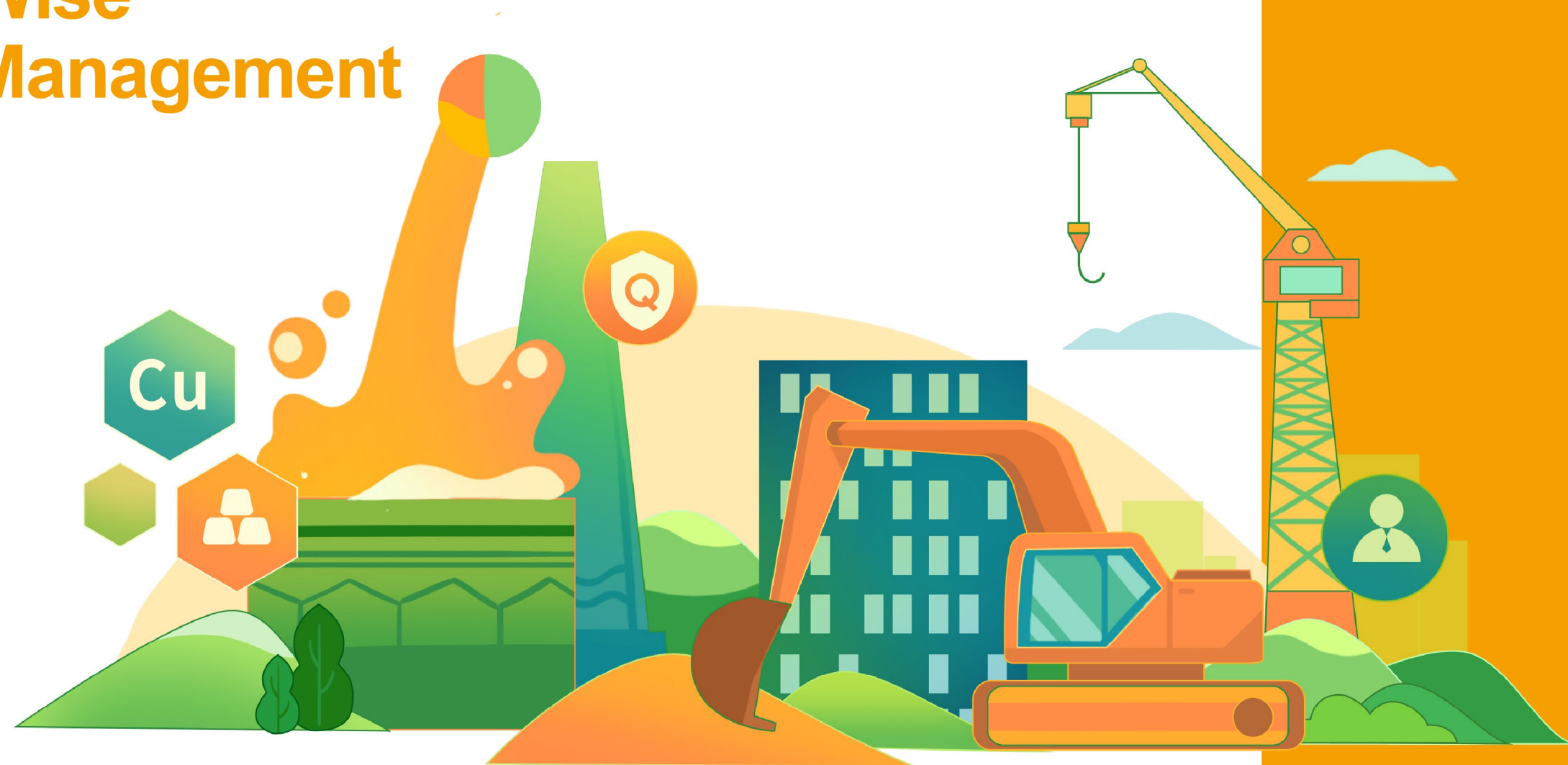
Through the customized automatic task generation function, the company adopted a 750 kg kuka robot to achieve a maximum of 400 kg of finished rolls in a single roll.

Through the visual positioning system, the company could accurately locate the position of wooden boxes, complete the action of automatically putting finished coils into empty boxes, and realize automatic packaging.

Through the binding of production data information, the whole process of production data flow, the company tracked the whole process of each link of production, traced the production process and quality, and realized the quality control of the whole production process.



Wise Management



The company has always been adhering to the core values of exploring the value of resources and taking its responsibility. It put strict requirements on supplier by taking product quality assurance and maintaining customers' responsibility as its own responsibility, pursuit of high-quality, sustainable products and development, and strives to "build a world-class enterprise with global core competitiveness".

03

About Jiangxi Copper

Responsibility management

Appropriate governance

Environmental responsibility

• Wise Management

Cherish talents

Powerful feedback

Future outlook

Product Quality

Quality assurance is the cornerstone of brand building. The company has always been adhering to the concept that quality and quantity go hand in hand, and to the philosophy that good quality comes from trivia. It practices the overall concept that quality rejuvenates the country, the province, and enterprises, and deepens the establishment of the management system integrating "five standards in one" on quality, environment, occupational health and safety, measurement and energy and the evaluation system so as to do well in daily quality assurance management. In addition, the company focuses on improving product quality, strengthening the brand advantages of Jiangxi Copper, and maintaining the brand reputation of the same.

Product Quality Management System

The company strictly abides by the *Quality Law of the People's Republic of China*, and has established a "big quality" management system for the production and service of products including cathode copper, industrial sulfuric acid, gold ingot, silver ingot, arsenic trioxide, sulfur concentrate, zinc concentrate, lead concentrate, molybdenum concentrate, ammonium molybdate, ammonium rhenate, copper sulfate, copper pipe, etc., which provides support for product quality improvement and the stable development of the company.



Product Quality Management System

Always bearing in mind the responsibility and mission of maintaining development on copper and prospering from copper, the company establishes a good brand image, optimizes its quality and produces high-quality products constantly, and continues to carry out quality management activities in respect of its business strategy and policy goals.

In accordance with the *Guidelines for Quality Management Team Activities*, the company has established excellent quality management teams (QC teams) to supervise and manage product quality optimization, economic benefit improvement, safety cost incentives, safety production guarantee, environmental protection, service improvement, etc. The company requires all QC teams to carry out the activities related to product quality optimization on a regular basis, and actively encourages grassroots employees to take part in the work of such teams. During the reporting period, the company issued the *Guidelines for Organizing QC Group Activities and Training Course on Methods and Tools for Tackling Difficult Problems*, and carried out relevant training in June with the purposes of promoting the development of QC team activities, guiding QC team activities, providing methodological knowledge support for such practice, strengthening the overall work effect of QC teams, and promoting product optimization.

During the reporting period, the company selected 25 activities of QC team to participate in the 42nd Quality Management Team Conference in Jiangxi Province, and won 6 first prizes and 19 second prizes.



The First Prize Award Certificate of the Company's QC Achievement

Case The company carried out a "Quality Month" activity

During the reporting period, the company and all of its secondary units carried out a "Quality Month" activity with the theme of deeply implementing quality improvement actions and vigorously promoting the construction of a strong country featured by quality. We make full use of various media for publicity and knowledge dissemination, and require our secondary units to actively carry out relevant special activities according to their own features, achieving the goals of "widely publicizing quality awareness and enhancing the quality awareness of all employees by adopting various forms". In addition, the company organized a total of 7,356 employees to answer the questions on the quality management knowledge online in the Quality Month. The scores of 2,307 employees are above 90, realizing the requirement of "advanced concepts, and learning, discussing and answering questions based on quality management theory".

姓名	工号	部门	分数	其他信息
王德胜	1587932595	江西铜业	95	...
王德胜	250386w	江西铜业	95	...
王德胜	1151139945	江西铜业	95	...
王德胜	15079315902	江西铜业	95	...
王德胜	1576327352	江西铜业	95	...
王德胜	15848851786	江西铜业	95	...
王德胜	15848851786	江西铜业	95	...
王德胜	15848851786	江西铜业	95	...
王德胜	15848851786	江西铜业	95	...
王德胜	15848851786	江西铜业	95	...

Answering Questions on Quality Management Knowledge Online



Quality Promotion

Customer Rights and Interests

The company attaches great importance to the related rights and interests of customers, adheres to the business philosophy of co-creating value with customers, strictly abides by the *Law of the People's Republic of China on Protection of Consumer Rights and Interests* and other relevant laws and regulations, and safeguards the rights and interests of customers. The company actively responds to quality complaints, provides targeted feedback on customer satisfaction, insists on consistent quality of products and services, and constantly improves customer service ability.

After-Sales Service

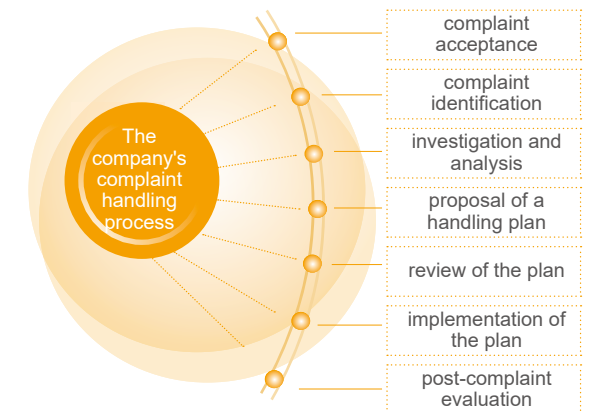
To strengthen the management of after-sales service, the company has formulated the *Measures for Management of Product After-Sales Service of the Trading Division of Jiangxi Copper Corporation Limited* (2021 version). This document stipulates the scope of powers and responsibilities of each department, and normalizes the management of receipt of goods by customers, the management of settlement and reconciliation, after-sales consultation, product usage tracking, handling of sale-related objections and complaints, division of responsibilities for complaint handling, the return and change of goods, sales at reduced prices, compensation, supervision, assessment, etc. We are committed to ensuring the high quality of product after-sales service while improving product quality. During the reporting period, the recall rate of the company's products was 0.

After-Sales Management	Specific Measures
Receipt of goods by a customer	<ul style="list-style-type: none">Clarify the conditions of receipt of goods by the customer, obtain relevant documents for the transfer of goods rights, and ensure that the handover and transfer of goods are well documented.The Sales Department should give a response and communicate with the customer the idea to deal with such objection within 24 hours after receipt of the customer objection.
Settlement and reconciliation	<ul style="list-style-type: none">After completing settlement, submit the settlement documents to the Finance Department for it to issue an invoice, and deliver the invoice to the customer in the current month.Actively handle and make adjustments to any objectionable purchase orders.
After-sales consultation	<ul style="list-style-type: none">Record customer comments and suggestions, and make subsequent improvementsPatiently accept customer consultation related to products, including technical performance, instructions for use, complaint handling, etc.Continuously improve consulting professional level and response speed.
Product usage tracking	<ul style="list-style-type: none">The Sales Department should track the use of products by the customer and understands the customer's individual needs for product quality and services.Give clear instructions related to defective products, and agree with the customer on how to handle the objection.
Customer objections and complaint handling	<ul style="list-style-type: none">Record the opinions of the customer on all aspects of the product.Strengthen communication with the customer, and respond to the customer's opinions and objections in a targeted manner.Strengthen daily communication with the customer to reduce complaints from the customer.Feedback product quality complaints to the corresponding management department to make improvements.The ideas to handling complaints: returning or changing the goods, or selling the goods at a reduced price, etc.
Division of Responsibilities for Complaint Handling Results	<ul style="list-style-type: none">After a complaint is handled, the Sales Department should analyze the reason with the company's Planning and Production Department and divide the corresponding responsibilities.
Returning or changing goods	<ul style="list-style-type: none">Have defective goods returned and change it with a non-defective one.
Sell the goods at a reduced price and make compensation to the customer	<ul style="list-style-type: none">Reduce the price of downgraded goods.Make compensation to the customer for the damage caused to its machine and/or equipment due to its use of the company's products and for product quality problems.
Supervision and assessment	<ul style="list-style-type: none">The Sales Department should make a filing statement to the Risk Management Department about abnormal orders caused by the return of goods, price reduction and compensation.The Planning and Production Department should urge the production unit to make corresponding rectifications based on complaint handling results and customer feedback.

