

Jinchuan Group International Resources Co. Ltd

金川集團國際資源有限公司

(Incorporated in the Cayman Islands with limited liability)

(於開曼群島註冊成立之有限公司)

(Stock Code 股份代號: 2362)



JINCHUAN 金川

# Environmental, Social and Governance Report

## 環境、社會及管治報告

# 2024



# Contents 目錄

關於本報告	1
About this report	

## 01

### 概覽 Overview

董事會主席致辭	7
A Message from Our Chairman of the Board	
關於金川國際	11
About JCI	
我們的可持續發展戰略	17
Our Sustainability Strategy	
重要性及持份者參與	20
Materiality & Stakeholder Engagement	

## 02

### 氣候變化 Climate Change

亮點2024	29
2024 Highlights	
氣候管治	30
Climate Governance	
氣候戰略	32
Climate Strategy	
氣候風險及機遇	34
Climate Risks & Opportunities	
氣候行動及能源管理	42
Climate Action & Energy Management	

## 03

### 環境管治 Environmental Stewardship

亮點2024	53
2024 Highlights	
環境管理	54
Environmental Management	
水資源管理	62
Water Resources Management	
固體廢棄物 及廢棄排放物管理	69
Solid Waste & Air Emissions Management	
生物多樣性及土地利用	76
Biodiversity & Land-Use	
尾礦管理	80
Tailings Management	

04

社會影響  
Social Impact

亮點2024 2024 Highlights	85
人權 Human Rights	86
賦能僱員 Empowered Workforce	101
職業健康及安全 Occupational Health & Safety	113
社區繁盛 Thriving Community	133

05

穩健管治  
Sound Governance

亮點2024 2024 Highlights	151
企業管治 Corporate Governance	152
商業道德 Business Ethics	160
風險評估及管理 Risk Assessment & Management	167

06

經濟韌性  
Economic Resilience

亮點2024 2024 Highlights	175
經濟表現 Economic Performance	176
產品責任 Product Responsibility	177
可持續供應鏈 Supply Chain Sustainability	190

附錄  
Appendices

可持續發展績效數據 Sustainability Performance Data	201
報告指標索引 Reporting Index	245
氣候風險釋義 Climate Risk Definition	246

# 關於本報告

## ABOUT THIS REPORT

### ◀ 組織邊界

#### Reporting Organizational Boundary

本報告的組織邊界涵蓋金川集團國際資源有限公司（「金川國際」）旗下經營及控制的所有實體，與財務報告合併報表範圍一致。

The organisational boundary of this report covers all entities operated and controlled by Jinchuan Group International Resources Co. Ltd (JCI), consistent with the scope of the consolidated financial statements.

### ◀ 時間範圍

#### Reporting Time Frame

本報告的報告期為2024年1月1日至2024年12月31日，為令讀者有更全面的了解，其納入若干比較數據。內容包含對過往及未來的適當討論，以使本報告更具可比性及前瞻性。本報告每年度發布一次。

The reporting period of this report is from 1 January 2024 to 31 December 2024. Certain comparative figures are included to provide readers a more comprehensive understanding. Content included discussion about the past and also future, as appropriate, to make this report more comparable and forward-looking. This report is issued annually.



## ◀◆ 編製依據

### Basis of Preparation

本報告乃參考下列主流原則、指南或標準編製：

This report is prepared with reference to the following mainstream principles, guidance, or standards:

- ▶ 香港聯合證券交易所《主板上市規則》附錄C1《企業管治守則》及附錄C2《環境、社會及管治守則》  
Corporate Governance Code (Appendix C1) and Environmental, Social and Governance Reporting Code (Appendix C2) of the Listing Rules published by the Hong Kong Stock Exchange
- ▶ 國際可持續發展準則理事會 (ISSB) 發布之《國際財務報告可持續披露準則第1號——可持續相關財務信息披露一般要求》及《國際財務報告可持續披露準則第2號——氣候相關披露》  
IFRS S1 General Requirements for Disclosure of Sustainability-related Financial Information and IFRS S2 Climate-related Disclosures developed by the International Sustainability Standards Board (ISSB)
- ▶ 全球報告倡議組織 (GRI) 可持續發展報告標準2021版  
Global Reporting Initiative (GRI) Sustainability Reporting Standards 2021
- ▶ 可持續會計準則委員會 (SASB) 金屬與採礦業標準  
Sustainability Accounting Standards Board (SASB) Metals and Mining Industry Standard
- ▶ 聯合國可持續發展目標 (SDGs)  
United Nations Sustainable Development Goals (SDGs)

## ◆ 匯報原則

### Reporting Principles

本報告編製過程遵循香港聯合證券交易所《環境、社會及管治報告守則》刊載的「重要性」、「量化」、「平衡」及「一致性」匯報原則。

This report is prepared in alignment with the reporting principles of "materiality", "quantitative", "balance" and "consistency" as set out in the Environmental, Social and Governance Reporting Code of the Hong Kong Stock Exchange.

- ▶ **重要性：**本公司遵循《環境、社會及管治報告守則》開展重要性評估工作，以識別報告期內對本公司及持份者而言重要的議題，所識別出的重要性議題經本公司董事會檢視后，成為本報告的披露重點。

Materiality: The Company followed the Environmental, Social and Governance Reporting Code to carry out a materiality assessment to identify the issues that were material to the Company and stakeholders during the reporting period, and the identified material issues were reviewed by the Board of Directors of the Company and became the focus of disclosure in this report.

- ▶ **量化：**本公司於本報告中提供了通過計算所得的相關數據及其所使用的標準、方法、假設及計算工具，以盡可能確保信息準確。

Quantitative: The Company has provided in this report the relevant data obtained through calculations and the standards, methods, assumptions and calculation tools used to ensure, as far as possible, the accuracy of the information.

- ▶ **平衡：**本報告內容反映客觀事實，對涉及本公司正面、負面的信息均予以不偏不倚地披露，無不正當修改。

Balance: The contents of this report reflect objective facts and disclose both positive and negative information about the Company in an unbiased manner, without undue modification.

- ▶ **一致性：**如無特殊說明，本報告中披露的數據均根據本公司建立的統一信息收集流程、工作機制進行統計，以保證數據連年可比。

Consistency: Unless otherwise specified, the data disclosed in this report are compiled in accordance with the unified information collection process and working mechanism established by the Company to ensure that the data are comparable from year to year.

## ◆ 數據來源及聲明

### Data Source and Statement

本報告所載數據均源自金川國際的內部統計數據及檔案資料，包括政策、程序、手冊及公開情報。除非另有指明，本報告所有貨幣均以美元列示。

The data in the report is obtained from JCI's internal statistics and documented materials including policies, procedures, handbooks, and information from the public domain. All currencies in this report are expressed in US\$ unless otherwise stated.

## ◆ 報告獲取及語言

### Access to This Report and Language

本報告經由本公司董事會審閱批准。本報告可於香港聯合交易所有限公司（以下簡稱「香港聯交所」）網站及本公司網站查閱及下載。本報告分別以中、英文兩種語言編製，如若兩種版本的內容有分歧，概以英文版為準。

This report has been deliberated and approved by the Board of Directors of the Company. This report is available for viewing and downloading on the website of The Stock Exchange of Hong Kong Limited (the "Hong Kong Stock Exchange") and the Company's website. The report has been prepared in both Chinese and English versions. In case of any discrepancy between the two versions, the English version shall prevail.



# 01

## 概覽

### Overview



# 董事會主席致辭

## A MESSAGE FROM OUR CHAIRMAN OF THE BOARD



**程永紅 CHENG Yonghong**

董事會主席 *Chairman of the Board*

尊敬的持份者：

Dear stakeholders,

非常榮幸與各位讀者一同回顧本年度的環境、社會及管治報告。在全球局勢複雜多變的背景下，國際關係、地緣政治以及市場波動等諸多因素都帶來了嚴峻挑戰。在此之際，金川國際始終秉持可持續發展理念，在保障產量穩定及業務持續增長的基礎上，堅持務實進取，切實推動永續發展，致力於為各位持份者創造長遠價值。

It is my great honour to present this year's Environmental, Social, and Governance (ESG) Report and reflect on our shared journey. Against the backdrop of a complex and ever-changing global landscape—marked by geopolitical tensions, market volatility, and other uncertainties—we face significant challenges. At this juncture, JCI remains steadfast in our commitment to sustainable development. By ensuring stable production output and sustained business growth, we pursue pragmatic progress, actively advancing long-term sustainability and striving to deliver enduring value for all stakeholders.

## ◆ 守護地球

### Caring for Our Planet

我們深明人類福祉與地球環境息息相關。本公司現已開始籌劃於2025年成立「氣候變化應對工作小組」，系統推進氣候變化相關管理工作，透過「風險識別-風險評估-風險應對-監督與改進」之流程，識別、評估及管理氣候風險與機遇，有序規劃並穩步開展氣候行動。本年度，我們首次披露範圍三碳排放的具體情況，以更全面地評估公司整體碳足跡，為制定更精準的減排策略提供數據支持。在環境管治方面，我們實施全生命周期環境影響評估，嚴格監督礦場營運中的水資源管理、固體廢棄物處理及廢氣排放控制，同時採取有效措施防止採礦活動對生物多樣性及土地資源造成負面影響，確保負責任營運。未來，我們將持續踐行綠色發展理念，透過創新技術與環保行動，穩步推動氣候及環境目標的實現。

We recognise the profound interconnection between human well-being and the health of our planet. To address this imperative, we have commenced planning for the establishment of a "Working Group on Climate Change" to systematically advance climate-related management in 2025. Through a structured process of "Risk Identification - Risk Assessment - Risk Mitigation - Monitoring & Improvement", we identify, evaluate, and manage climate risks and opportunities, ensuring methodical planning and steady implementation of climate actions. This year, we disclose Scope 3 emissions data for the first time, enabling a more comprehensive assessment of our corporate carbon footprint and providing critical data support for refining our decarbonization strategies. On environmental governance, we implement full lifecycle environmental impact assessments, rigorously overseeing water resource management, solid waste disposal, and emissions control in mining operations. Additionally, we take proactive measures to minimize biodiversity disruption and land degradation caused by mining activities, ensuring responsible operations. Moving forward, we will continue to uphold green development principles, leveraging innovative technologies and eco-friendly initiatives to steadily advance our climate and environmental targets.

## ◆ 責任擔當

### Commitment to Responsibility

我們恪守職業健康與安全承諾，持續優化安全管理體系，致力為礦區僱員提供符合國際標準之安全工作環境，確保僱員、承建商、來訪者、社區及任何其他會受到礦場營運影響人士的健康安全得到全面保障。我們制定適用於所有採礦業務的《集團零傷害政策》，透過Metorex SHEC委員會及全體礦場安全管理團隊雙重架構，配合定期安全培訓宣貫及健康檢查，實現過去連續3年內全體營運礦場死亡事故數目、每百萬工時死亡頻率均保持為零的傑出紀錄。

We uphold our commitment to occupational health and safety by continuously enhancing our safety management systems, striving to provide a safe working environment that meets international standards for employees in mining areas. We ensure comprehensive protection for the health and safety of employees, contractors, visitors, communities, and any other individuals who may be affected by mining operations. To achieve this, we establish the Group Zero Harm Policy, applicable to all mining operations. Through the dual governance structure of the Metorex SHEC Committee and on-site safety management teams—supported by regular safety training and health check-ups—we maintain an outstanding record of zero fatalities across all operational mines for three consecutive years, with a zero fatality frequency rate per million hours worked.

## ◆ 以人為本

### People-Centric Approach

我們深知，企業的營運活動不僅對我們的僱員產生影響，亦觸及到供應鏈及業務所在社區的居民的人權。我們現已制定《集團道德規範及人權制度》並發布《人權制度聲明》，彰顯金川國際對基本人權尊重之堅定信念，堅決反對任何形式之童工及強迫勞動，杜絕歧視與騷擾，並保障全體僱員自由結社及集體談判的權利。本年度，我們詳細披露「手工及小規模開採礦」及「安保人權管理」相關內容，呈現各礦場之人權保護舉措，以竭力實現礦區及毗鄰社區的和諧與穩定。同時，我們高度重視社區之繁榮發展，積極支持當地基礎設施建設及社區居民生活技能提升。2024年，Ruashi礦場榮獲地方政府頒發的社區管理與發展相關之最佳實踐獎，彰顯企業力量之貢獻。

We recognise that our operations impact not only our employees but also the rights of individuals across our supply chains and host communities. To uphold our commitment, we establish the Group Code of Ethics and Human Rights Policy and publish a Human Rights Policy Statement, reaffirming JCI's steadfast dedication to fundamental human rights principles. We strictly prohibit child labor, forced labor, prohibit discrimination and harassment, and safeguard employees' rights to freedom of association and collective bargaining. This year, we enhance transparency by disclosing detailed measures related to Artisanal and Small-Scale Mining (ASM) and Security-Related Human Rights Management, demonstrating our mine-specific initiatives to foster harmony and stability in mining areas and adjacent communities. Concurrently, we prioritize community prosperity through active support for local infrastructure development and livelihood skill-building programs. In 2024, Ruashi Mine was honoured with a Best Practice Award in community management and development by local authorities, underscoring our tangible contributions.