After-Sales Service Management Methods

Quality Complaint Mechanism

Maintaining the stability of product quality is a long-term goal for the long development of Jiangxi Copper's brands. Based on *Management Measures of Jiangxi Copper on Product Measurement Quality Complaint Handling* and other relevant systems, the company designates relevant departments of quality management to take responsibility for the guidance, inspection, monitoring and processing of quality management work. Additionally, these departments should immediately respond to, actively handle and resolve the customer complaints about measurement quality, business operation, and supporting services, etc. put forward by the customer during trade operations, bidding and other processes, and should effectively consolidate a long-standing cooperative relationship with premium customers. If any product and/or service quality complaints cannot be resolved through friendly negotiation, the company will submit them to a competent court for arbitration in accordance with the contract under the guidance of the Legal Department.



Safeguarding Customer Rights and Interests

The company improves its customer management system continuously, establishes detailed customer files and a customer management mechanism, performs the evaluation and credit management of its customers, and provides them with order guidance, product consultation and maintenance, brand promotion and opinions, and recommendation recording services.

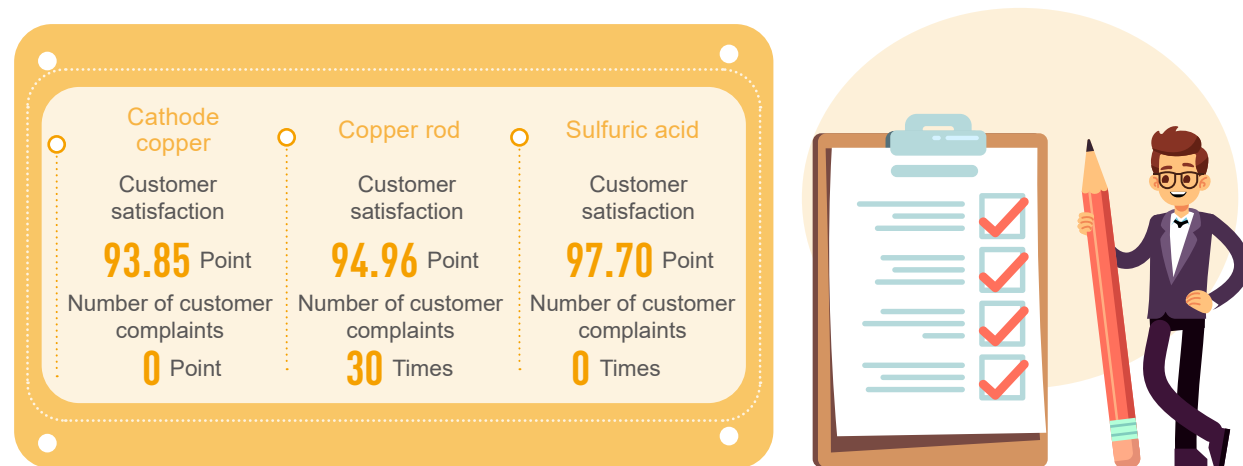
Meanwhile, the company strictly abides by the company's confidentiality regulations when conducting after-sales consultation to ensure information security, and classifies customer archives as confidential materials for proper storage in order to strengthen customer privacy protection. In addition, the company closely communicates with customers through various means such as irregular visits, holding symposiums and annual "customer appreciation meetings", etc.



Survey of Customer Satisfaction

During the reporting period, to ensure customer satisfaction and trust in products, the company commissioned a third-party agency to actively conduct customer satisfaction surveys on its major products such as cathode copper, copper rods, and sulfuric acid, etc. The results of such surveys show that the customer satisfaction of three products achieves a level of above 90 points.

Survey of Customer Satisfaction



Supplier Management

Based on its own conditions, the company has established internal systems, such as *Management Measures of Jiangxi Copper Corporation Limited for Materials, Equipment and Spare Parts*, *Management Measures of Jiangxi Copper Corporation Limited for Suppliers of Materials, Equipment and Spare Parts*, etc., and put strict requirements on the ability, technical quality, green and low carbon issues. etc., aiming to create a supplier management system with integrity, responsibility, quality priority, energy conservation, environmental protection and leading technology and to form an efficient, sustainable and responsible supply chain. During the reporting period, the company reviewed 1,207 suppliers in total, including 1,108 material and equipment suppliers and 98 raw material suppliers.

- the company reviewed **1,207** suppliers in total
- including **1,108** material and equipment suppliers
- 98** raw material suppliers



Supplier Management

The company conducts the management of their credit and dynamic information continuously improves its supplier management system to ensure that they abide by the company's relevant regulations on integrity, safety, environmental protection, quality assurance, etc., which effectively avoids the risks caused by them in the whole process of admission, assessment and withdrawal.

Management of Equipment Suppliers

Management Link	Management Method
Supplier admission	<ul style="list-style-type: none"> Basic requirements: <ul style="list-style-type: none"> Ensure that their production and products comply with relevant laws and regulations on safety, environmental protection, quality, etc., and that they have relevant certificates. Make sure that the quality of their products meets the company's requirements and that they improve the quality continually. Provide perfect product services. Maintain a high reputation, adhere to honesty and trustworthiness, and operate legally. Comply with the relevant regulations of the company's <i>Contract for Joint Contribution of Integrity</i>. Indicators of performance of environmental protection and social responsibilities in the process of supplier admission review: <ul style="list-style-type: none"> Safety protection conditions at the production site Environmental protection conditions at the production site The levels of safety, environmental protection and green development The levels of energy saving and consumption reduction of products Staff stability Participate in community service and hope projects
Supplier assessment	<ul style="list-style-type: none"> The real-time monitoring of qualified suppliers is carried out through an external network platform and a monitoring information module of the company's internal e-commerce platform. The Supplier Management Department conducts the evaluation of qualified suppliers annually, which includes overall strength and business performance. According to scoring results, the suppliers are divided into four annual levels A, B, C and D. The A-level suppliers which are top-ranked in the annual evaluation are awarded the title of "Excellent Supplier". If any A-level supplier cannot be evaluated for two consecutive years, its level will be reduced to Level B. And the suppliers rated as Level D will be disqualified from cooperation with the company.
Supplier withdrawal	<ul style="list-style-type: none"> If any supplier is rated as an unqualified supplier or violates relevant regulations, the company will terminate cooperation with it and will not conduct business transactions with it for at least three years.

• Management of Raw Material Suppliers

Supplier credit investigation

- Conduct a credit investigation of a supplier before signing a contract with it.
- Conduct a credit investigation of all suppliers each year and make records.
- Conduct a survey of basic information of foreign raw material suppliers.

Supplier admission

- The company conducts admission assessment and evaluation of suppliers in strict accordance with the *Operation Rules of the International Trade Department on Purchase of Domestic Raw Materials*.
- We implement an assessment mechanism for new suppliers in a trial period lasting for three months. If a supplier is qualified after evaluation in such period, it can be included in the list of qualified suppliers.

Supplier evaluation and rating

- Perform the evaluation on product quality, supply capacity, source of goods, cooperation duration, business reputation, etc.
- Classify suppliers into excellent, good, average and bad according to their business.

Supplier withdrawal

- For those suppliers who are found to be unqualified, fraudulent or chaotic in internal management or have other problems after annual evaluation, the company will remove them from the list of qualified suppliers of domestic raw materials.

• Communication with Suppliers

The company actively promotes effective communication with suppliers through annual communication meetings, supplier conferences, irregular visits, questionnaires and other methods in order to strengthen supplier relationship management and achieve mutual benefit and coordinated development. During the reporting period, the company sent congratulatory letters to the suppliers rated as A-level in the previous year, invited some suppliers to its factory for visit and exchange, and awarded them with awards.

Case

Actively carry out communication with and training of anode copper suppliers to effectively improve their percent of pass

In May 2021, the company organized several forums for anode copper manufacturers in Jiangxi Province, and provided special training on factory inspection. After such training and communication, the quality inspection capability of suppliers was improved, and the percent of pass of domestic anode copper outsourced in the second half of the year has increased by over 10% than that in the first half of the year.



Communication Meeting on Improvement of Anode Copper Quality

Purchasing Management

• Standardize Bidding Management

As the managing director unit of Jiangxi Bidding Association, the company adheres to the principles of fairness, objectivity and effectiveness, strictly complies with bidding-related system standards, and has established relevant system documents, such as the *Management Measures of Jiangxi Copper Corporation Limited on Electronic Bidding (trial version)*, *Self-tender Management Measures of Jiangxi Copper Corporation Limited on Material Purchase*, *Implementation Rules on Management of Purchase through Bidding*, *Operation Rules for Purchase of Domestic Raw Materials*, etc. In addition, the company has set up a Material and Equipment Department and an organizational structure for management of the material supply departments of each unit, and stipulated bidding procedure, methods, the establishment of an expert base, review and other contents in order to ensure that the bidding process is open and legal

• Promote Green Purchasement

The company actively fulfills its environmental protection responsibilities and integrates the concepts of green environmental protection, resource conservation, and recycling into its daily procurement of materials and equipment. The company purchased raw materials in strict accordance with the relevant national green manufacturing regulations. In addition, the company purchased waste electric wires and cables as well as other dismantled products containing copper waste from recycling and processing enterprises in China to meet its own needs and help the growth of renewable resource recycling enterprises. In addition, the company continued to promote the use of re-manufactured parts. Compared with new parts, these parts can save more than 70% of raw materials and over 60% of energy. The company preferred to choose instruments and equipment which are able to reduce consumption so as to reduce carbon dioxide emission. It also introduced new concepts of equipment application, explore new overhaul models of general spare parts in order to prolong the service life of equipment and to promote the company's green procurement to get on a new level.



Case

Refurbishment of bulldozers near to the end of life

During the reporting period, the company, jointly with Caterpillar and Sime Darby, launched a new exploration of extending the life cycle of equipment, refurbished the bulldozers #17 and #18 with long service life and serious aging, which were close to being scrapped, refurbished the performance indicators of the engines, gearboxes, hydraulic systems, etc. Through this exploration, the service life has been prolonged, and the overall performance has reached more than 95% of that of new equipment. The warranty time exceeds that of new equipment by 4,000 hours. Compared with the production of new equipment, the cost of spare parts required for major repairs is reduced, and carbon dioxide emissions are greatly reduced.



Bulldozer before refurbishment



Bulldozer after refurbishment

Avoid Procurement Risks

During the reporting period, the company reasonably avoided procurement risks, promoted the effective improvement of management, and provided support for its stable development.

Develop contingency plans	Develop different contingency plans for different types of materials with focus on Class I and environmental protection materials.
Sign a strategic collaboration agreement with suppliers	Take a series of measures to motivate and control suppliers, give full play to their enthusiasm and initiative, and effectively ensure that urgent supply tasks are completed on time and with high quality; and at the same time prevent suppliers' misconduct in the process of urgent procurement to avoid potential risks and losses.
Establish effective procurement mechanisms and procedures	Establish a sound organizational mechanism, a timely response mechanism, and an effective adjustment mechanism, and minimize procurement procedures on the premise of ensuring the quality of the goods procured so as to improve efficiency.
Localization	Promote domesticization and material production localization actively and steadily to reduce costs.
Seek alternative	Seek alternative varieties, such as replacing sodium sulfide with sodium hydrosulfide, replacing coke with semi-coke, etc., to ensure the application of multiple varieties.