## ◆ 行穩致遠

### Steadfast Progress Toward Sustainability

我們秉持最高企業管治準則，透過打造獨立、多元、專業的董事會架構，保障決策的高效與透明。同時，公司旗下全體礦場均制定了專門的反腐敗及反賄賂規定，實現反腐敗風險評估全面覆蓋，確保堅守誠信經營的根本原則。此舉實為持份者創造恆久共享價值，共建公平透明之商業生態。此外，我們視可持續業務經營模式為企業發展的核心準則，持續精進產品質量與安全，以赤誠之心回應客戶反饋及訴求。我們將「負責任供應鏈」列為本年度重點議題，透過全流程的供應鏈管理，著力打造可持續的供應鏈體系，務求所有採購皆可追本溯源，以全面踐行我們的負責任商業承諾。

We adhere to the highest standards of corporate governance, ensuring efficient and transparent decision-making through an independent, diverse, and professionally competent Board of Directors. All our mining operations implement comprehensive anti-corruption and anti-bribery policies, with full coverage of corruption risk assessments to uphold the fundamental principle of ethical business conduct. This commitment fosters long-term shared value for stakeholders and contributes to a fair and transparent business ecosystem. Furthermore, we regard sustainable business models as a cornerstone of corporate development. We continuously enhance product quality and safety while actively addressing customer feedback with integrity. This year, we prioritise responsible supply chain management, implementing end-to-end oversight to build a sustainable procurement system. By ensuring full traceability of sourced materials, we reinforce our dedication to responsible business practices.

展望未來，金川國際將緊扣聯合國可持續發展目標，持續深化ESG戰略布局。我們必當恪守「技術領先、環境友好、社會共融」三大原則，與持份者攜手開創多贏局面，矢志成為國際礦業可持續發展之典範。我們冀望透過業務拓展與生態保育之平衡，為股東締造長遠回報，為同業確立標竿，為建設更加美好的地球家園貢獻金川智慧。

Looking Ahead, JCI will remain firmly aligned with the United Nations Sustainable Development Goals (SDGs), further deepening our ESG strategic framework. Guided by our three core principles—technological leadership, environmental stewardship, and social inclusion—we will collaborate with stakeholders to create shared value, striving to become a global exemplar of sustainable mining practices. Moving forward, we are committed to striking a responsible balance between business growth and ecological conservation—delivering long-term value to shareholders, setting industry benchmarks, and contributing Jinchuan's expertise toward building a more sustainable future for our planet.

最後，本人謹向全體僱員之辛勤付出、其他董事之卓越領導、各位股東及持份者之鼎力支持，致以由衷謝忱。

Last but not least, I would like to express my sincere gratitude to all employees for their hard work, to the other Directors for their excellent leadership, and to our shareholders and stakeholders for their steadfast support.

**程永紅 CHENG Yonghong**

董事會主席 *Chairman of the Board*

30 April 2025

# 關於金川國際

## ABOUT JCI

### 關於我們 About Us

金川國際於香港聯交所上市，其最終控股公司為金川集團股份有限公司（「金川集團」），為發展國際採礦和礦產資源業務的旗艦平台。金川國際的未來立足於明確定義的公司戰略，賦能本公司躋身國際採礦業的龍頭企業行列。

#### ◀ 我們的願景

##### Our Vision

我們的願景是矢志成為一家舉足輕重的頂級國際有色金屬礦業公司，專注於銅、鈷、鎳和其他有色金屬的開採和貿易。

#### ◀ 我們的戰略

##### Our Strategy

我們的戰略是利用金川和香港資本市場的品牌效應、專業知識、經驗和財務資源，在全球投資和營運可持續、高質量、具有成本競爭力的礦山。重點圍繞金川鎳、銅、鈷傳統核心業務領域，在資源優勢和投資環境優越的地區開展併購合作。

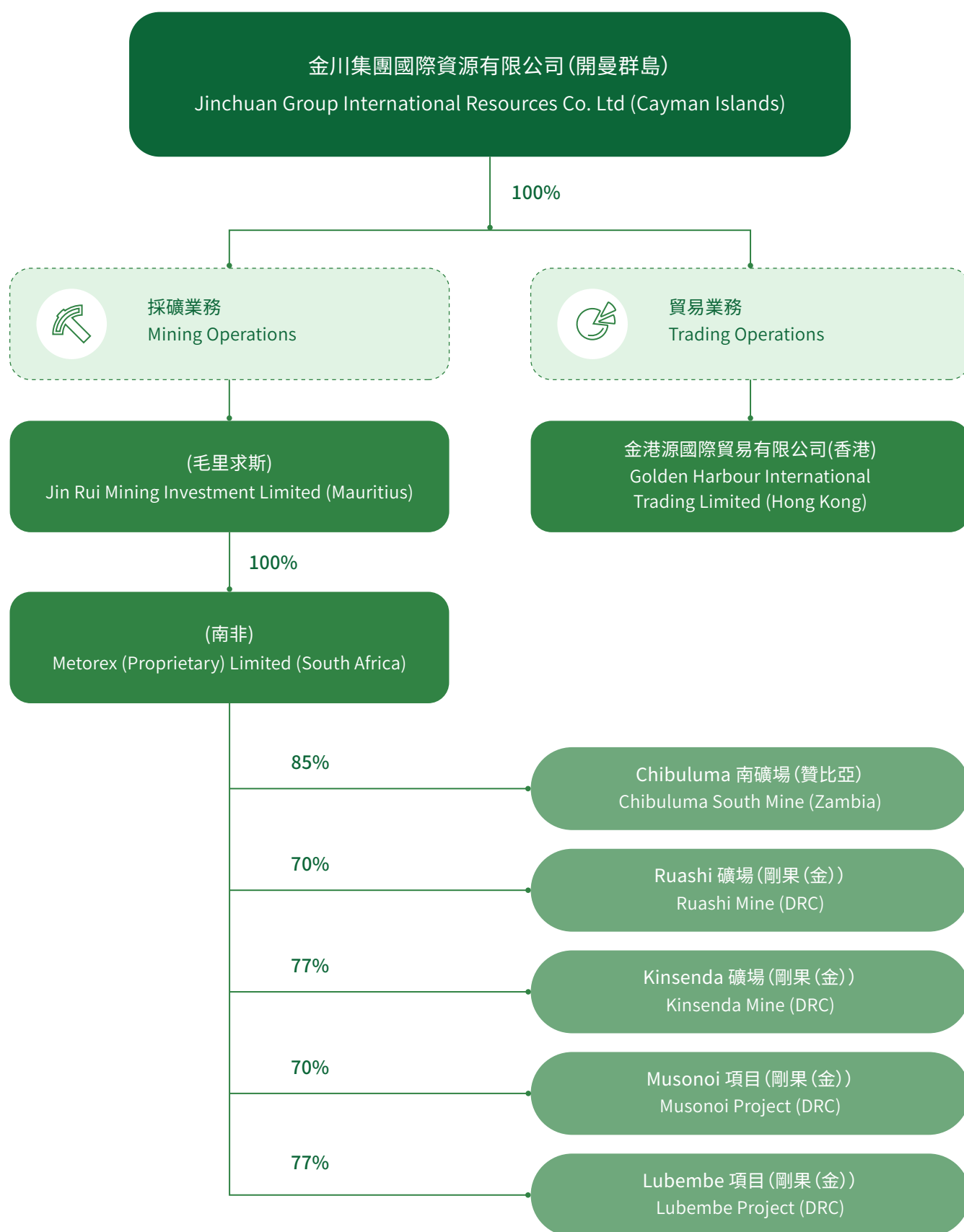
基於這一戰略，我們持續優化現有採礦和礦產業務，建設我們目前著力開發的新礦山，並通過併購探索增長機會。此外，我們將維持最高標準的健康、安全、環境保護及社區關係，並為我們的持份者、股東及僱員的長遠利益管理本公司。

JCI is listed on the Hong Kong Stock Exchange and its ultimate holding company is Jinchuan Group Co., Ltd. (JCG), serving as a flagship for the development of international mining and mineral resources operations. JCI's future is based upon a clearly defined corporate strategy which will enable the Company to become a leading company in the international mining industry.

Our vision is to become a major top-tier international non-ferrous metal mining company which focus in the mining and trading of copper, cobalt, nickel, and other non-ferrous metals.

Our strategy is to leverage the brand, expertise, experience, and financial resources of JCG and the Hong Kong capital market to invest in and operate sustainable, high-quality, cost-competitive mines around the world. Focusing mainly on JCG's traditional core business areas of nickel, copper, and cobalt, we will pursue acquisitions and cooperation in regions with attractive resources and favorable investment environments.

Consistent with this strategy, we are optimizing our existing mining and mineral operations, building new mines that we are currently developing, and examining growth opportunities through mergers and acquisitions. In addition, we will maintain the highest standards of health, safety, environmental protection, and community relations, and manage the Company for the long-term benefit of our stakeholders, shareholders and employees.



## 我們的業務 Our Business

### ◆ 概覽

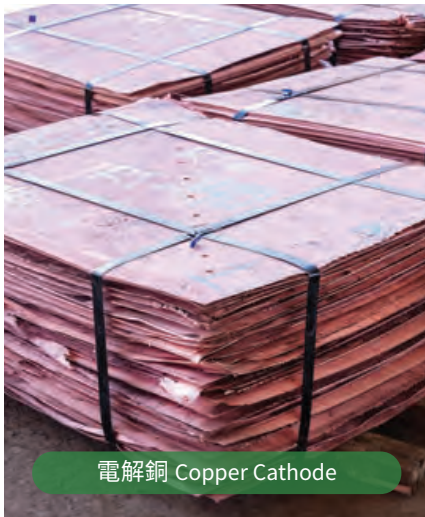
#### Overview

我們的業務包括兩大業務板塊，即銅鈷礦開採及冶煉，以及礦產品及金屬產品貿易。就我們的業務地點而言，採礦業務位於剛果（金）和贊比亞，而貿易分部則駐於中國香港，積極自剛果（金）採購礦產品和金屬產品。

我們於非洲的採礦業務面向長期合約客戶，銷售電解銅、銅精礦和氫氧化鈷。貿易業務主要自剛果（金）採購礦產品和金屬產品，並將產品銷往主要位於中國香港及中國內地的第三方客戶。

Our operations consist of two business segments, namely the mining and processing of copper and cobalt, and the trading of mineral and metal products. In terms of the location of our operations, our mining operations are based in the DRC and Zambia while our trading segment is based in Hong Kong and is active purchasing mineral and metal products from the DRC.

Our mining operations in Africa sell copper cathode, copper concentrate and cobalt hydroxide to customers under long-term contracts, while our trading operations source mineral and metal products mainly from the DRC and sell the products to third-party customers mainly based in Hong Kong SAR (China) and the Chinese Mainland.



電解銅 Copper Cathode



氫氧化鈷 Cobalt Hydroxide



銅精礦 Copper Concentrate

採礦業務產品  
Mining Operations' Products

## ◆ 採礦業務

### Mining Operations

金川國際於中非銅礦帶擁有兩座營運中的礦山，分別是位於剛果（金）上加丹加省的Ruashi銅鈷礦和Kinsenda銅礦。金川國際在剛果（金）盧阿拉巴省擁有一個在建項目Musonoi項目和一個在剛果（金）上加丹加省的勘探項目Lubembe項目<sup>1</sup>，為本公司未來的持續發展提供值得信賴的資源保障。金川國際亦為贊比亞Chibuluma南礦場的所有者，該礦場按融資租賃協議的方式運轉。

JCI operates two mines in the Central African Copperbelt: the Ruashi copper-cobalt mine and the Kinsenda copper mine, both located in Haut-Katanga Province, the DRC. The Company also holds the Musonoi Project, an under-construction asset in Lualaba Province, and the Lubembe exploration project in Haut-Katanga Province. These projects secure a sustainable resource pipeline for JCI's future growth. JCI is also the owner of Chibuluma South Mine in Zambia which is operating under a finance lease agreement.

礦場或項目 Mines or Projects	產品 Products	儲量與資源量 <sup>#</sup> Reserves and Resources <sup>#</sup>
Ruashi礦場 (在產) Ruashi Mine (Operating)	電解銅、氫氧化鈷及硫化銅精礦 Copper cathode, cobalt hydroxide, and copper sulphide concentrate	資源量：515千噸銅，75千噸鈷 儲量：284千噸銅，37千噸鈷 Resources: 515 kilotonnes of copper, 75 kilotonnes of cobalt Reserves: 284 kilotonnes of copper, 37 kilotonnes of cobalt
Kinsenda礦場 (在產) Kinsenda Mine (Operating)	銅精礦 Copper concentrate	資源量：905千噸銅 儲量：168千噸銅 Resources: 905 kilotonnes of copper Reserves: 168 kilotonnes of copper
Musonoi項目 (後期開發階段) Musonoi Project (Advanced developing stage)	電解銅，氫氧化鈷及銅鈷精礦 Copper cathode, cobalt hydroxide, and copper-cobalt concentrate	資源量：1,083千噸銅，363千噸鈷 儲量：601千噸銅，172千噸鈷 Resources: 1,083 kilotonnes of copper, 363 kilotonnes of cobalt Reserves: 601 kilotonnes of copper, 172 kilotonnes of cobalt
Lubembe項目 (勘探中) Lubembe Project (Under exploration)	/	資源量：1,909千噸銅 Resources: 1,909 kilotonnes of copper
Chibuluma南礦場 (於融資租賃協議下出租) Chibuluma South Mine (Leased out under finance lease agreement)	/	資源量：41千噸銅 Resources: 41 kilotonnes of copper

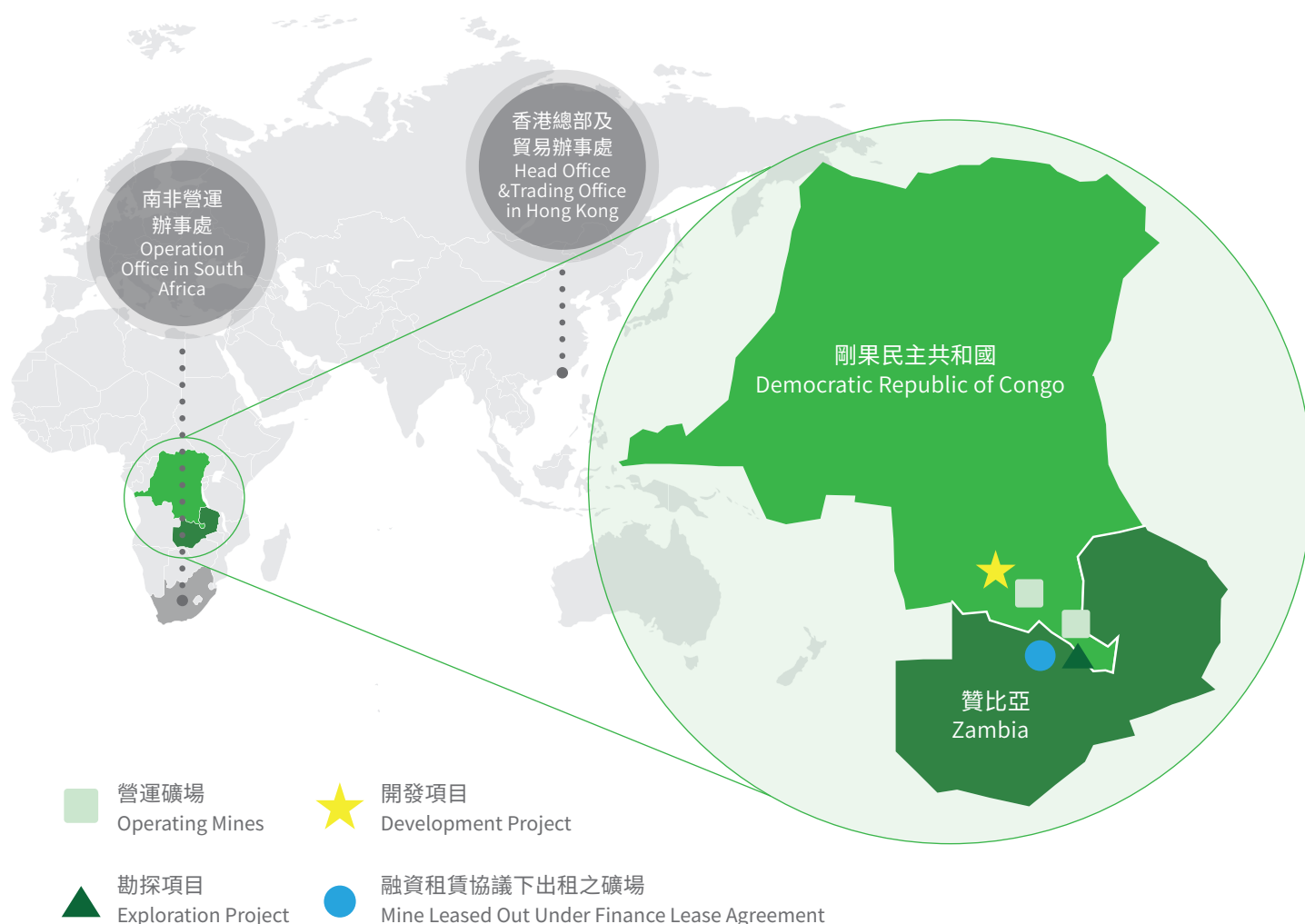
<sup>#</sup> 於二零二四年十二月三十一日之數字 Figures as of 31 December 2024

1. 由於Lubembe項目仍處於勘探階段，因此尚未建立ESG管理機制或統計ESG績效表現。

Since the Lubembe project is still in the exploration stage, it has not yet established an ESG management mechanism or collected ESG data.

▼ 採礦業務地理位置

Geographic Locations of Mining Business



◆ 礦產品與金屬產品貿易

Trading of Mineral & Metal Products

作為採礦和礦產領域業務擴張策略的一環，金川國際亦從事電解銅和氫氧化鈷等礦產品及金屬產品的國際貿易。

依託於剛果（金）及中國布局的業務網，我們努力延伸在國際金屬及採礦市場的可及性和業務版圖。我們期望日後持續擴大我們的業務量，並在條件允許的情況下達致新產品和市場多元化。

As part of our strategy to expand our business in the mining and minerals sector, JCI also engages in international trading of selected mineral and metal products such as copper cathode and cobalt hydroxide.

Leveraging our established business networks in the DRC and China, we are actively expanding our reach and operations in global metals and mining markets. We aim to continuously grow our business volume while pursuing diversification into new products and markets when conditions permit.

## ◆ 業務發展

### Business Development

金川國際持續探索全球礦產資源項目投資機遇，竭力發展壯大成為一流的國際礦業公司。

於開發我們在非洲的現有銅鈷礦時，我們希望藉助母公司金川集團在技術、資金、資源和全球營運網絡等方面的優勢。在優化現有營運和建設項目效率的同時，我們嚴格遵循本公司技術先進、環境保護和社會和諧的核心原則，旨在為內外部持份者創造福祉。

JCI continuously explores global investment opportunities in mineral resources projects and strives to develop and grow into a first-tier international mining company.

In developing our existing copper and cobalt mines in Africa, we hope to leverage the strengths of our parent company, JCG, in terms of technology, capital, resources, and global operating network. While optimizing the efficiency of our existing operations and construction projects, we strictly follow the company's core principles of advanced technology, environmental protection and social harmony for the benefit of our stakeholders.

## ◆ 會員資格及協會

### Memberships and Associations

成員及行業協會的參與，可助力我們及時跟進公共政策、新業態及可持續發展趨勢、監管變化、持份者的關切以及行業最佳實踐的分享。截至報告期末，我們已加入剛果（金）企業聯合會、礦業協會、中資礦業企業協會等多個協會。

Involvement in member and industry associations keeps us abreast of public policy, new industry and sustainability trends, regulatory changes, stakeholder concerns, and the sharing of industry best practices. As of the end of the reporting period, we have participated in several associations, such as the Federation of Enterprises in the DRC, the Chamber of Mines, and the Association of Chinese-Funded Mining Enterprises, etc.

## 我們的榮譽 Our Honour

報告期內，我們獲得多家機構及媒體的認可及好評，並獲得多項榮譽獎項。

During the reporting period, we were recognised and commended by multiple institutions and medias, and won multiple awards.



金格獎·年度投資價值獎(中小市值)  
Golden Award · Annual Investment Value Award

格隆匯  
Gelonghui



最佳ESG公司獎  
Best ESG Company Award

智通財經  
Zhitong Finance



潛力新星企業獎  
Rising Star Enterprise Award

港股100強研究中心  
Top100HKLCRC



金格獎·ESG信息披露卓越企業  
Golden Award · ESG Disclosure Excellence Enterprise

格隆匯  
Gelonghui



最佳ESG獎  
Best ESG Award

最佳資本市場溝通獎  
Best Capital Market Communication Award

路演中  
Roadshow China



# 我們的可持續發展戰略

## OUR SUSTAINABILITY STRATEGY

---

金川國際深知，企業之永續發展離不開前瞻性戰略的引領與踐行。我們積極響應聯合國全球契約（UNGC）的號召，將可持續發展理念深植於企業基因之中，確立了以環境、社會及管治為核心的戰略框架。我們將持續以全球視野及責任擔當，推動企業與環境、社會的共生共榮，為全球可持續發展貢獻智慧及力量。

JCI understands that the sustainable development of an enterprise hinges on the guidance and implementation of forward-thinking strategies. In active response to the United Nations Global Compact (UNGC), we have embedded sustainability into our corporate DNA, establishing a strategic framework centred on environmental, social, and governance principles. With a global perspective and a strong sense of responsibility, we remain committed to fostering mutual prosperity between our business, the environment, and society—contributing wisdom and strength to global sustainable development.

### 可持續發展戰略 Sustainability Strategy

我們致力於以可持續方式經營業務，最大限度地提高礦產活動的社會、環境及經濟效益，並盡量減輕對環境的影響，同時與社區攜手建立起持份者信任。透過歷年ESG工作，我們完成了可持續發展重點領域內的多項策略評估，包括職業健康與安全、人權保障、環境管理，以及應對氣候變化等。由此，我們承諾在這些重點領域訂立雄心勃勃的可持續發展目標，力圖將可持續發展理念全面、有系統地納入企業策略的各個層面，最終形成多層次、一體化的可持續發展戰略體系。

Our approach to sustainable development is applied across all of our operations. We are committed to conducting our operations sustainably, optimizing the social, environmental and economic benefits of mining activities while minimizing ecological impact, and building stakeholder trust through community collaboration. Through our ESG work over the years, we have completed multiple strategic assessments in sustainability focus areas, including occupational health and safety, protection of human rights, environmental management, and climate change. As a result, we are committed to setting ambitious sustainability targets in these focus areas and aiming to integrate sustainability concepts holistically and systematically into all aspects of our corporate strategy, leading to a multi-layered and integrated sustainability strategy.

### 守護自然，綠色低碳 Protect Nature, Embrace Green and Low-Carbon

最小化對環境的影響，  
塑造更持續的生態。  
Minimise environmen-  
tal impact and build a  
more sustainable  
ecosystem.



### 支持社區，攜手夥伴 Support Communi- ties and Collaborate with Partners

基於高度社會責任感建  
構與屬地社群的關係，  
促進夥伴互利共贏。  
Foster relationships with  
local communities  
based on a strong sense  
of social responsibility  
and promote mutual  
benefits.