E-Procurement Platform

To strengthen supplier management and actively respond to the needs of information digitalization development, the company optimized its e-procurement platform in 2021 and has popularized it among secondary companies inside and outside Jiangxi Province.

With the ERP system of Jiangxi Copper Corporation Limited as a core, the platform has established a full-process management system which covers supply chain information management, procurement operation, electronic bidding, main data of materials, suppliers, warehousing, online procurement, cloud settlement, procurement analysis, etc. by bringing together advanced information and intelligent technologies such as the Internet, big data, micro-architecture, cloud technology, electronic signature and seal, etc., thus realizing the transformation from traditional material procurement to digital material procurement. In addition, the platform has also cooperated with Tianyancha to introduce a module for supplier behind-the-scenes relationship and the early warning and query of risks, realizing online monitoring of suppliers and improving the ability of supplier risk management.

Innovation in Procurement Platform and Enhanced Contents

Innovation in procurement platform	Enhanced contents
Establish an online module for the expert bases of Jiangxi Copper	Further improve the classification and coding of the bases, and while keeping consistent with the classification requirements of China's bases, realize the dynamic management assessment of self-application and self-maintenance of experts as well as the function that online and offline project experts can be selected as required, and add a voice notification function.
Add eye-catching operation procedure videos	Such videos aim to make it convenient for new potential bidding suppliers to accurately grasp the use of the platform and to improve the efficiency of bidding in the platform. Adjust the manual service function in a timely manner to improve the service quality.
Secondary development aiming to meet the actual situation of a subject matter	Meet the requirements of competitive negotiation after public bidding of the subject matter public bidding, realize the whole process handling and management of the platform, and improve the efficiency of bidding.
Add the function of demands of bidding of self-built projects	Meet the demand that the management of bidding projects entrusted by a bidding office can be realized in the platform.
Optimize the connection between financial information and XCMG platform	Ensure the accuracy of financial statement information and smooth the financial work involved in online bidding

Supporting Domestic and Local suppliers

As a leader in the development of the copper industry in China, the company provides support for revitalizing the national industry and builds platforms for excellent local suppliers and domestic spare parts by relying on the strategic opportunity of "Made in China 2025". During the reporting period, the company had a total of 1,108 material and equipment suppliers, 98.29% of which were from Chinese mainland.

Meanwhile, the company continues to promote the domesticization of equipment and strives to achieve new breakthroughs therein. During the reporting period, the company successfully implemented the domesticization of 810DA3 air compressor secondary bearings, ejectors, hoist grilles, etc. produced by Guixi Smelter. The total order amount is 1.13 million yuan.

As of the end of the reporting period, totally 97 domesticization achievements of the company have been recognized by experts, and the company made remarkable progress in the domesticization of equipment and spare materials such as domestic cranes, towing cables, filters, filter materials, etc.

Case Domesticization of key filter materials

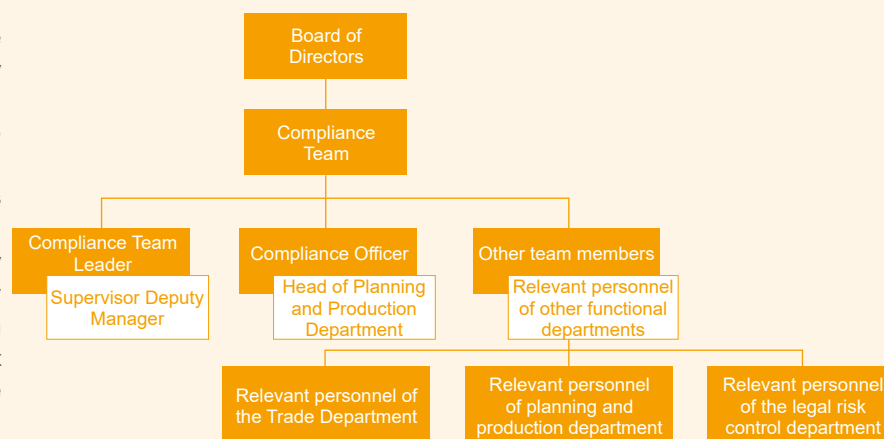
During the reporting period, the supply of filter materials such as filter bags, filter elements, etc. with very strict requirements on filtration accuracy and efficiency in the production process was continuously affected by overseas epidemic of COVID-19. In order to ensure the normal production of copper foil, the company has launched an alternative plan for the use of domestic brands. The filter materials provided by us fully meet the production requirements of JCCL copper foil companies. After domesticization, the unit price of filter materials has dropped by an average of 38% compared with imported ones, saving production cost of more than 800,000 yuan, changing the risk existing in imported brands for a long period of time, and realizing the safe supply of key spare parts.

Domestic Spare Parts
for Filter MaterialsDomestic Spare Parts
for Filter Materials**Supply Chain Due Diligence**

During the reporting period, the company improved the *Due Diligence Management Measures for the Gold and Silver Supply Chain of Jiangxi Copper Co., Ltd.*, aiming to further improve the company's gold and silver supply chain management system in accordance with the latest RGGV9 version released by the London Bullion Market Association (hereinafter referred to as "LBMA"). The company conducts due diligence on mined gold, mined silver, recycled gold, and recycled silver purchased by the company except for mining by-products [the gold and silver contained in copper concentrate, anode copper and crude miscellaneous copper.] and materials with a silver content of less than 15%, to ensure compliance with the *LBMA Responsible Gold Guidelines* (LBMA RGG) and the requirements of the *LBMA Responsible Silver Guidelines* (LBMA RSG) to prevent the flow of non-compliant gold and silver to the company and mitigate the adverse environmental, social and governance impacts of refineries in the gold/silver supply chain.

Supply Chain Compliance Management

The company formed the LBMA Responsible Gold and Silver Supply Chain Compliance Team. The team consists of the Head of Planning and Production Department as the Compliance Officer, the Supervisor Deputy Manager of the company as the Compliance Team Leader, and the relevant personnel of the Trade Department, Planning and Production Department, and Legal Risk Control Department are responsible for daily affairs.



Organization Chart

Due Diligence Information Collection

In accordance with the relevant requirements of *LBMA RGG* and *LBMA RSG*, the company conducts supplier data collection, risk identification, risk assessment, risk rating, risk management measures, transaction risk monitoring, information and communication and training for relevant parties in the gold and silver supply chain Process management of other matters.

**Data
Collection**

- Request to issue corresponding questionnaires and letters of commitment to suppliers
- Collect relevant information such as supplier's gold (silver) mining, supplier's ESG report or CSR report and other internal management information, transportation process, supplier's gold (silver) source, etc.

**Risk
Identification**

- Country risk: Consider from the national and regional risks, whether it comes from limited stocks or world heritage areas, etc.
- Corporate risks: Identify corporate risks from dimensions such as whether suppliers or known upstream companies are located in high-risk countries, or they mine or purchase gold in conflict areas or high-risk areas, or they operate high-risk businesses, or they engage in environmentally damaging mining activities.
- Commodity risk: Identify commodity risks from whether the transfer route of gold and silver materials passes through high-risk areas, or material security, logistics processes and inventory management processes involve human rights abuse, or mining, transportation, and trading processes involve environmental damage.

Based on the collected information and risk identification at the country, company and commodity levels, make risk judgments on suppliers, and conduct risk assessments on suppliers according to different risk assessment steps, and divide them into three categories: "low" "medium" and "high" Different risk levels:

**Risk
Assessment
and
Classification**

- Low Risk Suppliers: Suppliers that have not identified high risk or potentially high risk matters, do not require additional due diligence
- Medium-risk suppliers: After the due diligence, it is found that the supplier may have potential non-compliance in certain matters, but the non-compliance is less likely to occur
- High-Risk Suppliers: Suppliers whose non-compliances are found to be substantiated after additional due diligence
- Zero-tolerance suppliers: Mineral gold (silver) is mined from world heritage areas, and minerals are mined or recycled from areas that violate international sanctions, whose upstream companies are known to have corporate risks or serious human rights violations, or the suppliers directly or indirectly support illegal state armed groups

Conduct enhanced due diligence on high-risk supply chains based on the source and type of gold (silver) raw materials, conduct on-site visits six months before and after transactions with suppliers

**Risk
Management
Measurements**

Take classified control measures for existing suppliers and new suppliers that are rated as different risk levels.

The legal risk control department should provide relevant legal opinions on the supply chain management process before signing the contract, and review the appropriate use of the "non-conflict" clause and the "law-compliant" clause in the procurement contract.

Trading Risk Monitoring

- Collect supplier name, weight, volume, type, concentration, quality, transportation and other information during the transaction
- Assess the existence of trading risks such as countries, companies, commodities, etc.
- Carry out according to the results of transaction risk assessment (for example, low-risk suppliers who may have normal cooperation with human rights violations, environmental damage, etc. should immediately stop procurement and terminate cooperation)

Information and Communication

- External communication: The policies and commitments and associated additional requirements for the adoption of the LBMA, as well as the company's gold and silver supply chain management systems and procedures, communicate with external parties (such as producers, intermediaries, traders, exporters and transporter, etc.) to communicate
- Internal communication: establish a communication channel with the internal staff of supply chain management to ensure that all departments keep abreast of the update of relevant information requirements
- Information disclosure: The company regularly discloses the compliance management of gold and silver supply chains in accordance with the requirements of LBMA and publishes the *Refiner Compliance Report* on the official website

Training

- Carry out internal training no less than once a year, for relevant personnel involved in gold and silver supply chain management through centralized training, OA publicity, etc.

Industry Development

The company shoulders the glorious mission of "getting rid of the backwardness of China's copper industry and revitalizing China's copper industry", always adheres to the development concepts of cooperation and win-win, and makes great effort to promote the companies in the same industry to develop together.

During the reporting period, the company actively participates in the formulation of national industry standards, organizes and participates in various activities in cooperation with industry associations, and make progress of the industry together with all parties.

The company and four units including the International Copper Association finally made an evaluation report on the project "Research and Application of China Cathode Copper Life Cycle" after three years, providing upstream data of life cycle evaluation for downstream manufacturers to develop copper-containing intermediate products and end products, accurate scientific basis for the enterprises participating in the project to carry out the ecological design of cathode copper and other related products, and technical and data support for the government management department to formulate the technical specifications for green evaluation of and the industry standards for cathode copper products.

During the reporting period, *Technical Specifications for Green Design Product Evaluation Gold Ingots* and *Green Design Product Evaluation Technical Specifications Silver Ingots* formulated by the company have been approved, setting the new standard for the green development of the industry.

In addition, Zheng Gaoqing, secretary of the company's party committee, chairman and general manager, was elected as the vice president of China Nonferrous Metals Industry Association. The communication bridge between the government and enterprises has been built relying on the association, the company will work with all parties to promote the healthy development of the country's nonferrous metal industry.



Zheng Gaoqing, secretary of the company's party committee, chairman and general manager, gave the speech on China Nonferrous Metals Industry Association

Case

Participate in the China-Kazakhstan non-ferrous metal mining investment and cooperation roundtable meeting to promote mutual benefit and win-win results

In June 2021, Zheng Gaoqing, secretary of the company's party committee, chairman and general manager, participated in the China-Kazakhstan Nonferrous Metals Mining Investment and Cooperation Roundtable as a representative of Chinese enterprises.

During the meeting, Zheng Gaoqing focused on the progress of the company's investment in the Bakuta tungsten mine project in Kazakhstan. He adhered to the international advanced mining development concept of people-oriented, safety-first, advanced technology, green environmental protection and environmental friendliness. He insisted on localized operation, providing more opportunities for local personnel employment, technical training, and industrial support.



Group photo of the China-Kazakhstan Entrepreneurs Committee

Case

Participate in the 19th China Copper Forum, express the opinion of JCCL

In December 2021, the company, as one of the main co-organizers of the China Copper Forum, participated in the 19th China Copper Forum with the theme of "New Era, New Momentum, New Pattern" in the form of online participation.