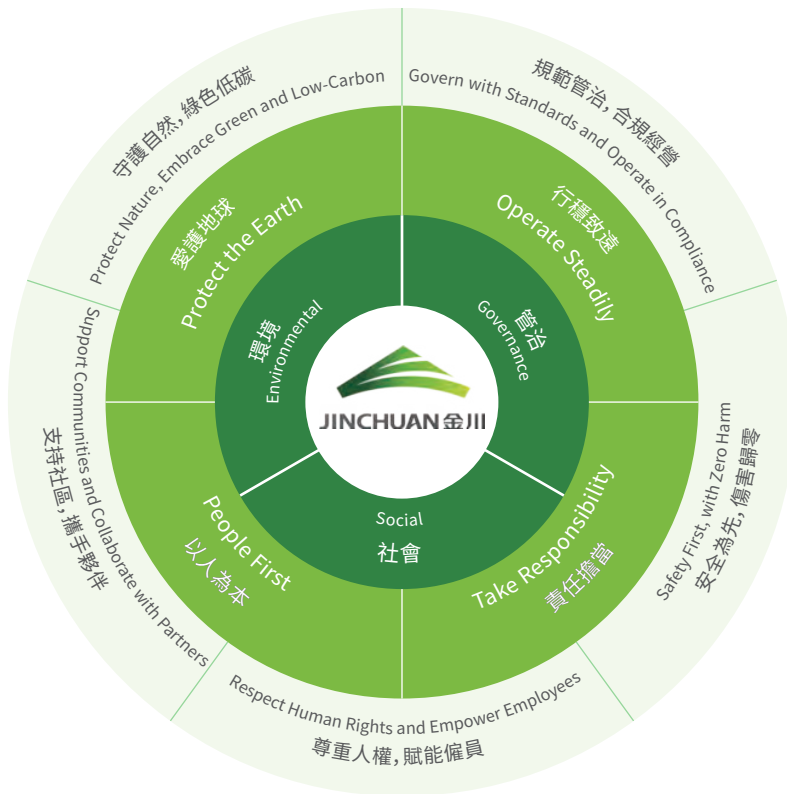
### 規範管治，合規經營 Govern with Standards and Operate in Compliance

堅持依法治企，推動誠  
信合規建設以持續優化  
企業管治。  
Adhere to the rule of  
law and promote  
integrity and  
compliance to  
improve corporate  
governance.



### 安全為先，傷害歸零 Safety First, with Zero Harm

以安全為發展要義，全  
力實現「零傷害」目標。  
Strive to achieve the  
goal of zero harm  
with safety as the key  
to development.



### 尊重人權，賦能僱員 Respect Human Rights and Empower Employees

創造多元、平等、包容且有活力的工作場所。  
Foster diversity, equity, inclusion and dynamism in the workplace.



可持續發展戰略及目標  
Sustainability Strategy and Targets

## 可持續發展目標重點 SDGs Focus

2015年，聯合國制定17項可持續發展目標，旨在於2030年前實現該等目標。各公司均應知悉其於實現可持續發展目標方面的責任，以意識到本身的優先事項及優勢所在為啟程的第一步。我們的可持續發展理念可適用於我們所有的營運，且我們的願景及使命與聯合國全球契約（UNGC）的原則及可持續發展目標契合。隨著我們不斷推動將可持續發展目標融入業務策略、營運及企業文化，我們已優先考慮與重要性議題最相關的可持續發展目標，並將進一步就可持續發展目標作貼切籌劃。

In 2015, the United Nations created 17 Sustainable Development Goals (SDGs) and aimed to achieve them by 2030. Each company should be clear about its role in achieving the SDGs, starting with an awareness of where its priorities and strengths lie. Our approach to sustainable development is applied across all of our operations. Our vision and mission are in line with the United Nations Global Compact (UNGC) Principles and SDGs. As we continue to advance our efforts to integrate the SDGs into our business strategy, operations, and enterprise culture, we have prioritised the SDGs that are most relevant to our material topics and will conduct more pertinent mapping of the SDGs.

本年度，我們依據重要性議題分析結果，並衡量本公司之可持續發展戰略及目標，聚焦6項SDGs，將其作為實現可持續發展目標的重點方向。

This year, based on the analysis of our material topics and the Company's sustainable development strategy and objectives, we have focused on six SDGs and taken them as key priorities for achieving our sustainable development goals.



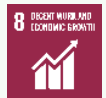
在業務營運中，我們始終將全體作業人員及毗鄰社區的安全與健康視為己任，致力減少環境污染，防範傳染病傳播，並努力將健康理念推廣至更多持份者。

In all business operations, we are steadfastly committed to protecting the health and safety of both our workforce and neighbouring communities. We actively minimise environmental pollution, mitigate infectious disease transmission risks, and promote health awareness among stakeholders.



我們高度重視水資源的合規管理及減耗減排，竭力避免水資源短缺、污染或生態破壞，強化水資源循環再利用，以全面履行對水體環境及周邊社區的責任。

We prioritise compliant water stewardship and consumption reduction, mitigating risks of scarcity, pollution and ecological harm. Through advanced water recycling and reuse initiatives, we uphold our environmental and social obligations to local communities.



通過業務發展及履行財務責任，我們積極推動營運地區經濟增長，並為全體僱員提供充分且生產性就業，保護勞工合法權利，積極營造有保障的工作環境。

Through responsible business expansion and fiscal stewardship, we drive sustainable economic development in our operating regions. We ensure equitable access to productive employment opportunities for all workforce members while safeguarding labour rights and maintaining secure working conditions.



一貫以來，我們致力於自然資源的合理管理及高效利用，通過多種措施減少廢物排放，並推動生產技術的不斷創新，以促進更可持續的生產模式。

We remain steadfast in our commitment to the responsible management and efficient utilisation of natural resources. By implementing targeted initiatives, we actively minimise waste output whilst fostering technological innovation to develop more sustainable production methodologies.



氣候變化對企業生產經營的各環節產生廣泛的影響，為此我們持續支持全球氣候行動，藉由系統性思維推進應對氣候變化工作，以適應並減緩其對業務的影響。

Climate change significantly impacts all dimensions of our business. We therefore actively advance global climate initiatives, both to mitigate operational risks and strengthen our adaptive capacity.



作為全球企業公民，我們於各種交流平台與供應鏈及其他合作夥伴共商行業之關鍵議題，在營運中強化全球夥伴關係，攜手共促可持續發展願景。

As a global corporate citizen, we engage with supply chain partners and other stakeholders on key industry topics through multiple platforms, strengthening operational collaborations and jointly advancing sustainable development.

# 重要性及持份者參與

## MATERIALITY & STAKEHOLDER ENGAGEMENT

金川國際始終高度重視持份者之關切及訴求。我們深明，重要性評估有助於我們確定對企業具有實質性影響以及與主要持份者的利益密切相關的範疇，持份者參與及溝通則有助於推動多元化風險管理及業務價值創造，為我們的可持續發展奠定堅實基礎。

JCI has always taken the concerns and requests of its stakeholders very seriously. We recognise that materiality assessments may help us identify areas that have a particular impact on JCI and that are of interest to our key stakeholders. Stakeholders' engagement and communication are favorable for promoting diverse risk management and business value creation and laying a solid foundation for our sustainability.

### 可持續發展議題的重要性評估

#### Materiality Assessment of Sustainability Topics

隨著企業發展及外部環境變化，金川國際通過系統嚴謹的評估，審慎識別本公司在營運活動及業務關係中所涉及各項議題的重要性程度，並將其納入企業風險管理(ERM)流程，從而為戰略決策提供科學依據，確保本公司有效應對內外部挑戰。

With its own development and changes in the external environment, JCI has conducted a systematic and rigorous assessment to identify the materiality of various topics related to its operations and business relationships. These topics have been incorporated into the Enterprise Risk Management (ERM) process, thereby providing a scientific basis for strategic decisions and ensuring that the Company can effectively address both internal and external challenges.

報告期內，我們根據香港聯交所《環境、社會及管治報告守則》以及全球報告倡議組織《GRI標準 2021》，遵循雙重重要性評估原則，從財務重要性（議題對公司財務影響的重要程度）、影響重要性（公司對環境、社會及經濟影響的重要程度）兩個維度對議題進行重要性評估。在獨立外部ESG專家的協助下，我們針對內外部持份者（包括我們的僱員、客戶、供應商、承建商、行業協會、毗鄰社區等）開展了專項研究。本次調研採用在線匿名問卷形式，共回收有效問卷116份。為保障本報告的連續性及可讀性，我們同時參考了往年報告中各議題的重要性情況，並結合本公司高管之建議，最終確定了20項可持續發展的重要議題，包括高重要性議題5項（即雙重重要性議題）、中重要性議題14項、低重要性議題1項，以此確立本報告核心披露內容，且經董事會審核通過。

During the reporting period, we conducted materiality assessments of issues based on the principles of double materiality, in accordance with the Environmental, Social, and Governance Reporting Code of the Hong Kong Stock Exchange and the GRI Standards 2021 of the Global Reporting Initiative. These assessments were carried out from two dimensions: financial materiality (the significance of the issue's impact on the Company's finances) and impact materiality (the significance of the Company's impact on the environment, society, and the economy). We conducted dedicated research for internal and external stakeholders (including our employees, customers, suppliers, contractors, industry associations, and neighbouring communities, etc.) with the assistance of an independent external ESG expert. The research was conducted in the form of online anonymous questionnaires, and a total of 116 valid questionnaires were collected. To ensure the continuity and readability of the report, we have also referred to the materiality of the topics in previous years' reports. Considering recommendations from the Company's senior management, we have ultimately identified 20 key sustainability topics, including 5 high-materiality topics (double-materiality topics), 14 medium-materiality topics, and 1 low-materiality topic. Based on these topics, we determined the core disclosure content of the report, which has been reviewed and approved by the Board of Directors.

## ▼ 重要性議題識別流程

## Material Topics Identification Process

1

重要性議題  
識別分析Identification and Analysis  
of Material Topics

結合外部ESG專家專業知識、交易所要求(包括香港聯交所)、可持續發展框架(包括GRI及SASB)、評級機構建議、國內外可持續發展政策及倡議、同業優秀表現、金川國際業務領域及持份者關注點,確認本年度重要性議題庫中的20項議題。

A comprehensive list of 20 material topics has been identified by consolidating insights from external ESG specialists, regulatory requirements (including HKEX), sustainability frameworks and standards (such as GRI and SASB), recommendations from rating agencies, domestic and international sustainability policies and initiatives, peer benchmarking, JCI's business sectors, and stakeholder concerns.



2

持份者溝通  
及參與Stakeholders Communi-  
cation and Engagement

通過在線問卷調查形式觸達企業持份者群體評估議題影響重要性,邀請企業管理層評估議題財務重要性,以了解其對主要議題之看法及訴求。本次調查收集有效問卷116份,涵蓋10類持份者群體,答卷者覆蓋全球4大洲、7個國家和地區。

Through an online questionnaire, we evaluate the materiality of key topics from the perspectives of the Company's stakeholders. Additionally, the Company's management is invited to assess the financial materiality of these topics, providing insights into their views and priorities. In total, 116 valid responses were collected, representing 10 stakeholder groups across 7 countries and regions spanning 4 continents.



3

重要性議題  
矩陣確認ESG Materiality Matrix  
Confirmation

根據調研結果,通過「財務重要性(議題對公司財務影響的重要程度)」及「對持份者的重要性(影響重要性)」兩個維度對20項議題進行優先級排序及重要性議題矩陣繪製,識別出5項具有高重要性的雙重重要性議題。

Based on the survey findings, the 20 topics are prioritised and mapped on a materiality matrix across two dimensions: financial materiality (relevance to the Company's financial performance) and stakeholder impact (impact materiality). This analysis identifies 5 high-priority topics demonstrating double materiality.



4

董事會及  
高層審閱Board of Directors and  
Senior Management Review

公司管理層及董事會結合企業發展戰略等因素,對重要性分析結果進行了審閱,並由此最終確定了本年度報告的披露範圍和重點內容,指導了未來可持續發展戰略目標及實施計劃。

In light of the Company's development strategy and other relevant factors, the management team and Board of Directors review the materiality analysis findings to determine this year's reporting scope and key content, while providing strategic direction for sustainability goals and initiatives.



本年度，我們的重要性議題與上一年保持一致，而在重要性程度方面發生了些許變化。從本年度重要性議題分析結果來看，我們依舊重視「產品責任」「僱員安全與健康」「僱傭與勞工管理」等社會議題；同時我們亦深入關注環境利益，包括將「環境管理」由中重要性議題轉為高重要性議題，「生物多樣性與土地利用」由低重要性議題轉為中重要性議題。值得一提的是，隨著持份者對「負責任供應鏈」之關注度上升，我們亦深切意識供應鏈體系對企業可持續發展之重要性，「負責任供應鏈」因而成為2024年高重要性議題。

This year, our material topics remain consistent with those of the previous year, but there have been some changes in their level of materiality. Based on this year's materiality analysis, we continue to prioritise social issues such as "Product Responsibility", "Employee Safety and Health", and "Employment and Labour Management". At the same time, we have also attached great importance to environmental interests, including elevating "Environmental Management" from a medium-materiality topic to a high-materiality one, and upgrading "Biodiversity and Land Use" from a low-materiality topic to a medium-materiality one. Notably, as stakeholders are more concerned about "Responsible Supply Chain", we have become well aware of the importance of the supply chain system to the Company's sustainable development. Therefore, "Responsible Supply Chain" has been identified as a high-materiality topic in 2024.

#### 高重要性議題 High-Materiality Topics

- 01 產品責任 Product Responsibility
- 02 負責任供應鏈 Responsible Supply Chain
- 03 僱員安全與健康 Employee Safety and Health
- 04 僱傭與勞工管理 Employment and Labour Management
- 05 環境管理 Environmental Management

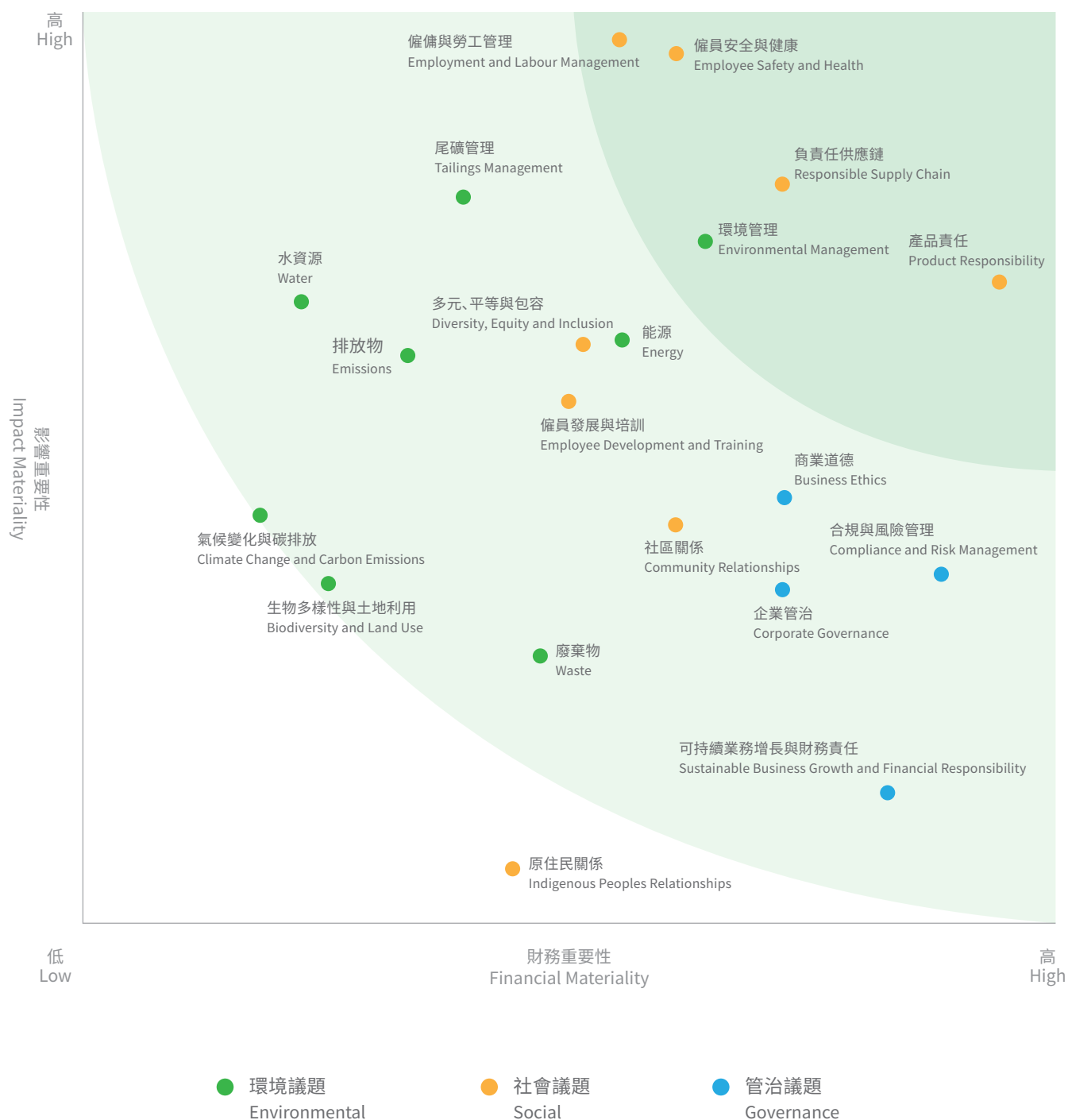
#### 低重要性議題 Low-Materiality Topics

- 20 原住民關係 Indigenous Peoples Relationships

#### 中重要性議題 Medium-Materiality Topics

- 06 合規與風險管理 Compliance and Risk Management
- 07 商業道德 Business Ethics
- 08 能源 Energy
- 09 企業管治 Corporate Governance
- 10 可持續業務增長與財務責任  
Sustainable Business Growth and Financial Responsibility
- 11 多元、平等與包容 Diversity, Equity and Inclusion
- 12 社區關係 Community Relationships
- 13 尾礦管理 Tailings Management
- 14 僱員發展與培訓 Employee Development and Training
- 15 排放物 Emissions
- 16 廢棄物 Waste
- 17 水資源 Water
- 18 生物多樣性與土地利用 Biodiversity and Land Use
- 19 氣候變化與碳排放 Climate Change and Carbon Emissions

▼ 金川國際2024年重要性議題矩陣  
ESG Materiality Matrix 2024



## 持份者參與 Stakeholder Engagement

長久以來，我們高度關注持份者的期望及訴求，深明持份者聲音對我們改善企業管治及營運的重要性。回顧年內，我們不斷完善持份者參與及溝通機制，積極傾聽各持份者對公司可持續發展的相關意見，在提高信息披露質量及透明度的同時，及時回應持份者的各類期望及訴求。

We have long been paying great attention to stakeholders' expectations and demands and to deeply understand the importance of stakeholders' voices for us to strengthen corporate governance and operation. In retrospect, we have been improving stakeholders' engagement and communication mechanism and listening to each stakeholder's opinion of the corporate's sustainability this year. While we improve the disclosure quality and transparency, we also timely responded to different kinds of expectations and demands of stakeholders.

持份者 Stakeholders	期望及訴求 Expectations and demands	參與及回應 Engagement and responds
 政府及監管機構 Government and regulatory institutions	<ul style="list-style-type: none"> <li>● 依法合規 Law-abiding and compliant</li> <li>● 依法納稅 Taxation in accordance with the law</li> <li>● 經濟貢獻 Economic contribution</li> <li>● 廉潔經營 Operation with integrity</li> </ul>	<ul style="list-style-type: none"> <li>● 政府會議 Governmental meetings</li> <li>● 工作報告 Working reports</li> <li>● 現場訪談 On-site interviews</li> <li>● 實地調研 Field researches</li> </ul>
 股東及投資人 Shareholders and investors	<ul style="list-style-type: none"> <li>● 穩健經營 Stable operation</li> <li>● 風險管控 Risk management</li> <li>● 保障權益 Safeguard interests</li> <li>● 信息透明 Information transparency</li> </ul>	<ul style="list-style-type: none"> <li>● 股東大會 General meetings of shareholders</li> <li>● 投資人交流會 Investor exchange meeting</li> <li>● 現場訪談及調研 On-site interview and survey</li> <li>● 電話會議及線上互動平台 Teleconference and online engagement platform</li> </ul>
 僱員 Employees	<ul style="list-style-type: none"> <li>● 人權保障 Human rights protection</li> <li>● 薪酬福利 Remuneration and welfare</li> <li>● 平等權益及發展 Equal interests and development</li> <li>● 職業健康及安全 Occupational health and safety</li> </ul>	<ul style="list-style-type: none"> <li>● 工會及僱員大會 Trade Union and Employee Assembly</li> <li>● 會議及培訓 Meetings and trainings</li> <li>● 日常溝通 Daily communication</li> <li>● 僱員滿意度調查 Employee satisfaction investigation</li> </ul>

 <p>業務夥伴 Partners</p>	<ul style="list-style-type: none"> <li>● 產品責任 Product responsibility</li> <li>● 規範採購 Standardized procurement</li> <li>● 商業道德 Business ethics</li> <li>● 職業健康及安全 Occupational health and safety</li> </ul>	<ul style="list-style-type: none"> <li>● 工作會議 Working meetings</li> <li>● 業務往來 Business transactions</li> <li>● 現場訪談及調研 On-site interview and survey</li> <li>● 行業活動交流 Industry networking and events</li> </ul>
 <p>毗鄰社區 Neighboring communities</p>	<ul style="list-style-type: none"> <li>● 人權保障 Human rights protection</li> <li>● 生態環境 Ecological environment</li> <li>● 社區發展 Community development</li> <li>● 推動就業 Employment promotion</li> </ul>	<ul style="list-style-type: none"> <li>● 社區會議 Community meetings</li> <li>● 社區發展合作 Community development cooperation</li> <li>● 生態環保協作 Ecological and environmental collaboration</li> <li>● 投訴申訴機制 Complaint grievance mechanism</li> </ul>
 <p>非營利組織、傳媒及公眾 Non-profit organizations, media, and publics</p>	<ul style="list-style-type: none"> <li>● 應對氣候變化 Tackling climate change</li> <li>● 人權保障 Human rights protection</li> <li>● 社區發展 Community development</li> <li>● 商業道德 Business ethics</li> </ul>	<ul style="list-style-type: none"> <li>● 定期報告 Regular reports</li> <li>● 公司官網 Company's official website</li> <li>● 社交媒體平台 Social media platforms</li> <li>● 現場訪談及調研 On-site interview and survey</li> </ul>

持份者參與及溝通機制  
Stakeholders' Engagement and Communication Mechanism

# 02

## 氣候變化 Climate Change

本章節所響應SDGs  
SDGs focus in this chapter



本章節所回應重要性議題  
Material topics addressed in this chapter

- 氣候變化與碳排放 Climate Change and Carbon Emissions
- 能源 Energy



# 亮點2024

## 2024 HIGHLIGHTS

2024年，金川國際依據國際可持續準則理事會 (ISSB) 發布的《國際財務報告可持續披露準則第2號——氣候相關披露》(IFRS S2) 要求，繼續開展氣候相關信息披露，探明氣候風險及機遇的識別及管理路徑，並提高我們減緩及適應氣候變化工作的透明度及管理水平。在整體營運中，本公司通過開始建立行之有效的內部架構，有效應對氣候相關風險與機遇，密切關注行業領先的氣候管治策略及能源管理模式，以適應並減緩氣候變化對業務的各類影響。報告期內，我們積極開展並不斷優化氣候變化相關管理工作，並取得如下成績：

In 2024, in accordance with the requirements of the IFRS S2 Climate-related Disclosures by the International Sustainability Standards Board (ISSB), JCI has continued to disclose climate-related information, explore pathways for identifying and managing climate risks and opportunities, and enhance the transparency and management of our efforts to mitigate and adapt to climate change. The Company has commenced the development of a feasible internal structure to effectively address climate-related risks and opportunities throughout its operations, with a continued focus on industry-leading climate-related governance strategies and energy management models to adapt to and mitigate the various impacts of climate change on its business. In the reporting period, we proactively carried out and kept improving management related to climate change, and made following achievements:

### 籌劃構建氣候變化管治架構

Planned for the establishment of a climate change governance structure

### 識別並評估 4 類轉型風險及機遇

Identified and assessed 4 types of transition risks and opportunities



### 針對 3 類急性風險及 4 類慢性風險進行情景分析

Conducted scenario analysis on 3 types of acute risks and 4 types of chronic risks

### 各礦場持續積極推廣可再生能源應用

Each mine continues to promote the application of renewable energy

# 氣候管治

## CLIMATE GOVERNANCE

為持續提升本公司內部對應對氣候變化相關工作的重視程度及管治效能，符合持份者的期望及緊貼國際最佳常規，金川國際依據香港聯交所2025匯報年度起生效的「新氣候規定」及IFRS S2之要求，於報告期內開始構建氣候變化管治架構（預計於2025年正式構建完成），以助於審視氣候變化對本公司業務及營運的影響，並系統推進氣候變化風險治理、戰略規劃與信息披露等事務。我們目前擬定的氣候變化管治架構的職責分配如下：

To continuously enhance the Company's internal focus on climate change-related initiatives and governance effectiveness, align with stakeholder expectations, and adhere to international best practices, JCI has commenced the development of a climate change governance framework (scheduled for full implementation in 2025) in accordance with the HKEX's "New Climate Requirements" effective from the 2025 reporting year and the IFRS S2 standards. The framework aims to assess the impact of climate change on the company's business and operations, while systematically advancing climate risk governance, strategic planning, and disclosure matters. The currently proposed responsibilities under our climate change governance framework are allocated as follows:

董事會金川國際應對氣候變化相關事宜的最高負責機構，對管理氣候相關的風險及機遇負有最終責任。在董事會的領導下，本公司將成立「氣候變化應對工作小組」，專職負責公司氣候變化管理及具體的氣候變化風險識別、分析及應對工作，全面推動氣候相關事務在本公司內部的落實與執行。

The Board of Directors is the top authority responsible for matters related to climate change in JCI and bears ultimate responsibility for managing climate-related risks and opportunities. Under the leadership of the Board of Directors, the Company will establish the "Working Group on Climate Change" to manage climate change within the Company and specifically responsible for identifying, analysing, and addressing climate change risks, so as to promote the implementation and execution of climate-related initiatives across the Company in a comprehensive way.