The company shared the opinions focusing on the development target of "copper-based, transformation and upgrading, diversified development, and mutual promotion", strengthening the "two-wheel" drive of talents and innovation, deepening the supply-side reform, and strengthening the original innovation of the copper industry chain. The company devoted to integrating innovation and collaborative innovation, actively responded to the requirements of the "double carbon" goal and accelerated the development of high-quality leapfrog development. The company will cooperate with colleagues in the industry, and make unremitting efforts to continuously improve the cohesion and creativity of the industry.



The company's leaders participated in the online meeting of the 19th China Copper Forum

About Jiangxi Copper

Responsibility management

Appropriate governance

Environmental responsibility

Wise Management

Cherish talents

Powerful feedback

Future outlook

Cherish talents



The company adheres to people-oriented and regards talents as an important resource for sustainable development. The company actively creates competitive value returns for employees, protects employees' basic human rights, pays attention to employees' physical and mental health and safety, focuses on employees' promotion and training, and improves employees' welfare care. The company is committed to seeking innovative development and establishing a happy career development environment.

04



Employee Profile

It is the basic obligation for the company to respect the human rights. On the basis of strictly abiding by the *Labor Law of the People's Republic of China*, the *Labor Contract Law of the People's Republic of China*, the *Social Insurance Law of the People's Republic of China*, the *Law of the People's Republic of China on the protection of minors*, the *Provisions on the Prohibition of the Use of Child Labor* and other relevant laws, the company has formulated the *Measures for the management of labor contracts of Jiangxi Copper Corporation Limited* and other internal management measures, which clearly stipulates equal employment according to law and prohibits the employment of child labor and forced labor. During the implementation of the project. The company avoids the negative impact on the region and take the form of participation and communication of local stakeholders to prevent negative events. The company implements the managements of employee welfare policies, performance assessment, position promotion, contract termination and other contents, standardizes and protects the basic rights and interests of employees, and constructs harmonious labor relations.

The company attaches great importance to the selection of talents and actively reserves talents required for high-quality leapfrog development. The company has successively formulated the *Management Measures for Human Resources Recruitment and Allocation of Jiangxi Copper Corporation Limited*. It adheres to the principles of fairness and justice, matching between personnel and posts, excellent selection and preferring shortage rather than abuse, and selects and appoints talents through campus recruitment, social recruitment, internal recruitment, placement of retired soldiers and other allocation methods.



Employee Profile



At the end of the reporting period, the company had 26,166 employees, and the labor contract signing rate and social insurance coverage rate were 100%. During the reporting period, no child labor or forced labor were found.

Indicator		Number of Employees in 2021 (person)	Number of Employees Lost in 2021 (person)	Total Turnover Rate of Employees in 2021 (%)
Total number of employees		26,166	1,556	5.95%
Number of employees by gender	Male employees	22,375	1,255	
	Female employees	3,791	301	
Number of employees by age	30 years old and below	3,590	248	
	30-50 years old	13,075	138	
	50 years old and above	9,501	1,170	
Number of employees by level	Senior management team	374	5	
	Middle level staff	1,735	54	
	Ordinary staff	24,056	1,497	
Number of employees by region	Chinese mainland employees	26,149	1,556	
	Overseas and Hong Kong, Macao and Taiwan employees	17	0	
Number of employees by educational background	Below undergraduate	20,997	1,337	
	Undergraduate	4,612	188	
	Master	496	31	
	Doctor and above	61	0	
Number of disabled employees		318	0	

Employee Profile

Safety and Health

The company attaches great importance to safety and environmental protection production, regards the safety and health of employees as the essence, and adheres to the policy of safety first, emphasis on prevention and comprehensive treatment, so as to improve the occupational health management requirements of "people-centered". The company has regularly carried out the investigation of potential safety hazards, organized occupational health and safety training, established occupational disease protection and physical examination, and was committed to "zero odd job deaths, zero accidents and zero new occupational diseases". During the reporting period, the company improved the construction of safety and health management system, strengthened the development of occupational health and safety training, and improved the overall safety level. According to the provisions of the Ministry of Finance and the State Administration of Work Safety Supervision Caiqi (2012) No. 16 *Administrative Measures for the Extraction and Use of Enterprise Safety Production Expenses*, the company has withdrawn a safety fee of 451,945,100 yuan, which is specially used to improve the safety production conditions of enterprises.

Safe Production

On the premise of strictly abiding by the *Production Safety Law of the People's Republic of China*, the *Emergency Regulations for Production Safety Accidents*, the *Law of the People's Republic of China on the Prevention and Control of Occupational Diseases*, the *Regulations of Jiangxi Province on Production Safety* and other relevant laws, regulations and national standards, the company has successively improved and formulated relevant management measures with the production and operation characteristics of the company, such as *Occupational Health Management Measures*, *Production Management Measures*, *Safety Production Standardization Procedure Documents*, *Fire Safety Management Measures* and *Occupational Health Monitoring Management Regulations*, to strengthen safety production supervision responsibility and management mechanism. During the reporting period, the rectification rate of potential safety accidents reached **100%**.

• Safety Production Management System

During the reporting period, the company formulated and issued the *Safety and Environmental Protection Responsibility System for All Employees*, requiring all safety management personnel to work with certificates. At the same time, the company has established and improved the safety production and environmental protection responsibility system. The company defined the top-down safety management organization structure and safety production responsibilities at all levels, including the company's leadership (party secretary, chairman, general manager, managers of departments in charge), safety and environmental protection committee, functional departments and secondary units.



• 2021 Production Safety Work

Safety production education

The person in charge and production management personnel must have professional technician skills
Enhance the awareness of safety production and formulate safety technical measures
Carry out regular safety activities and training

Troubleshooting and treatment of hidden dangers

Regularly carry out the investigation of potential safety hazards in factories (mines), workshops and work areas (sections)
The hidden dangers of accidents should be rectified in strict accordance with the principle of five implementation

Contingency management

Define the responsibilities of the emergency organization system
Formulate the emergency rescue plan for production safety accidents
Carry out regular training for various accident situations

Safety management of dangerous goods

Take risk prevention and control and safe disposal measures for dangerous chemicals, highly toxic chemicals and waste dangerous goods

Occupational health management

Implement occupational health prevention and control, eliminate occupational disease hazards and guarantee the health rights and interests of employees

Special operation and special equipment management

Ensure operation compliance and complete equipment
Implement regular equipment inspection and realize standardized and standardized safety management.

"Three Simultaneities" management of safety and occupational health

Establish and improve policies and systems on safety production and occupational health management of various construction projects

Safety management of outsourcing project

Improve the safety production access and exit mechanism
Strictly prohibit to take custody with "package" and "penalty"
Make clear the responsibilities for safe production management of outsourced projects and handle the accidents according to the four not let pass

Management of labor protection articles

Implement the wearing and management of protective articles according to regulations

Safety production archives and information management

Conduct safety detection / monitoring
Manage and report safety information management and reporting

Case Strictly investigate potential safety hazards and build "safety barriers" for mines

During the reporting period, Yongping Copper Mine has set up a special safety supervision group to focus on preventing various safety risk parts of the mine. Yongping Copper Mine has implemented key prevention for all safety risk parts of the mine. From the mine and plant (yard) levels, the company strengthened the key work in the southeast of the open pit, open mining cross operation, tailings pond treatment and so on. To prevent accidents, a series of safety inspections had been carried out and deployed for special periods such as two festivals, two meetings and flood control.



Special inspection for grounding of underground electrical facilities



Safety and environmental protection inspection of Yongping Copper Mine

Case Strengthen safety production and kept the "safety string" in mind

Wushan Copper Mine strictly abided by the *System of Special Safety Supervisor of Wushan Copper Mine (Trial)*, and supervised the production work based on the principle of strictly investigating on-site risks and managing key people and things. A regular supervision mechanism for early and middle shifts had been formed. The special supervisors had strictly performed their supervision duties and supervised and inspected the on-site mining operations all day, all-round and all-round, and achieved good supervision results.

During the reporting period, the safety supervisors actively fulfilled his responsibilities and obligations. To promote the implementation of safe production work, the company inspected 10,802 potential problems of mining construction units, corrected 670 violations, issued 362 notices of corrective and preventive measures, and 24 assessment notices.



Asked operators about safe operation and risk awareness



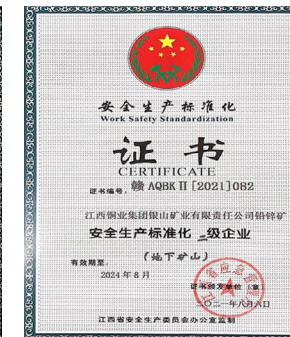
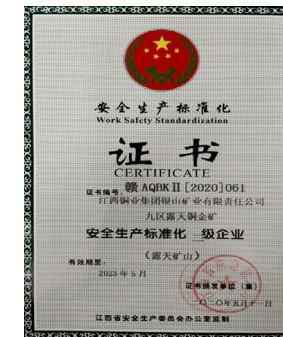
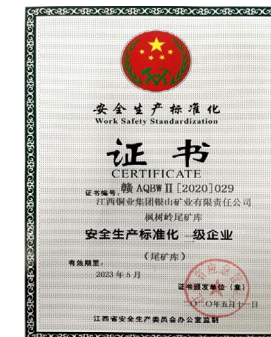
Inspection for working site environment

• Safety and Health System Certification:

The company always attaches great importance to the occupational health and safety of employees. Within the scope of the company, it is necessary to strengthen employees' awareness of occupational health and safety, improve the level of occupational health and safety management, and lay the foundation for safety and health development. At the end of the reporting period, the company has obtained GB/T45001-2020/ISO45001:2018 occupational health and safety management system certification, covering the production and related management activities of 14 categories of products such as cathode copper, gold ingot, silver ingot, copper sulfate and electrolytic copper foil.



Certificate of Occupational Health and Safety Management System of the Company and Secondary Company



Standardization Certificate of Safety Production of Secondary Company

• Occupational Health

The company adopts the management mechanism of employer in charge, business department supervision, individual self-discipline and trade union supervision to establish, improving the occupational health and safety system suitable for the current situation. It provides employees with a guaranteed safe working environment, ensuring the health and safety of employees and helping tens of millions of families to be harmonious and happy.

The company and all secondary units have set up and formulated special health management personnel and occupational health management organizations. The company implemented the system of one person one file for occupational health and safety, improved the employee health management system, and formulated six files, including workers' personal occupational health monitoring files, occupational hazard factor monitoring, detection and evaluation files, construction project occupational health of three Simultaneities files, employers' occupational health monitoring and management files, occupational health management files and occupational health publicity and training files, promoted the improvement of employee occupational health management.

During the reporting period, the company focused on occupational hazard factors such as silica dust, noise, ultraviolet and various chemicals in accordance with the requirements of the *Technical Code for Occupational Health Monitoring*, and the coverage of occupational disease physical examination of on-the-job employees reached **100%**. The company also conducted occupational health examination for on-the-job and retired employees before taking up their posts and leaving their posts.

Meanwhile, in order to control the occupational hazard factors from the source, the company has assessed the risks of various occupational hazards, provided the employees working in the hazardous environment with the labor protection articles required for the post and equipped with corresponding protective facilities. The company has set up safety indication signs, graphics, warning lines, warning signs and other warning instructions for the work area endangering the environment. The company provided automation equipment to reduce the operation time and strived to create a good and reliable operation environment for employees.



Employee occupational disease physical examination



Dust removal fan



Underground ventilation and dust removal fan



Dust removal equipment of mineral processing plant



Occupational safety warning signs on production and operation site



Identification and notification card of occupational hazards of posts in mineral processing plant

Safety and Health Training Activities

In order to consolidate employees' knowledge of occupational health and safety and improve employees' awareness of safety and environmental protection production, the company has put forward clear norms for safety production education. The company required that special operation personnel must be trained by professional departments and obtain corresponding qualifications. The company required the main person in charge and safety production manager to have corresponding safety knowledge reserve and management ability, and required new employees to pass pre job training such as "three-level safety education".

In order to put occupational safety on the ground and publicize safety production knowledge to employees, the company actively held various safety and health publicity and training, successively held special lectures such as *New Safety pProduction Law*, *Safety Regulations for Metal and Nonmetal Mines*, *Safety Regulations for Tailings Pond*, *Dust Monitoring Technology*, *Occupational Health and First Aid Training*, and held various theme activities such as *Safety Month*, *Ankang Cup*, team safety activity day and so on. During the reporting period, the company carried out safety, health, fire protection and other training activities for 11,829 people in total.

Case Occupational health and on-site first aid training in Chengmenshan Copper Mine

During the reporting period, Chengmenshan Copper Mine carried out on-site first aid training for nearly 46 safety officers from the mining site, mineral processing plant, fleet, quality inspection center and mining authorities. The company invited senior experts of occupational health to teach the prevention and treatment of occupational diseases in non coal mines. At the same time, the company invited doctors from Jiujiang No.1 People's Hospital to the scene to demonstrate first-aid methods such as cardiopulmonary resuscitation, heatstroke treatment, fracture dressing and so on. This training improved the safety and health awareness of employees, and enhanced their emergency first aid ability in case of emergencies.



Site drill of occupational health and first aid training



Chengmenshan Copper Mine Occupational Health and on-site first aid training course

Employee Rights and Interests

The company actively protects the rights and interests of employees, embraces the cultures between different nationalities and regions, actively strives for the rights and interests of difficult employees and female employees, and provides employee services with emotion to ensure high standards of employees' salary and welfare. The company enriches employees' daily recreational and sports activities, improving employees' overall professional well-being. During the reporting period, the company carried out a survey on the performance of the collective agreement of Jiangxi Copper Corporation Limited from 2020 to 2022, and the employee satisfaction reached **100%**.

Diversified Employment and Equal Opportunities

The company respects the diversity of employees and takes the initiative to provide employment opportunities for disabled employees. The company treats employees of different nationalities, regions, genders, educational backgrounds, and ages without discrimination and opposes discrimination. The company actively promotes local employment, contributes to regional economic development, and continuously trains excellent talents for regional construction. During the reporting period, the company had 318 disabled employees, and the localized employment rate reached 88%.

Compensation and Benefits

In strict accordance with the *Guidance on Employee Performance Management of Jiangxi Copper Corporation Limited* and other relevant systems, the company adheres to the salary performance principle of distribution according to work and distribution according to post, and formulates the management system of employee work performance assessment and salary management distribution, so as to ensure that the company's well-being and performance were shared with employees. In the past three years, the company's benefits have increased year by year, the average income of employees has increased simultaneously, and the average income of employees has increased by 5.25%.

The company provides employees with five insurances and two funds, regular physical examination, welfare leave, allowance and subsidy, performance reward, paid maternity leave for female employees, length of service allowance, middle and evening shift allowance, foreign language proficiency examination reward and excellent student introduction subsidy. During the reporting period, the company also established a multi-level employee medical insurance system to reduce the burden of employee medical insurance. At the same time, the company also adjusted the annuity payment from the original 5% to 8%, improved the overall welfare level of employees, and better condensed the wisdom and strength of all employees.

the average income of employees has increased by

5.25 %

the company also adjusted the annuity payment from the original 5% to

8 %



Employee Care

During the reporting period, the company revised the *Measures of Jiangxi Copper Corporation Limited for Helping and Delivering Warmth*, and improved the long-term mechanism of assistance and condolences. In addition, it formed a multi-channel assistance pattern with full coverage for the groups of workers in difficulty.



• Assistance and Condolences in 2021

The company visited **755** difficult workers and model workers

and paid **663,500** yuan of condolences

The company reduced the risk of difficulties caused by illness and granted subsidies and condolences of **967,500** yuan

to **225** employees

The company carried out "golden autumn student aid" and other activities to help **37**

employees' children obtain **134,000** yuan of grants and scholarships

The company carried out the mutual assistance guarantee plan, offered condolences to **586** people

and paid compensation of **2.8626** million yuan



Condolences to employees in difficulties



High temperature condolences

• Employee Activities

During the reporting period, the company actively carried out employee activities, continuously enriched the life of employees. We created a healthy, civilized, active and unified employee culture. In addition, all secondary units completed the construction and repair of many badminton halls, table tennis halls, basketball courts, air exhaust courts and other fitness venues, providing places for employees to exercise and relax.

Case

Actively carry out various cultural and sports activities to celebrate the 100th anniversary of the founding of the CPC

During the reporting period, the company carried out a series of colorful publicity and education activities with the theme of *Adhering to the Party's Comprehensive Leadership and Strengthening Mission Responsibility*. The company publicized and carried out a total of 19 knowledge competitions by using the platform of "E-family of Jiangxi copper industry". The company has held relevant theme essay solicitation, photography competition, blackboard newspaper election and other activities, and produced more than 300 excellent works. The company has carried out about 200 cultural and sports activities, with a total of 27,000 participants. The company organized more than 6000 employees from 18 units to sing 212 red classic songs, showing the diversity of Jiangxi Copper employees.



Excellent photography of "joy of labor" in Chengmenshan Copper Mine

Case ▶ 2021 Jiangxi Copper "Olympic Games" ended successfully

During the reporting period, Jiangxi Copper Olympic Games attracted 120 contestants from all units of the company. The company held six skill competitions for pyrometallurgical workers (flash furnace smelters), heavy metallurgical material preparation workers, drilling machine drivers, surveyors, lifting and loading machinery operators (forklifts) and metal finishing workers. Through the activities of "large-scale military training, martial arts competition and promotion", a number of skilled "gold medal workers" have been trained and selected for enterprises. The winners of various types of work showed the elegant demeanor of Jiangxi copper and won a lot of cash rewards and opportunities for promotion of vocational skill level. This competition was also included in the top ten demonstration skills competition of Tiangong Cup in Jiangxi Province launched by the Provincial Federation of trade unions.



"Olympic Games" competition site of Jiangxi Copper

Female Employee Security

The company has actively carried out female's care activities and actively safeguarded the vital rights and interests of female employees. During the reporting period, the company organized female employees to carry out daily gynecological examination, regularly distributed gynecological supplies, and held various activities to welcome Women's Day.



Gold company celebrated Women's Day and carried out reading activities

Talents Cultivation

The company always adheres to the core concept of thinking about today with the future, to continuously focus on the construction of talent team, mobilize the enthusiasm of talents, help the multi-channel development of skilled talents, and respect talents and their work achievements, constantly striving to become a competitive world-class enterprise.

The company has continuously improved the employee training system, actively carried out diversified training and learning and knowledge guessing activities. The company took the excellent platform of Jiangxi Copper as the booster for employee training and development, and grow up together with the employees.

Performance of Employee Training

Indicator		Unit	2021 Value
Divided by gender		Hour	1,358,232
Divided by gender	Training duration of male employees	Hour	1,136,840
	Training duration of female employees	Hour	221,392
Divided by type	Length of training for senior management	Hour	1,200
	Length of training for middle management	Hour	9,128
	Length of training for general staff	Hour	1,347,904
Total number of participants in training		Person	15,239
Divided by gender	Number of male employees trained	Person	12,755
	Number of female employees trained	Person	2,484
Divided by type	Number of training for senior management	Person	10
	Number of training for middle management	Person	163
	Number of training for general staff	Person	15,066
Total training times		Times	56,593
Percentage of trainees			
Divided by gender	Number of training for general staff	%	60.14
	Percentage of female employees trained	%	66.36
Divided by type	Percentage of senior management trained	%	100
	Percentage of middle management trained	%	54.33
	Percentage of general staff trained	%	61.07
Investment in vocational training		10,000yuan	1,768.61

Employee Development

Considering the long-term career development of employees as the evergreen stone of the company's development, the company has established and improved the *Administrative Measures for Employee Position System of Jiangxi Copper Corporation Limited*. During the reporting period, the company realized the further reform of employee promotion system, adhering to the concept of ten thousand horses and thousands of troops go hand in hand. The company has improved the employee position system, unblocked the talent growth channel of all kinds of employees, and realized the employee promotion mechanism of "up and down, in and out".

• Employee Position System Management



Position sequence

According to the job nature, the job sequence was divided into four parts: management, technology, function and skill.



Rank

Set the position level according to the company's business development needs, talent growth laws and characteristics. This reflected the comprehensive quality level, professional ability and personal performance of employees, and the level is set from low to high.



Position title

Named the rank of each sequence according to the rank difference and in combination with the company itself. Build "olive type" talent structure setting ideas.

Level 1 to 16 were set for technology and function sequence from low to high, and level 1 to 14 were set for skill sequence from low to high.

• Staff Training

The company attaches great importance to talent introduction and talent training, and continuously improves the quality and working ability of employees. During the reporting period, the company formulated the training plan for outstanding graduates and the company's existing backbone talents, and focused on building an excellent young talent team.

Training for
"shortage of talents
and excellent
graduates at home
and abroad"

According to the professional training objectives, the company has formulated a personalized training plan. Through grass-roots training, employees could lay a solid foundation, and conduct regular assessment and post exchange.

The company set up excellent student allowance for graduates to encourage development and promote growth.

Training for
"existing
backbone talents
of the company"

The company paid more attention to and accelerated the training of existing talents, and did a good job in tracking guidance and targeted training.

The company has formulated a special talent cultivation plan for college graduates, excellent young talents and excellent young cadres in the company.

• Vocational Training

According to the principle of "overall planning, layered implementation, resource sharing, and continuous improvement", the company has completed the construction of employee education and training system. Moreover, according to the differences of education and training objects, the company has formulated special dynamic control. In addition, the company also established a training and evaluation system to realize the integration of skill training, skill education, skill level identification and position performance evaluation mechanism.

The training business was classified as follows according to different categories and division of labor:

	Mainline Training	Training Level
Management training		
Senior management	Core leadership improvement Improvement of core decision-making ability	Basic job training Post quality improvement training In serviced job training
Middle management	Leadership improvement Improvement of decision-making ability	Basic job training Post quality improvement training In serviced job training
Grassroots management	Execution improvement Improvement of organization and management ability	Basic job training Post quality improvement training
Professional management	Improvement of management level	Subdivided by specific management business training content
Training of technical and skilled personnel		
Professional technicians	Ability improvement of professional and technical level	Classified by professional technology and production process
Skilled operators	Improvement of operation and maintenance level and capability	Basic job training Post quality improvement training In serviced job training Established an independent appraisal and evaluation system for the professional skill level of the company's skilled operators based on the combination of "learning, evaluation and application"
Talent training		
High level talents	Compound ability improvement	Improve management decision-making ability Capital operation capability Financial and trade operation capacity Scientific research innovation ability Process technology improvement ability
International talents	Internationalization capability improvement	Using high-level training mechanisms such as international cooperation training

During the reporting period, the company issued the *Company Level Training Plan* to organize the annual education and training of employees at all levels. According to the training method of "hierarchical, multi-channel and focused", through the relevant training plan guarantee measures of "strengthening training process management", "strengthening training process management", "making full use of s-HR system training management platform" and "establishing inner-party training course review mechanism", the company has ensured the good implementation of the training plan. During the reporting period, the company carried out 148 company level trainings, including "Jiangxi Copper Financial Training Course", "training course for improving the quality and ability of middle and senior cadres in Peking University", "training course for safe construction cadres", "training course for improving the management ability of middle-level cadres in secondary units" and "user training for replication and promotion of procurement e-commerce platform".