本公司總部及各子公司正逐步完善節能減排激勵機制，逐步將應對氣候變化工作與管理及執行團隊的績效掛鉤，推動節能減排工作落實落地。我們每年開展針對各部門、各礦場的KPI績效管理指標制定工作，要求各部門、各礦場對所屬績效目標進行過程管控及分析改進，持續提升整體氣候管治水平。

The Company's headquarters and its subsidiaries are progressively refining incentive mechanisms related to energy saving and emission reduction, gradually linking climate change-related work to the performance of teams responsible for the management and execution. By doing so, we seek to ensure the effective implementation of energy-saving and emission-reduction efforts. We conduct annual KPI performance management indicator-setting for each department and mine and require them to manage and analyse their performance objectives, so as to continuously improve their climate governance.



# 氣候戰略

## CLIMATE STRATEGY

2023年，金川國際正式推出公司氣候戰略，旨在作為本公司應對氣候變化挑戰的行動指南，為可持續發展提供戰略框架——我們致力於控制營運場所的能源消耗及溫室氣體排放，並推動與合作夥伴共建綠色供應鏈，助力全產業鏈低碳發展。為此，我們將藉由下述路徑，來履行我們的氣候戰略及溫室氣體減排承諾。

In 2023, JCI officially launched its Climate Strategy, which serves as an action guide for the Company to address climate change challenges and provides a strategic framework for sustainable development. We are committed to controlling energy consumption and GHG emissions in our operations, promoting the building of a green supply chain with our partners, and facilitating the low-carbon development of the whole industrial chain. To this purpose, we plan to fulfil our GHG emission related commitments in the following approaches.

### ◆ 健全氣候風險管理架構

Establish our organizational structure for climate-related risk management

我們致力於健全氣候風險管理架構，明確董事會及管理層在氣候變化治理方面的職責分工，並推動氣候變化成為董事會定期討論的重要治理議題，使之貫穿本公司的策略討論、資產評估及投資決議中。

We are planning to establish our organizational structure for climate-related risk management that clarifies the roles of the board and management in climate change governance. In the meantime, we are promoting climate change as a key governance issue that is regularly discussed by the Board of Directors and included in the Board strategy discussions, portfolio evaluations and investment resolutions.

### ◆ 識別及評估與氣候相關的重要風險及機遇

Identify and evaluate signposts for climate-related risks and opportunities

我們持續進行氣候相關風險的識別、評估及分析工作，確立對於公司業務及營運具有實質影響的氣候相關風險，以及評估各項風險與機遇對自身財務的影響，推動企業低碳轉型。

We intend to identify, assess and analyse climate-related risks with a view to ascertaining the climate-related risks that have material impacts on our business and operations, and assessing the impacts of the risks and opportunities on our finances in order to advance the low-carbon transformation of our business.

### ◆ 減少自身營運所產生的溫室氣體排放

Reduce our operational GHG emissions

我們將最大限度地減少溫室氣體及關鍵業務營運所產生的排放，以轉型為低碳生產系統及業務。我們將持續透過優化採掘及生產流程而減少溫室氣體的排放，並以植樹造林、節能減排等形式抵消自身產生的溫室氣體排放量，從而推動淨零目標的實現。

We will try our best to minimise GHG emissions from our key business operations in order to transition to a low-carbon production system. We are planning to reduce our GHG emissions by optimising our extraction and production processes, and to offset our own GHG emissions by planting trees and developing renewable energy sources - all of which will contribute to our net-zero goal.

### ◆ 推動價值鏈上下游協同降碳

Promote upstream and downstream synergistic carbon reduction along the value chain

我們深明推動產業鏈上下游協同降碳亦是重要的減碳路徑之一。我們規劃在技術創新、標準制定、業務合作等方面推動價值鏈上下游協同降碳，有效支持全產業的減排進程。

We are fully aware that promoting synergistic carbon reduction along the value chain is a vital pathway for carbon reduction. We aim to promote upstream and downstream synergistic carbon reduction through technological innovation, standard setting, business collaboration, etc., so as to effectively support the emission reduction process across the entire industry.

### ◆ 強化全球政策、市場及技術層面的反應

Enhance global policy, market and technology responses

我們將努力理解氣候變化所引致的最新影響，加強對於全球政策、市場及技術層面的反應，以期聯合持份者以共同實施各自的適應性行動，為全球氣候行動積極貢獻。

We will strive to understand the latest impacts of climate change and strengthen responses at the global policy, market, and technological level, aiming to facilitate collaboration with stakeholders to jointly practice our respective adaptive actions and make a positive contribution to global climate action.



# 氣候風險及機遇

## CLIMATE RISKS & OPPORTUNITIES

氣候變化是我們時代的主要挑戰之一。金川國際密切關注氣候變化因素對本公司生產營運的各時期影響，積極探尋氣候風險及機遇的評估模式，審慎識別本公司面臨的氣候風險及機遇，深入評估相關風險及機遇對公司戰略、業務及財務之影響，為推動本公司綠色低碳轉型、實現可持續發展目標奠定穩固基礎。

Climate change is one of the major challenges of our times. JCI closely monitors the impacts of climate change on all stages of the Company's production and operations, actively explores assessment modes for climate risks and opportunities, and prudently identifies the climate risks and opportunities that we have encountered. We conduct in-depth evaluations of the impacts of relevant risks and opportunities on the Company's strategy, business and finances, thus laying a solid foundation for advancing the Company's green and low-carbon transition and achieving sustainable development goals.

我們將氣候變化風險管理納入企業整體風險管理體系，通過「風險識別-風險評估-風險應對-監督與改進」流程，制定切實有效的風險控制及應對方案，並由將成立的氣候變化應對工作小組負責審視及監督執行情況。

We have integrated climate change risk management into the Company's overall risk management system. Through the process of "risk identification - risk assessment - risk response - supervision and improvement", we develop practical and effective risk control and response plans. The proposed Working Group on Climate Change will be responsible for reviewing and overseeing the implementation of these plans.

2023年，金川國際參照TCFD建議並結合持份者之意見，於2023年ESG報告中對本公司氣候風險、機遇及相關指標進行識別與評估。2024年，我們持續跟蹤氣候相關風險及機遇，並回顧2023年的氣候情景分析結果。鑒於報告期內公司整體戰略、業務板塊及營運邊界未發生重大變化，經董事會深入研討及慎重考慮，本公司維持2023年氣候風險及機遇分析結果不變，氣候情景分析的基準年仍為2023年。

In 2023, considering the TCFD recommendations and incorporating stakeholders' feedback, JCI identified and assessed the Company's climate risks, opportunities, and relevant metrics in the 2023 ESG Report. In 2024, we continued to monitor climate-related risks and opportunities and reviewed the results of the 2023 climate scenario analysis. Given that there were no significant changes in the Company's overall strategy, business segments, and operational boundaries during the reporting period, and after thorough deliberation and consideration by the Board of Directors, the Company has decided to maintain the analysis results of climate risks and opportunities in 2023, with the baseline year for the climate scenario analysis still being 2023.

## 實體風險 Physical Risks

為識別本公司可能面臨的中長期實體風險，我們參考了政府間氣候變化專門委員會 (IPCC) 的兩類代表性濃度路徑 (RCPs)，即中等排放情景RCP4.5及高排放情景RCP8.5，並依據情景下氣候災害的強度水平，針對3類急性風險及4類慢性風險進行了評估。同時，我們亦考慮了本公司所屬行業特性及地區氣候災害敏感性，以更全面地把握未來的實體風險水平<sup>2</sup>。

在情景分析中，被納入分析範疇的急性風險分別為：極端高溫、極端降水、滑坡；慢性風險分別為：乾燥趨勢、濕潤趨勢、變暖趨勢、水短缺。以上風險可能在不同程度上為礦場帶來營運成本上升、營業收入減少、保險支出增加、資產損傷等層面的財務影響。此外，由於我們的現有營運礦場均位於剛果（金）及贊比亞的內陸地區，熱帶氣旋及沿海洪水等非相關風險未被納入分析範疇。

情景分析的結果顯示：各分析情景下，金川國際於營運層面所面臨的實體風險以中低等級及中等級為主。

在急性風險方面，本公司面臨的極端高溫及極端降水風險在RCP8.5情境下呈現出長期下降的趨勢；極端降水風險在RCP4.5情境下亦呈現出類似的下降趨勢，而極端高溫風險在RCP4.5情境下則可能進一步上升。本公司的滑坡風險在當期的基線水平為低風險，未來我們將進一步完善分析工具，以模擬滑坡的情景風險水平，為優化應對策略提供依據。

In order to recognize the medium- and long-term physical risks that the Company may encounter, we refer to two types of Representative Concentration Pathways (RCPs) from Intergovernmental Panel on Climate Change (IPCC), namely the Intermediate Scenario RCP4.5 and the High Emissions Scenario RCP8.5, and focus on three types of acute risks and four types of chronic risks in accordance with the intensity level of the climate hazards under the scenarios. At the same time, we also took characteristics of industry of the Company and the sensitivity of the region to climate disasters into consideration to have a more comprehensive understanding of physical risks in the future<sup>2</sup>.

In scenario analysis, following acute risks are included in the analysis scope: extreme heat, extreme precipitation, and landslide; included chronic risks are: dry trend, wet trend, warming trend, and water scarcity. The above risks may cause higher operation cost, lower operation revenue, higher insurance expenditure, asset damage and other financial impacts. In addition, as our mines are in inland areas in the DRC and Zambia, tropical cyclone and coastal flooding are irrelevant and thus not included in the analysis.

The result of scenario analysis indicates that in all analyzed scenarios, physical risks faced by JCI are mainly at low-medium level or medium level.

In terms of acute risks, extreme heat and extreme precipitation risks encountered by the Company presents a long-term decline trend in RCP8.5; in RCP4.5, while extreme precipitation also reflects an alike decline trend, extreme heat may rise. The landslide risk of the Company is at a low level in the baseline scenario. We will further improve analysis tools to simulate landslide scenario risk level to support the optimization of response strategy.

2. 實體風險分析框架模型源自妙盈科技氣候風險解決方案 (<https://www.miotech.com/zh-CN>)。

The physical risks analysis framework model is from MioTech Climate-related risks solutions.

在慢性風險方面，本公司面臨的乾燥趨勢風險整體處於中至中高風險水平，且呈現出明顯的中長期上升趨勢，需在未來加以更多關注。本公司的濕潤趨勢及變暖趨勢風險水平在各情景下亦有所上升，最高可達中風險等級。有別於上述數類慢性風險，本公司的水短缺風險水平於各情景下將有所下降，並整體維持在中低等級。

In terms of chronic risks, dry trend risk encountered by the Company overall is at medium to medium-high risk level, and has an obvious rise trend in medium- and long-term, which requires more attentions in the future. Wet trend and warming trend risks of the Company both reflect rising trend in scenario analysis, reaching at medium risk level at most. Different from the said chronic risks, water scarcity risk of the Company will decline in future scenarios and overall maintained at low-medium level.