Case

The company constructed financing, banking, audit and securities talent training systems

The company established and improved the construction of a financial talent training system. In accordance with the spirit of *Implementation Opinions on Adapting to the Requirements of the New Era, Vigorously Discovering, Cultivating and Selecting Outstanding Young Cadres*, the company combined with the company's Party Committee Organization Department and Human Resources Department Employee management system, and JCC has formulated a talent training plan for Caijin. The company set up a "Jiangsu Copper Finance" training course through a two-year cycle training, combining external full-time training and internal practical training, and design training courses and programs in a targeted manner to cultivate a group of financial talents that meet the standards of talents at different financing talent.



JCCL Financial Talent Training Class



The first Financial Talent Public Selection (Nanchang Area)

Case

The company set up quality ability improvement classes and organized "off-the-job" study for young cadres

In October 2021, JCCL sent 15 outstanding young cadres to Changsha to participate in a training class for improving their quality and ability to conduct an off-the-job study. This training combined theoretical knowledge and practical work content, based on the students' own professional and job experience, focusing on the pain points, blocking points and difficult problems that need to be solved in the production management of the unit. The class aimed to improve the problem-solving ability of young cadres, optimized the structure of the cadre talent team, and provided talent and cadre support for building a world-class enterprise with global core competitiveness.



Group photo of the 2021 JCCL Young Cadre Quality and Ability Improvement Class



Powerful feedback



About Jiangxi Copper

Responsibility management

Appropriate governance

Environmental responsibility

Wise Management

Cherish talents

Powerful feedback

Future outlook

The company has actively engaged in social public welfare undertakings and promoted community development. On the basis of the overall victory in China's fight against poverty, the company took the initiative to invest in the cause of rural revitalization, actively promoted the local economic and cultural construction with its own advantages, and fulfilled the company's social responsibilities and obligations. During the reporting period, the company launched the "Charity Day donation" activity, with a total of 17,231 participants, with a total donation amount of more than 1.66 million yuan.

05

Rural Vitalization

On the premise of fully completing the poverty alleviation work, the company has taken the initiative to consolidate the achievements of poverty alleviation, carry out effective connecting work for rural revitalization. The company made accurate identification and paid regular visits to poverty relief households. In addition, the company paid attention to the basic services of "three types of people" in rural areas and the compulsory education of school-age children, and adhered to the dual support of ambition and intelligence, which has stimulated the self-development ability of poverty relief households.

During the reporting period, the company established fixed-point assistance to Yaoqian village, Dongshang Township, Jinggangshan, and supported the high-quality development of Yaoqian village, Dongshang Township in accordance with the requirements of "prosperous production, livable ecology, civilized rural style, effective governance and rich life".

Case

Rural revitalization assistance project in Yaoqian Village, Dongshang Township, Jinggangshan, 2021-2023

According to the deployment requirements of the designated assistance leading group for rural revitalization, the company has carried out investigation and research on major issues of rural revitalization, and taken multiple measures in parallel to accelerate the pace of Rural Revitalization.

Develop local industries according to local conditions: the company invested more than 1.19 million yuan in industrial projects and infrastructure construction in phase I, which was used to purchase rotary cultivators, carry out white lotus planting, oil-tea camellia planting and other projects.

Strengthen the construction of the village and party with the same frequency resonance: the company strengthened the construction of the team of the village committee, organized the special study of the village committee for 6 times, the "two committees" of the village for 6 times, and the villagers' Congress for 2 times. At the same time, the company also promoted theme activities such as party construction, village collective economy and vocational skill training.

Develop and promote characteristic industries with high quality: the company has given full play to its own enterprise advantages. Through unit canteens, employee collective welfare and other means, the company purchased more than 1.77 million yuan of agricultural products in poverty-stricken areas, increasing the stable income of poverty-stricken households and villagers.



Investigation on Rural Revitalization of Yaoqian Village, Dongshang Township, Jinggangshan



Rural Revitalization Meeting of Yaoqian Village, Dongshang Township, Jinggangshan

Case

Rural revitalization project of Shuangtong Bamboo Shoot Industry Co., Ltd. in Shuanghong Village, Yichun City

During the reporting period, the phase II project of Shuangtong Bamboo Shoot Industry Co., Ltd. assisted by the company was officially completed and put into use. Adhering to the principle of "industrial revitalization means rural revitalization and industrial prosperity means life prosperity", the company has continued to carry out assistance work for four years, helped Shuanghong village set up its own bamboo shoot factory and established a benefit connection and assistance mechanism of "cooperative + bamboo shoot factory + farmers". By means of sales incentives, work and dividends, the company has actively promoted the increase of farmers' income, effectively connected the achievements of poverty alleviation with rural revitalization, and laid a solid foundation for sustainable development.



Processing Scene in Bamboo Shoot Factory



The Leaders of The Company Offered Condolences to The Villagers

Community Development

The company focused on community construction. It actively communicates with community residents through public welfare activities, build harmonious neighbor relationships to promote the construction of harmonious communities.

During the reporting period, the company implemented the concept of "strong sports makes China strong" and actively encouraged the construction of local sports in the community. The company also provided 300,000 yuan and 500,000 yuan in cash donations for Yingtan City Games and Shangrao City Games respectively.



Award Ceremony of The 5th Shangrao Games



The Scene of The 9th Yingtan Games

Fighting The Epidemic

Withstanding the pressure of the pandemic, the company has strictly adhered to the daily prevention and control of the virus, while ensuring operation and maintaining safety standards. During the reporting period, the company also adhered to local and state virus control regulations, and formulated and implemented the rules set by the *Virus Prevention Brochure*, making it clear what are the consequent prevention arrangements and requirements. At the same time, the company has been proactive with temperature testing of all employees. When necessary, nucleic acid testing was also used. The office area was disinfected daily and epidemic prevention materials were provided to ensure the health and safety of everyone.



Organize All Employees to Carry out Nucleic Acid Testing



Daily Temperature Testing at Chengmenshan Copper Mine



Daily Disinfection of the Virus at Dexing Copper Mine



Wushan Copper Mine Strictly Controlled the Epidemic Prevention Pass

The company actively gave full play to the advantages of state-owned enterprises, transported staff volunteers for epidemic risk areas, assisted in various epidemic prevention volunteer services, and achieved "be responsible for guarding the land, bear the responsibility for guarding the land, and do one's duty for guarding the land".



Yongping Copper Mine Dispatched Staff to Assist in Controlling The Nucleic Acid Testing Situation



Yongping Copper Mine Volunteers Assisted The Elderly to Register

In addition, in view of the situation that employees cannot work normally due to isolation treatment, isolation observation or the government's emergency epidemic prevention measures such as blocking epidemic areas and roads, the company has determined clear payment scheme management methods to protect the rights and interests of employees.

Future outlook

2022 is an important year for the development of the world pattern inevitably. The significant change in the economic structure is not limited to one event, one country and one region, but a "profound and broad change of the times". In the face of the new era of turmoil and obstacles to world peace and win-win cooperation, all countries are still eager to face the severe situation while China is still striving for the great success of socialism with Chinese characteristics comprehensively.

Jiangxi Copper Corporation Limited, as a member of the development, adheres to the scientific Xing Jinping's thought on socialism with Chinese characteristics for a new era as the guide and actively assumes responsibility. We always bear in mind the glorious mission of "getting rid of the backwardness of China's copper industry and revitalizing China's copper industry". We will continue to implement the 14th five-year plan, fulfill various corporate governance responsibilities, promote the implementation of the "double carbon" strategic plan, and promote digital and intelligent scientific and technological innovation and R & D. We will continue to improve and maintain product quality, promote the construction of green mines, increase the cultivation of team talents, take all-round and high-quality development as the long-term development goal, and open a new chapter of "building a world-class enterprise with global core competitiveness".

Jiangxi Copper Corporation Limited has always been implementing the value concept of "pondering today by future" and put it into practice to build a manufacturing enterprise "focusing on exploring and exploiting the value of resources, sincerely pursue the harmonious coexistence between human beings and the nature", striving to grow up to be a global, resource-oriented enterprise with wide respect and sustainable development!

Performance Presentation

• Governance performance (adjusted according to the actual capital collection data)

Indicator name	Indicator unit	2021 Value
Amount of annual R & D investment	10,000 yuan	16,460.1
Amount of annual R & D investment	(pcs)	59
Production and R & D projects	(pcs)	7
authorized patents	(pcs)	154
Including: Invention patent	(pcs)	13

• Social performance

Indicator name	Indicator unit	2021 Value
Employment		
Total number of employees	Person	26,166
Number of male employees	Person	22,375
Number of female employees	Person	3,791
Number of disabled employees	Person	318
Proportion of local employees	%	88
Signing rate of labor contract	%	100
Coverage of collective agreements	%	100
Social security coverage	%	100
Rate of return of enterprise annuity	%	8
Health and safety		
Occupational health and safety fund investment	10,000 yuan	45,194.51
Coverage of physical examination and health records of employees	%	100
Number of deaths on duty	Person	1
Accident rate per million man hours	Day	0.22
Number of safety emergency drills	Times	40
Development and training		
Total training times	Times	56,593
Number of training participants	Person	15,239
Training duration	Hour	1,358,232
Vocational training investment	10,000 yuan	1,768.61

Indicator name	Indicator unit	2021 Value
Award		
"National May Day Labor Medal"	pcs	3
"National March 8th Red Banner pacesetter"	pcs	3
"National worker pioneer"	pcs	3
"National Women's Civilization Post"	pcs	1
Social welfare		
External donation amount	10,000 yuan	

Environmental performance

Indicator name		Indicator unit	2021 Value
Water resources consumption and utilization	Total consumption of water resources	10,000 tons	77,691.70
	Consumption intensity of water resources	Ton / 10,000yuan revenue	17.55
	Consumption of fresh water	10,000 tons	3,217.90
	Reuse rate of industrial water	%	95.86
Wastewater discharge	Total discharge of wastewater	tons	53,923,727.00
	COD	Ton	1,054.09
	Ammonia nitrogen	Ton	58.08
	Total copper	Ton	1.02
	Total zinc	Ton	2.61
	Total lead	Ton	1.58
Exhaust emission	NO _x	Ton	11.11
	SO ₂	Ton	1,458.51
	Dust	Ton	196.67
Solid waste	Tailings production	Ton	54,546,642.32
	Comprehensive utilization of tailings	Ton	8,292,415.42
	Total hazardous waste	Ton	41,308.13
	Total amount of general waste	Ton	54,616,727.26
Direct energy consumption	Gasoline	Ton	358.92
	Diesel oil	Ton	56,043.18
	Natural gas	m ³	31,108,060.00
	Coal	ton	315.44
Indirect energy consumption	Electric power	Gigawatt hour	350.44
	Steam	ton	132,675.86

Indicator name		Indicator unit	2021 Value
Comprehensive energy consumption		Ton standard coal	582,964.68
Comprehensive energy consumption intensity		Ton standard coal/ 10,000 yuan	0.069
Greenhouse gases	Greenhouse gas (scope I) emissions	tons of carbon dioxide equivalent	288,092.46
	Greenhouse gas (scope II) emissions	tons of carbon dioxide equivalent	1,881,592.22
	Total greenhouse gas emissions	tons of carbon dioxide equivalent	2,169,684.68
Use of packaging materials	Use of packaging materials	pcs	280,868
	Packaging material recycling	pcs	232,225

Appendix I: Index of Indicator


















· Reference Table of HKEX ESG Reporting Guide

Indicator No.	Description	Report Section
Environmental (explain without disclosure)		
Aspect A1: Emissions		
General Disclosure	Information on: (a) Policies; and (b) Compliance with relevant laws and regulations with a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, as well as generation of hazardous and non-hazardous waste	Environmental responsibility-environmental management Environmental responsibility-emission management Environmental responsibility-resources and energy Environmental responsibility-climate change
A1.1	The types of emissions and respective emissions data	Environmental responsibility-emission management
A1.2	Total greenhouse gas emissions (in tonnes) and, where appropriate, intensity (e.g. per unit of the production volume, per facility)	Environmental responsibility-climate change
A1.3	Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of the production volume, per facility)	Environmental responsibility-emission management
A1.4	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of the production volume, per facility)	Environmental responsibility-emission management
A1.5	Description of emissions target(s) and steps taken to achieve them	Environmental responsibility-resources and energy
A1.6	Description of how hazardous and non-hazardous wastes are handled, and a description of reduction target(s) and steps taken to achieve them	Environmental responsibility-emission management Environmental responsibility-resources and energy
Aspect A2: Use of Resources		
General Disclosure	Policies on the efficient use of resources, including energy, water and other raw materials	Environmental responsibility-resources and energy Topic III: building a circular economy industrial chain of lithium battery copper foil
A2.1	Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in '000s) and intensity (e.g. per unit of the production volume, per facility)	Environmental responsibility-resources and energy
A2.2	Water consumption in total and intensity (e.g. per unit of the production volume, per facility)	Environmental responsibility-resources and energy
A2.3	Description of energy use efficiency target(s) set and steps taken to achieve them	Environmental responsibility-resources and energy
A2.4	Description of whether there is any issue in sourcing water which fit for purpose, water efficiency target(s) set and steps taken to achieve them	Environmental responsibility-resources and energy
A2.5	Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced	Environmental responsibility-resources and energy
Aspect A3: The Environment and Natural Resources		
General Disclosure	Policies on reducing the issuer's significant impacts on the environment and natural resources	Environmental responsibility-ecological restoration
A3.1	Description of the significant impacts of activities on environment and natural resources and the actions taken to manage them	Environmental responsibility-ecological restoration

Social (recommended disclosure)		
Aspect B1: Employment		
General Disclosure	Information on: (a) Policies; and (b) Compliance with relevant laws and regulations with a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, work- hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare	Cherish talents-Employee Profile Cherish talents-employee rights and interests
B1.1	Total workforce by gender, employment type, age group and geographical region	Cherish talents-Employee Profile
B1.2	Employee turnover rate by gender, age group and geographical region	Cherish talents-Employee Profile
Aspect B2: Health and Safety		
General Disclosure	Information on: (a) Policies; and (b) Compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe work-environment and protecting employees from occupational hazards	Cherish talents- safety and health
B2.1	Number and rate of work-related fatalities occurred in each of the past three years including the reporting year	Cherish talents- safety and health
B2.2	Lost work-days due to work injury	Cherish talents- safety and health
B2.3	Description of occupational health and safety measures adopted, and how they are implemented and monitored	Cherish talents- safety and health
Aspect B3: Development and Training		
General Disclosure	Policies on improving employee knowledge and skills for discharging duties at work. Description of training activities	Cherish talents- talents cultivation Topic I: Promoting the sustainable development of green products
B3.1	The percentage of employees trained by gender and employee category	Cherish talents- talents cultivation
B3.2	The average training hours completed per employee by gender and employee category	Cherish talents- talents cultivation
Aspect B4: Labor Standards		
General Disclosure	Information on: (a) Policies; and (b) Compliance with relevant laws and regulations with a significant impact on the issuer relating to preventing child and forced labor	Cherish talents-Employee Profile
B4.1	Description of measures to review employment practices to avoid child and forced laborers	Cherish talents-Employee Profile
B4.2	Description of steps taken to eliminate such practices when discovered	Cherish talents-Employee Profile
Aspect B5: Supply Chain Management		
General Disclosure	Policies on managing environmental and social risks of the supply chain	Wise management-supply chain management Topic III: building a circular economy industrial chain of lithium battery copper foil
B5.1	The number of suppliers by geographical regions	Wise management-supply chain management
B5.2	Description of practices relating to engaging suppliers, the number of suppliers where the practices are being implemented, and how they are implemented and monitored	Wise management-supply chain management

Social (recommended disclosure)		
B5.3	Description of practices used to identify environmental and social risks along the supply chain, and how they are implemented and monitored	Wise management-supply chain management
B5.4	Description of practices used to promote environmentally preferable products and services when selecting suppliers, and how they are implemented and monitored	Wise management-supply chain management Topic III: building a circular economy industrial chain of lithium battery copper foil
Aspect B6: Product Responsibility		
General Disclosure	Information on: (a) Policies; and (b) Compliance with relevant laws and regulations with a significant impact on the issuer relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress	Wise management-product quality Wise management-customer rights and interests
B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons	Wise management-product quality
B6.2	The number of products and service related complaints received and how they are dealt with	Wise management-customer rights and interests
B6.3	Description of practices relating to observing and protecting intellectual property rights	Appropriate governance-innovation
B6.4	Description of quality assurance process and recall procedures	Wise management-product quality
B6.5	Description of protection for consumer data and privacy policies, and how they are implemented and monitored	Wise management-customer rights and interests
Aspect B7: Anti-corruption		
General Disclosure	Information on: (a) Policies; and (b) Compliance with relevant laws and regulations with a significant impact on the issuer relating to bribery, extortion, fraud and money laundering	Appropriate governance-business ethics
B7.1	The number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases	Appropriate governance-business ethics
B7.2	Description of preventive measures and whistle-blowing procedures, and how they are implemented and monitored	Appropriate governance-business ethics
B7.2	Description of anti-corruption training provided to directors and staff	Appropriate governance-business ethics
Aspect B8: Community Investment		
General Disclosure	Policies on community engagement to get to know the needs of the communities and to ensure that its activities should take into consideration the community interests	Powerful feedback-social public welfare Powerful feedback-community development
B8.1	Focus areas of contribution	Powerful feedback-social public welfare
B8.2	Resources contributed to the focus area	Powerful feedback-social public welfare

· UN Sustainable Development Goals (SDGs)

Sustainable Development Goals	SDGs Description	Response to SDGs	Disclourse Section				
	Eliminate poverty in all its forms all over the world.	The company actively promotes the revitalization of villages, promotes the rural revitalization planning of Yaoqian Village, Dongshang Township, Jinggangshan, promotes the rural revitalization project of Shuanghong village, Yichun City, and actively promotes the increase of farmers' income.	Powerful feedback-social public welfare		Inclusive and sustainable industrialization, and spur up innovation.	The company encourages scientific and technological innovation and development, and actively responds to digital transformation and various scientific research management. Promote the research institute of the company's secondary unit to actively research and develop new technologies / materials such as green mines and intelligent mines.	Topic I: The Institute promoted the sustainable development of green products
	Eliminate hunger, achieve food security and improved nutrition, as well as promote sustainable agriculture.	The company actively promotes community development and local industrial development. The company carries out targeted poverty alleviation under the epidemic situation in Zongru Village, Lizhai Township, Dexing City, and promotes offline industrial planting.	Powerful feedback-community development		Reduce inequality within and among countries.	The company opposes all acts of discrimination and investigates employee satisfaction.	Cherish talents- employee rights and interests
	Ensure healthy ways of life, and promote well-being for all at all ages.	The company cares about employees' occupational diseases and health, ensures safe production, establishes safety production related systems, carries out safety and health training, and adds supplementary medical insurance and other measures for employees.	Cherish talents- safety and health Cherish talents- employee rights and interests		Make cities and human residences inclusive, safe, resilient, and sustainable.	The company builds a green and sustainable community, actively promotes the implementation of policies and systems related to environmental protection public welfare and environmental protection activities, and actively promotes community development.	Environmental responsibility-green life Powerful feedback-community development
	Ensure inclusive and equitable quality education and promote lifelong- learning opportunities for all.	The company actively improves the knowledge functions of employees, implements re-education and training programs, and carries out the construction of "four copper" financial talent training system.	Cherish talents- talents cultivation		Ensure sustainable consumption and production patterns.	The company carries out responsible mining for all mines and realizes all green policies and measures from exploration to beneficiation. The company carries out responsible mining for all mines and realizes all green policies and measures from exploration to beneficiation. The company promotes green and sustainable supplier responsibility, actively promotes green procurement, establishes an "e-procurement platform" and strengthens supplier procurement. Jiangxi Copper Yates Foil Inc, a secondary unit of the company, carries out new energy industry chain, promotes green supply chain and takes measures to save energy and reduce carbon.	Environmental responsibility-green production Wise management-supplier management Topic III: building a circular economy industrial chain of lithium battery copper foil
	Achieve gender equality and empower all women and girls.	The company provides equal employment opportunities for female employees and protects the basic rights and interests of female employees.	Cherish talents- employee rights and interests		Take urgent action to combat climate changes and their impacts.	The company actively responds to climate change, responds to the "3060" carbon peak and carbon neutralization policy, implements double carbon goal planning and formulates relevant environmental management systems.	Environmental responsibility-environmental managenemt Environmental responsibility-climate change
	Ensure availability and sustainable management of water and sanitation for all.	The company actively takes water-saving measures to reduce the consumption of water resources, and then increase the recycling of water resources.	Environmental responsibility-resources and energy		Conserve and make sustainable use of oceans, seas and marine resources for sustainable development.	The company identifies and protects the ecological restoration stability and takes corresponding measures, including water and soil conservation. The company also adopts corresponding systems and means for wastewater discharge to reduce water pollution.	Environmental responsibility-ecological restoration Environmental responsibility-emission management
	Ensure access to affordable, reliable, sustainable and modernized energy for all.	The company actively promotes the construction of green mines. The company identifies the ecological elements before mining, within the service life and after the ecological restoration is stable. The company actively adopts technological transformation and new energy use, attaches importance to the development of clean energy and promotes "photovoltaic power generation". The company will implement daily management measures and means for green office.	Environmental responsibility-environmental managenemt Environmental responsibility—ecological restoration Environmental responsibility-resources and energy Environmental responsibility-green production Environmental responsibility-green life Topic II: Qianshan Photovoltaic Power Generation Co., Ltd.		Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and contain bio-diversity loss.	The company actively builds green mines and carries out restoration, greening and reclamation related work. The company carries out the whole cycle ecological management of the mine and takes corresponding restoration measures for the mined land.	Environmental responsibility-environmental managenemt Environmental responsibility-ecological restoration
	Promote sustained, inclusive and sustainable economic growth, full and productive employment and ensure decent jobs for all	The company provides employees with legal, equal and diversified employment opportunities. The company cares for employees and protects their rights and interests.	Cherish talents- Employee hiring Cherish talents- employee rights and interests		Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and establish effective, accountable and inclusive institutions at all levels.	The company improved its governance structure, strengthened risk management and internal supervision system, improved corresponding anti-corruption measures and training, and actively carried out standardized information disclosure.	Appropriate governance-governance structure Appropriate governance- risk control compliance Appropriate governance-business ethics Appropriate governance-information disclosure
					Reinforce the means of implementation and revitalize the global partnership for sustainable development.	The company actively carries out stakeholder communication, establishes an efficient communication and interaction platform with investors, and forms an effective two-way communication mechanism with investors. The company actively promotes the development of the industry, adheres to the concept of "win-win cooperation" and establishes contacts with various associations, research institutes and other relevant organizations.	Appropriate governance-investor relations Wise management-industry development

· Index of Global Sustainability Standards Board (GSSB) GRI Sustainability Reporting Standards