### 金川國際各情景下的實體風險等級<sup>3</sup> JCI's Physical Risks Levels under Different Scenarios<sup>3</sup>

風險類別 Risk types	風險名稱 Risk names	基線 Baseline	RCP4.5			RCP8.5		
			2030	2050	長期風險趨勢 Long-term risk trend	2030	2050	長期風險趨勢 Long-term risk trend
急性風險 Acute risks	極端高溫 Extreme heat	中 Medium	中 Medium	中 Medium	↑	中 Medium	中 Medium	↓
	極端降水 Extreme precipitation	中低 Low-medium	中低 Low-medium	中低 Low-medium	↓	中低 Low-medium	中低 Low-medium	↓
	滑坡 Landslide	低 Low	N/A <sup>4</sup>					
慢性風險 Chronic risks	乾燥趨勢 Dry trend	中 Medium	中高 Medium-high	中高 Medium-high	↑	中高 Medium-high	中高 Medium-high	↑
	濕潤趨勢 Wet trend	中 Medium	中 Medium	中 Medium	↑	中 Medium	中 Medium	↑
	變暖趨勢 Warming trend	低 Low	中低 Low-medium	中 Medium	↑	中低 Low-medium	中 Medium	↑
	水短缺 Water scarcity	中低 Low-medium	中低 Low-medium	中低 Low-medium	↓	中低 Low-medium	中低 Low-medium	↓

3. 風險等級共劃分為：無風險、低風險、中低風險、中風險、中高風險、高風險。

The risks are classified into following levels: no risk, low risk, low-medium risk, medium risk, medium-high risk, and high risk.

4. N/A表示該風險相關數據暫缺。

N/A indicates that data related to this risk is in absence for now.

基於實體風險敞口的分析結果，就極端高溫風險而言，在RCP4.5情境下，本公司中短期內有25%的礦場將暴露於該風險之中，且該比重在長期內將增至50%；而在RCP8.5情境下，本公司極端高溫風險的敞口將於中長期內降至0%。兩種情景下的不同趨勢表明，我們需密切關注氣候變化動態，以靈活調整應對極端高溫風險之策略。

就乾燥趨勢而言，在RCP4.5情境下，本公司該風險敞口從當前至長期均維持在50%；而在RCP8.5情境下，本公司的長期風險敞口將升至75%。此外，本公司的變暖趨勢風險敞口亦呈現出類似趨勢，在RCP8.5情境下，本公司該風險敞口將由基線的0%於長期內增至25%，意味著更多礦場需要提高相應的風險應對水平。

Based on the analysis result of physical risks exposure, regarding extreme heat risks, in RCP4.5, 25% mines of the Company will be exposed to this risk over the short to medium term, the proportion of which will grow to 50% in a long-term. In RCP8.5, the extreme heat risk exposure of the Company will decline to 0% over the medium to long term. The different trend in the two different scenarios indicates that the Company should pay a close attention to climate change status to make flexible adjustments to extreme heat risk response strategy.

Regarding the dry trend, in RCP4.5, the Company's exposure to this risk is maintained at 50% at the current period and over a long term; in RCP8.5, the Company's long-term exposure to this risk will rise to 75%. In addition, the Company's exposure to warming trend risks also reflects a similar trend, which is that in RCP8.5, the Company's exposure to this risk will increase from 0% of the baseline to 25% in the long term, indicating that more mines should enhance their risk response capability.

#### 金川國際各情景下的實體風險敞口<sup>5</sup> JCI's Exposure to Physical Risks under Different Scenarios<sup>5</sup>

風險類別 Risk types	風險名稱 Risk names	基線 Baseline	RCP4.5		RCP8.5	
			2030	2050	2030	2050
急性風險 Acute risks	極端高溫 Extreme heat	25%	25%	50%	0%	0%
	極端降水 Extreme precipitation	0%	0%	0%	0%	0%
	滑坡 Landslide	0%	N/A <sup>6</sup>			
慢性風險 Chronic risks	乾燥趨勢 Dry trend	50%	50%	50%	50%	75%
	變暖趨勢 Warming trend	0%	0%	0%	0%	25%
	濕潤趨勢 Wet trend	0%	0%	0%	0%	0%
	水短缺 Water scarcity	0%	0%	0%	0%	0%

5. 實體風險敞口計算自金川國際旗下被評估為中高風險至高風險的礦場佔所有礦場的比重。

The exposure to physical risks is calculated based on the proportion of mines rated as medium-high risk to high risk to all mines under JCI.

6. N/A表示該風險相關數據暫缺。

N/A indicates that data related to this risk is in absence for now.

就我們於情景分析中所識別出的影響較大的實體風險，金川國際已採取一系列風險應對策略，不斷增強風險應對能力。例如，針對極端降水及其次生災害，我們建立了危害識別及應急指揮流程，並於礦場層面成立了專門的防汛指揮部，負責防汛規劃及應急工作統籌；針對突發雷擊，我們明確規定所有於尾礦庫頂部作業的人員必須立即撤離，以避免因雷擊而造成的人員傷亡。此外，本公司通過投保財產一切險與業務中斷險，保險範圍覆蓋被保險人同意投保的各類動產及不動產，以對沖極端天氣事件對營運與資產價值可能造成的損失，進一步保障業務的連續性與穩定性，持續提升我們的氣候風險抵禦水平。

As to the physical risks with significant impact identified in our scenario analysis, JCI has taken a series of risk response strategies to continuously enhance its ability to address the risks. For example, in terms of extreme precipitation and its secondary disasters, we have established hazard identification and emergency command procedures, as well as a dedicated Flood Control Center at the mine level, responsible for flood control planning and emergency works. As for sudden lightning strikes, we have explicitly stipulated that all personnel working on the top of tailings ponds must evacuate immediately to prevent injuries or fatalities caused by lightning. Additionally, the Company has taken out property all-risk insurance and business interruption insurance. The insurance coverage includes various movable and immovable assets agreed upon by the insured, to hedge against potential losses to operations and asset value caused by extreme weather events. This further ensures business continuity and stability, continuously enhancing our resilience to climate risks.



#### 案例：多措并举，抵禦氣候變化實體風險

Case: Multi-pronged Approaches to Counteract Climate Change-related Physical Risks

由於本公司的業務營運位於熱帶氣候地區，夏季降雨量較大且可能會因氣候變化影響而進一步加劇，各礦場正積極探索合理有效的管理策略，通過採取適當的應對行動以抵禦氣候風險。當前，我們的氣候風險應對行動主要集中於抵禦極端降水及其次生災害層面，同時亦針對雷擊、大風等極端天氣制定了相應作業規範，以保障現場作業人員之生命財產安全與健康。

As our operations are located in tropical climatic regions where summer rainfall is high and may be exacerbated by the effects of climate change, each mine is actively exploring feasible and effective management strategies to mitigate climate risks by implementing appropriate measures. Currently, our response actions to climate-related risks mainly focus on resisting extreme precipitation and its secondary disasters. Meanwhile, specific operational guidelines have been established to address extreme weather conditions such as lightning strikes and strong winds, ensuring the safety of on-site personnel's lives, property and health.



### 案例：多措並舉，抵禦氣候變化實體風險

#### Case: Multi-pronged Approaches to Counteract Climate Change-related Physical Risks

- 抵禦極端降水：Ruashi礦場的《緊急應變程序》已包含了針對極端降雨情況的應對措施，且該礦場已在礦區周圍建造大型溝渠以抵禦礦區外可能發生的洪水災害，並於尾礦設施及臨時堆放場周圍大規模種植本地草皮以增強土壤穩定性，從而在大雨期間有效減緩水流，降低冲刷風險。Kinsenda礦場於斜坡道口安裝了排水管及水泵，並安裝了備用水泵，應對斜坡道匯水面部分排水。

- 防範雷擊、大風：在大雨及雷雨等極端天氣條件下，本公司各礦場均禁止開展戶外作業及高處作業。若作業途中突發雷雨天氣，我們明確規定在尾礦庫頂部（或其他高處）工作的人員必須立即撤離，以防止因雷擊造成人員傷亡。此外，在大風天氣，我們同樣禁止高處作業、攀登作業以及吊車吊裝作業，以避免因風力過大導致設備傾覆或人員墜落等安全事故。

在此基礎上，各礦場均已安裝雨水監測設施，且於雨季期間每日收集並監測雨量數據，通過科學決策減輕雨災損失。此外，Chibuluma南礦場配備了專用精礦棚，有效防止雨季期間因雨水冲刷導致的物料損失；同時，該礦場擁有完善的排水系統，可將收集到的雨水引導至集水池中，以供其他用途。

- Response to extreme precipitation: Ruashi Mine's Emergency Response Procedure has included measures responding to extreme precipitation, and has built large-scale ditches and channels to resist flood disaster that may happen out of the mineral area, and planted local turf around the tailings facilities to enhance the land stability, effectively slowing down water flow during heavy rain and reducing the risk of scouring. Kinsenda Mine has installed drainage pipes and water pumps at the ramp entrance, as well as backup pumps, to manage partial drainage of the catchment area of the ramp.

- Response to lightning strikes and strong winds: During extreme weather conditions such as heavy rain and thunderstorms, all mines under the Company are prohibited from conducting outdoor or high-altitude operations. If thunderstorms occur suddenly during operations, we have made regulations specifying that personnel working on the top of tailings ponds (or other high-altitude areas) must evacuate immediately to prevent injuries or fatalities caused by lightning strikes. Additionally, during strong winds, we also prohibit high-altitude work, climbing operations, and crane lifting operations to avoid safety incidents such as equipment overturning or personnel falling due to excessive wind.

On this basis, rainfall monitoring facilities have been installed at all mines, and rainfall data will be collected and monitored on a daily basis during the rainy season to minimize rainfall losses through scientific decision-making. Moreover, Chibuluma South Mine is equipped with dedicated concentrate shed, which effectively prevents material loss caused by rainwater erosion during the rainy season. With a comprehensive drainage system, Chibuluma South Mine may direct all collected rainwater to catch basins for other uses.

## 轉型風險 Transition Risks


本公司在邁向低碳經濟的過程中，不可避免地會受到來自政府及監管機構、同業企業、價值鏈合作夥伴、社會公眾等持份者的多元化期望或要求，這將對企業商業模式、技術設備投資、品牌形象建設等方面帶來諸多潛在的風險或機遇。

當前，金川國際所面臨的氣候相關轉型風險主要源自政策、法律、技術、市場、聲譽等多個維度。我們現已初步識別各轉型風險或機遇的潛在財務影響，並闡明簡要的應對措施。有關氣候行動及能源管理更詳盡內容，請參見本報告「氣候行動及能源管理」一節。

In the process of moving towards a low-carbon economy, the Company will inevitably face diversified expectations or requirements from stakeholders such as government and regulatory authorities, peer enterprises, value chain partners, and the public, which will bring about many potential risks or opportunities in terms of business model, investment in technology and equipment, and brand image building.

Currently, climate-related transition risks faced by JCI are mainly from policy, legal, market, and reputation aspects. We have primarily identified potential financial impacts of transition risks and opportunities and stated brief response measures. For more details of climate action and energy management, please refer to the section of “Climate Action & Energy Management”.