Indicator No.	Description	Report Section
General Disclosure		
Organization Profile		
102-1	Name of the organization	About the report
102-2	Activities, brands, products and services	About Jiangxi Copper
102-3	Location of headquarters	About Jiangxi Copper
102-4	Location of operations	About Jiangxi Copper
102-5	Ownership and legal form	About Jiangxi Copper
102-6	Markets served	About Jiangxi Copper
102-7	Scale of the organization	About Jiangxi Copper
102-8	Information on employees and other workers	Cherish talents-Employee Profile
102-9	Supply chains	Wise management-supplier management
102-10	Significant changes in the organization and its supply chain	Wise management-supplier management
102-11	Precautionary principles or approaches	Appropriate governance-risk control compliance
102-12	External initiatives	/
102-13	Membership of associations	About Jiangxi Copper
Strategy		
102-14	Statement from the senior decision-maker	Chairman remark
102-15	Key impacts, risks and opportunities	Chairman remark
Ethics and Integrity		
102-16	Values, principles, standards, and norms of behaviour	About Jiangxi Copper
102-17	Mechanisms for advice and concerns about ethics	Appropriate governance-business ethics
Governance		
102-18	Governance structure	Appropriate governance-governance structure
102-19	Authorization	Appropriate governance-governance structure
102-20	Executive-level responsibility for economic, environmental and social topics	Responsibility management-ESG governance system
102-21	Consulting with stakeholders on economic, environmental and social topics	Stakeholder communication
102-22	Composition of the highest governance body and its committees	Appropriate governance-governance structure
102-23	Chairman of the highest governance body	Appropriate governance-governance structure
102-24	Nominating and selecting the highest governance body	Appropriate governance-governance structure
102-25	Conflicts of interests	Appropriate governance-governance structure
102-26	The role of the highest governance body in setting purpose, values, and strategy	Responsibility management-ESG governance system
102-27	Collective knowledge of the highest governance body	Responsibility management-ESG governance system
119		Appropriate governance-governance structure

Indicator No.	Description	Report Section
General Disclosure		
102-28	Evaluating the performance of the highest governance body	Responsibility management-ESG governance system
102-29	Identifying and managing economic, environmental and social impacts	Chairman remark
102-30	Effectiveness of risk management process	Appropriate governance-compliance risk control
102-31	Review of economic, environmental and social topics	Responsibility management-ESG governance system
102-32	The role of the highest governance body in sustainability reporting	Responsibility management-ESG governance system
102-33	Communicating critical concerns	Appropriate governance-governance structure
102-34	Nature and the total number of critical concerns	/
102-35	Remuneration policies	/
102-36	Process for determining remuneration	Cherish talents- employee rights and interests
102-37	Stakeholder involvement in remuneration	/
102-38	Annual total compensation ratio	Cherish talents- employee rights and interests
102-39	Percentage increase in annual total compensation ratio	Cherish talents- employee rights and interests
Stakeholder Engagement		
102-40	A list of stakeholder groups	Responsibility management - stakeholder communication
102-41	Collective bargaining agreements	Responsibility management - stakeholder communication
102-42	Identifying and selecting stakeholders	Responsibility management - stakeholder communication
102-43	Approach to stakeholder engagement	Responsibility management - stakeholder communication
102-44	Key topics and concerns raised	Responsibility management - stakeholder communication
Reporting Practice		
102-45	Entities included in the consolidated financial statements	About the report
102-46	Defining report content and topic boundaries	About the report
102-47	A list of material topics	Responsibility management-analysis of substantive issues
102-48	Restatements of information	About the report
102-49	Changes in reporting	About the report
102-50	Reporting period	About the report
102-51	Date of the most recent report	About the report
102-52	Reporting cycle	About the report
102-53	The contacting person for questions regarding the report	About the report
102-54	Claims of reporting in accordance with the GRI Standards	About the report
102-55	GRI content index	Appendix I: index of indicator
102-56	External assurance	About the report
Special Disclosures		
Ways of Management		
103-1	Explanation of the material topic and its boundaries	All explained
103-2	The management approach and its components	All explained

Indicator No.	Description	Report Section
Special Disclosures		
103-3	Evaluation of the management approach	All explained
Economic Performance		
201-1	Direct economic value generated and distributed	Performance presentation
201-2	Financial implications, other risks and opportunities due to climate changes	Environmental responsibility-climate change
201-3	Defined benefit plan obligations and other retirement plans	Cherish talents- employee rights and interests
201-4	Financial assistance from government	Tpoic II: Qianshan Photovoltaic Power Generation Co., Ltd.
Market Presence		
202-1	Ratios of standard entry level wage by gender compared with local minimum wage	Cherish talents- employee rights and interests
202-2	Proportion of the senior management hired from the local community	Cherish talents- employee rights and interests
Indirect Economic Impacts		
203-1	Infrastructure investments and supportive services	Powerful feedback-community development
203-2	Significant indirect economic impacts	Powerful feedback-social public welfare
Procurement Practices		
204-1	Proportion of spending on local suppliers	Wise management-supplier management
Anti-corruption		
205-1	Operations assessed for risks related to corruption	Appropriate governance-business ethics
205-2	Relay and training about corruption policies and procedures	Appropriate governance-business ethics
205-3	Confirmed incidents of corruption and actions taken	Appropriate governance-business ethics
Anti-competitive Behaviours		
206-1	Legal actions for anti-competitive behaviour, anti-trust and monopoly practices	Appropriate governance-business ethics
Materials		
301-1	Materials used in terms of weight or volume	Environmental responsibility-resources and energy
301-2	Recycled input materials used	Environmental responsibility-resources and energy
301-3	Reclaimed products and their packaging materials	Environmental responsibility-resources and energy
Energy		
302-1	Energy consumption within the organization	Environmental responsibility-resources and energy
302-2	Energy consumption outside the organization	Environmental responsibility-resources and energy
302-3	Energy intensity	Environmental responsibility-resources and energy
302-4	Reduction of energy consumption	Environmental responsibility-resources and energy
302-5	Reduction in energy requirements of products and services	Environmental responsibility-resources and energy
Water		
303-1	Water withdrawal by source	Environmental responsibility-resources and energy
303-2	Water sources significantly affected by the withdrawal of water	/
303-3	Water recycled and reused	Environmental responsibility-resources and energy

Indicator No.	Description	Report Section
Special Disclosures		
Biodiversity		
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	Environmental responsibility-ecological restoration
304-2	Significant impacts of activities, products and services on biodiversity	Environmental responsibility-green production Environmental responsibility-ecological restoration
304-3	Habitats protected or restored	Environmental responsibility-ecological restoration
304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operation	Environmental responsibility-ecological restoration
Emissions		
305-1	Direct /Scope 1 GHG emissions	Environmental responsibility-climate change
305-2	Energy indirect /Scope 2 GHG emissions	Environmental responsibility-climate change
305-3	Other indirect /Scope 3 GHG emissions	Environmental responsibility-climate change
305-4	Intensity of GHG emissions	Environmental responsibility-climate change
305-5	Reduction of GHG emissions	Environmental responsibility-climate change
305-6	Emissions of ozone-depleting substances /ODS	Environmental responsibility-climate change
305-7	Nitrogen oxides /NOX, Sulfur oxides /SOX, and other significant air emissions	Environmental responsibility-climate change
Effluents and Waste		
306-1	Total amount of water discharge by quality and destination	Environmental responsibility-emission management
306-2	Waste by type and disposal methods	Environmental responsibility-emission management
306-3	Significant spills	/
306-4	Transport of hazardous waste	Environmental responsibility-emission management
306-5	Water bodies affected by water discharges and/or runoff	Environmental responsibility-emission management
Environmental Compliance		
307-1	Non-compliance with environmental laws and regulations	Environmental responsibility-environmental management
Assessment on Supplier Environment		
308-1	New suppliers that were screened by using environmental criteria	Wise management-supplier management
308-2	Negative impacts of the supply chain on the environment and actions taken	Wise management-supplier management
Employment		
401-1	New employee hires and employee turnover	Cherish talents-Employee Profile
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	Cherish talents- employee rights and interests
401-3	Parental leave	Cherish talents- employee rights and interests
Labor/Management Relations		
402-1	The shortest notice periods regarding operational changes	/
Occupational Health and Safety		
403-1	Workers representation in formal joint management-worker health and safety committees	Cherish talents- safety and health

Indicator No.	Description	Report Section
Special Disclosures		
403-2	Types of injury and rates of injury, occupational diseases, lost work-days, and absenteeism, and the number of work-related fatalities	Cherish talents- safety and health
403-3	Workers with high incidence or high risk of diseases related to their occupation	Cherish talents- safety and health
403-4	Health and safety topics covered in formal agreements with trade unions	Cherish talents- safety and health
Training and Education		
404-1	Average hours of training per year per employee	Cherish talents- talents cultivtaion
404-2	Programs for upgrading employee skills and programs of transition assistance	Cherish talents- talents cultivtaion Topic I: Promoting the sustainable development of green products
404-3	Percentage of employees receiving regular performance and career development reviews	/
Diversity and Equal Opportunity		
405-1	Diversity of governance bodies and employees	Cherish talents- employee rights and interests
405-2	Ratio of basic salary and remuneration of women to men	/
Anti-discrimination		
406-1	Incidents of discrimination and corrective actions taken	Cherish talents- employee rights and interests
Freedom of Association and Collective Bargaining		
407-1	Operations and suppliers in which the freedom of association and collective bargaining may be at risk	/
Child Laborers		
408-1	Operations and suppliers at significant risk for incidents of child laborers	/
Forced or Compulsory Labor		
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	/
Security Practices		
410-1	Security personnel trained in rights policies or procedures concerning human rights	Cherish talents- safety and health
Rights of Indigenous People		
411-1	Incidents of violation involving rights of indigenous people	/
Assessment on Human Rights		
412-1	Operations that have been subject to reviews of human rights or impact assessments	/
412-2	Employee training on policies or procedures concerning human rights	/
412-3	Significant investment agreements and contracts that include clauses of human rights or the human rights screened	Appropriate goverance- business ethics
Local Communities		
413-1	Operations with local community engagement, impact assessments and development programs	Powerful feedback-community development
413-2	Operations with significant actual and potential negative impacts on local communities	/
Social Assessment on Suppliers		
414-1	New suppliers screened by using social criteria	Wise management-supplier management
414-2	Negative social impacts in the supply chain and actions taken	Wise management-supplier management
Public Policies		
415-1	Political contributions	/

Indicator No.	Description	Report Section
Special Disclosures		
Customer Health and Safety		
416-1	Assessment on the health and safety impacts of product and service categories	Wise management-product quality
416-2	Incidents of non-compliance concerning the health and safety impacts and services	/
Marketing and Labelling		
417-1	Requirements for product and service information and labelling	Wise management-product quality
417-2	Incidents of non-compliance concerning product and service information and labelling	/
417-3	Incidents of non-compliance concerning marketing	/
Customer Privacy		
418-1	Substantiated complaints concerning breaches of customer privacy and loss of customer data	/
Socioeconomic Compliance		
419-1	Non-compliance with laws and regulations in social and economic areas	/

Appendix II Reader’s Opinion

Respected readers:

Thank you for reading this report. We appreciate and look forward to your feedback. Your opinions and suggestions are important for us to continuously improve corporate ESG information disclosures and promote corporate ESG management and practice. Welcome and sincerely thank you for your valuable opinions!

1. Your overall assessment of our ESG performance is:

☐ Excellent ☐ good ☐ average ☐ bad ☐ very bad

2. Your overall assessment of this report is:

☐ Excellent ☐ good ☐ average ☐ bad ☐ very bad

3. What do you think of our performance of enterprise governance?

☐ Excellent ☐ good ☐ average ☐ bad ☐ very bad

4. What do you think of our performance of communication with stakeholders?

☐ Excellent ☐ good ☐ average ☐ bad ☐ very bad

5. What do you think of our performance of product responsibility?

☐ Excellent ☐ good ☐ average ☐ bad ☐ very bad

6. What do you think of our performance of environment, safety and occupational health?

☐ Excellent ☐ good ☐ average ☐ bad ☐ very bad

7. What do you think of our performance of employee responsibility?

☐ Excellent ☐ good ☐ average ☐ bad ☐ very bad

8. What are your opinions and suggestions for our ESG performance and this report?