### 金川國際轉型風險識別、評估及應對措施 JCI's Transition Risks Identification, Assessment, and Response Measures

類別 Types	轉型風險 Transition risks	潛在財務影響 ↓ Potential negative financial impacts	轉型機遇 Transition opportunity	潛在財務影響 ↑ Potential positive financial impacts	應對措施 Response measures
 政策及法律 Policy and law	<ul style="list-style-type: none"> <li>溫室氣體減排政策壓力 Pressure from GHG emission reduction policy</li> </ul>	<ul style="list-style-type: none"> <li>延遲轉型導致營運成本增加 Delayed transition results in increase of operational cost</li> <li>產能擴張受限 Productivity expansion is limited</li> </ul>	<ul style="list-style-type: none"> <li>參與可再生能源倡議 Participate in renewable energy initiatives</li> <li>參與碳交易市場 Participate in carbon trading market</li> </ul>	<ul style="list-style-type: none"> <li>布局可再生能源，降低能源成本，並減輕轉型壓力 Deploy renewable energy, reduce energy cost, and mitigate transition pressure</li> <li>參與碳市場交易可能帶來碳信用收入 Participate in carbon trading market may bring carbon credit income</li> </ul>	<ul style="list-style-type: none"> <li>關注營運所在國的氣候政策及碳市場情況，進行政策預研儲備，及時把握低碳轉型機遇而順利擴大產能 Focus on climate policies and carbon market status in the jurisdiction in which we operate, conduct policies research and reserves in advance, and timely grasp low-carbon transition opportunities to expand productivity smoothly</li> </ul>

 技術 Technology	<ul style="list-style-type: none"> <li>• 能源管理水平滯後 Lagged energy management level</li> </ul>	<ul style="list-style-type: none"> <li>• 節能降碳設備採購及運轉成本增加 Purchasing cost and operation cost of energy saving and carbon reduction equipment are increased</li> <li>• 可再生能源及/或碳權採購費用增加 Expenditure for purchasing renewable energy and/or carbon credit is increased</li> </ul>	<ul style="list-style-type: none"> <li>• 改善能源管理水平 Improve energy management level</li> </ul>	<ul style="list-style-type: none"> <li>• 增強能源管理水平並降低中長期營運成本 Enhance energy management level and lower the operation cost over the medium to long term</li> <li>• 促進能源結構優化及能源成本下降 Promote the optimization of energy structure and lower energy cost</li> </ul>	<ul style="list-style-type: none"> <li>• 從多方面開展短、中、長期的能源管理優化行動，包括設定階段性目標、推進智能化升級、加強研發投資、進行持續跟進優化等 Launch short-, medium and long-term energy management optimisation actions on various fronts, including setting milestones, promoting intelligent upgrading, strengthening R&amp;D investment, and carrying out continuous follow-up optimisation, etc.</li> </ul>
	<ul style="list-style-type: none"> <li>• 低碳技術發展的不確定性 Uncertainty in low-carbon technology development</li> </ul>	<ul style="list-style-type: none"> <li>• 投資低碳技術或因技術過時或非主流而遭受資金損失 Suffering financial loss due to investing in low-carbon technology or outdated or non-mainstream technology</li> <li>• 低碳技術發展或將誘發能源及原料價格波動，影響成本結構及產品定價 Development of low-carbon technology may trigger fluctuations in energy and raw material prices, affecting cost structure and product pricing</li> </ul>	<ul style="list-style-type: none"> <li>• 投資適宜的低碳技術 Invest in appropriate low-carbon technology</li> </ul>	<ul style="list-style-type: none"> <li>• 提升能源利用效率並降低中長期營運成本 Improve energy utilization efficiency and lower medium- and long-term operation cost</li> <li>• 取得差異化技術競爭優勢，提升市場競爭力 Obtain differentiated technological competitive advantage and strengthen market competitiveness</li> </ul>	<ul style="list-style-type: none"> <li>• 分階段布局節能及工藝優化的技術儲備及投資項目，例如，優先發展邊際效益較高的技術，以穩步降低能耗及碳成本 Phased deployment of technology reserves and investment projects for energy saving and techniques optimization, such as prioritizing the development of technology with high marginal benefits to stably reduce energy consumption and carbon costs</li> </ul>
 市場 Market	<ul style="list-style-type: none"> <li>• 低碳產品市場需求增加 Demand from low-carbon product market is increased</li> </ul>	<ul style="list-style-type: none"> <li>• 為滿足市場的低碳轉型需求而導致研發成本增加及生產流程轉型 Increase in R&amp;D cost and production process transition for meeting the market demand in low-carbon transition</li> <li>• 在低碳產品市場完全接受前或將面臨過渡期利潤及需求不穩定 The profits and demand in the transitional period may be unstable before the low-carbon products are fully accepted by the market</li> </ul>	<ul style="list-style-type: none"> <li>• 搶抓市場轉型先機 Grasp the opportunity of market transition</li> <li>• 推動低碳產品開發 Promote the development of low-carbon products</li> </ul>	<ul style="list-style-type: none"> <li>• 新能源產業擴張將增加市場對於鈷、鎳等金屬原材料的需求，帶來盈利增長機遇 The expansion of the new energy industry will increase the market's demand for metal raw materials such as cooper, cobalt and nickel, bringing opportunities for making more profit</li> <li>• 低碳綠色項目降低企業融資成本 Low carbon and green projects reduce financing costs for enterprises</li> </ul>	<ul style="list-style-type: none"> <li>• 跟蹤市場需求，利用技術儲備及行業優勢科學研判、靈活應對市場變化，抓住氣候轉型機遇 Tracking market demand, utilizing technological reserves and industry advantages to scientifically analyze and flexibly respond to market changes, and seizing opportunities for climate-related transition</li> </ul>

 聲譽 Reputation	<ul style="list-style-type: none"> <li>企業聲譽衝擊 Impact on corporate reputation</li> </ul>	<ul style="list-style-type: none"> <li>無法滿足持份者對於氣候信息披露的期待或回應不當,造成企業聲譽受損 Being unable to meet stakeholders' expectations to climate-related disclosure or inadequate response could result in damage to corporate reputation</li> </ul>	<ul style="list-style-type: none"> <li>企業聲譽提升 Corporate reputation being improved</li> </ul>	<ul style="list-style-type: none"> <li>增強持份者信任度,樹立良好的企業形象 Enhance the trust of stakeholders and establish a good corporate image</li> </ul>	<ul style="list-style-type: none"> <li>切實提高企業氣候及綠色發展相關信息披露的透明度 Effectively improve the transparency of disclosure of information related to climate and green development</li> </ul>
---	---	--	--	---	--

# 氣候行動及能源管理

## CLIMATE ACTION & ENERGY MANAGEMENT

為持續推進氣候戰略的有效實施,在董事會及將成立的氣候變化應對工作小組的領導下,我們積極面對並管理本公司所面臨的氣候風險及機遇,通過科學合理的發展路徑、行之有效的方法舉措,有序規劃並穩步開展氣候行動,以有效應對氣候變化帶來的種種挑戰,為本世紀末全球氣溫較工業化前水平升高值控制於2°C以內貢獻力量。

To continuously promote the implementation of our climate strategy, under the leadership of both the Board of Directors and the proposed Working Group on Climate Change, we actively confront and manage the climate-related risks and opportunities faced by the Company. We have planned and implemented climate action in an orderly manner through scientific and reasonable development paths, as well as effective measures and actions, so as to effectively respond to the various challenges posed by climate change and to contribute to limiting the global temperature increase to within 2°C above the pre-industrial level by the end of this century.

### 溫室氣體排放及管理 Greenhouse Gas Emissions & Management

金川國際礦區的溫室氣體管理由各自的SHEC部門負責,並定期向Metorex SHEC委員會進行匯報。為實現降低溫室氣體排放及降低碳排放密度的目標,我們致力於逐步完善控制溫室氣體排放的監管政策,優化溫室氣體及碳足跡核算及報告機制,不斷提升我們的績效表現;同時加強內部各部門之間的溝通協調,確保工作問責制的落實到位。

GHG management at JCI's mining sites is undertaken by the respective SHEC Departments, and is regularly reported to the Metorex SHEC Committee. To reach the target of lower GHG emissions and lower carbon emission intensity, we seek to gradually strengthen the supervision and management policy of controlling GHG emissions, optimize the accounting and reporting mechanisms for GHG and carbon footprints, and continuously improve our performance. Meanwhile, we make efforts to strengthen communication and coordination among internal departments to put the work accountability system into place.

一貫以來，金川國際將遵守溫室氣體排放策略的承諾納入零損害政策中。我們承諾遵守所有關於減緩氣候變化的國家及/或國際倡議，通過引進能源友好型設備、增加對可再生能源的使用、減少二氧化碳排放以及採納任何其他最佳常規或技術，力圖減少生產及營運過程中的碳足跡。此外，我們亦鼓勵全體僱員參與應對氣候變化相關能力建設培訓，強化全員節能降碳意識，提高關於氣候變化影響的認知及應對水平，通過自上而下與自下而上相結合的方式，推動本公司整體氣候行動的落實與創新。

2024年，我們首次開展範圍3碳排放的試點性盤查工作，根據《溫室氣體核算體系：企業價值鏈（範圍3）核算與報告標準（2011年）》之要求，統計並披露的範圍3碳排放包括以下四個類別：商務差旅（類別6）、僱員通勤（類別7）、上游租賃資產（類別8）、下游租賃資產（類別13）。具體的範圍3報告邊界請參考下表。

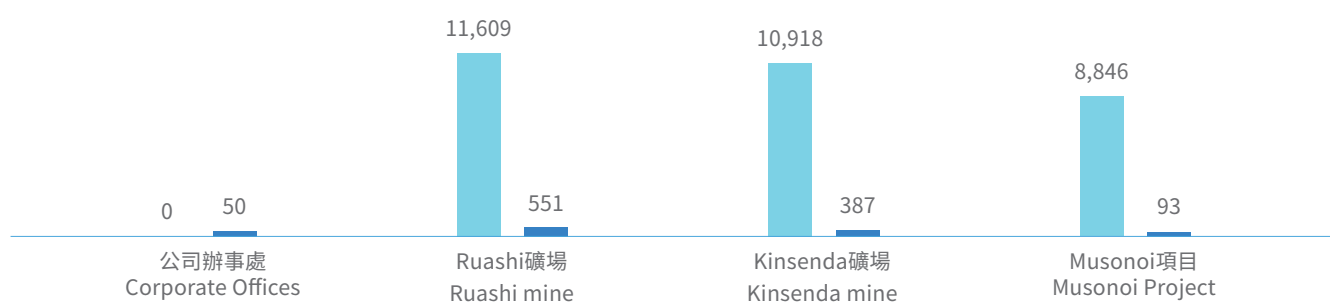
JCI has always integrated the commitment to comply with GHG emissions strategy into Zero Harm Policy. JCI is committed to comply with all national and/or international initiatives on climate change mitigation by introducing energy friendly equipment, increasing the use of renewable energy, reducing carbon dioxide emissions, and adopting any other best practices or technologies, to strive to minimize our carbon footprint in production and operational process. In addition, we encourage all employees to participate in capacity building training on climate change to enhance their awareness of energy saving and carbon reduction, as well as to raise their level of awareness of and response to the impacts of climate change. Through combining top-down and bottom-up mechanisms, we promote the implementation and innovation of the Company's overall climate actions.

In 2024, we compiled a pilot carbon inventory of Scope 3 for the first time. In accordance with the requirements of Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Accounting and Reporting Standard (2011), the statistics and disclosure of carbon emissions in Scope 3 include the following four categories: Business Travel (Category 6), Employee Commuting (Category 7), Upstream Leased Assets (Category 8), and Downstream Leased Assets (Category 13). Please refer to the following table for the specific reporting boundary of Scope 3.

範圍3活動 Scope 3 Activities	排放系數來源 Data Sources for Emission Factors	選擇依據 Selection Basis
類別6 商務差旅 Category 6: Business Travel	來自：中國產品全生命周期溫室氣體排放系數集(2022) Source: China Products Carbon Footprint Factors Database (2022)	與中國香港辦事處僱員商務航空旅行的交通出行相關的排放 Emissions related to business air travel of employees from the Hong Kong office
類別7 僱員通勤 Category 7: Employee Commuting	沒有非洲地區可用的本地來源，參考：中國產品全生命周期溫室氣體排放系數集(2022) No local sources available for Africa. Reference: China Products Carbon Footprint Factors Database (2022)	與本公司僱員往返於住所及工作地點的交通出行相關的排放 Emissions related to employees commuting between their residences and workplaces
類別8 上游租賃資產 Category 8: Upstream Leased Assets	來自：美國環境擴展投入產出模型 (USEEIO) Source: US Environmentally-Extended Input-Output (USEEIO)	與本公司承租公司辦事處（中國香港、南非）之辦公室相關的排放 Emissions related to the operations of offices (Hong Kong SAR (China), South Africa) leased by the Company
類別13 下游租賃資產 Category 13: Downstream Leased Assets	沒有非洲地區可用的本地來源，參考：美國環境擴展投入產出模型 (USEEIO) No local sources available for Africa. Reference: US Environmentally-Extended Input-Output (USEEIO)	與本公司將Chibuluma南礦場（包括Chifupu礦床）及加工廠出租予一名獨立第三方相關的排放 Emissions related to the Company leasing the Chibuluma South Mine (including Chifupu deposit) and processing plant to an independent third party

我們的表現 - 2022-2024年溫室氣體排放總量  
Our Performance - Total GHG Emissions for 2022-2024

指標 Indicator	單位 Unit	2024	2023	2022
企業營運邊界內的排放 Emissions within the corporate operational boundary				
範圍1 Scope 1	噸二氧化碳當量 tCO <sub>2</sub> -e	31,373	48,740	22,770
範圍2 Scope 2	噸二氧化碳當量 tCO <sub>2</sub> -e	1,081	988	1,080
範圍1+範圍2 Scope 1+Scope 2	噸二氧化碳當量 tCO <sub>2</sub> -e	32,454	49,728	23,850
溫室氣體排放密度 GHG Emissions Intensity	噸二氧化碳當量/噸銅產量 tCO <sub>2</sub> -e/t Cu produced	0.51	0.80	0.40
企業價值鏈的排放 Emissions across the value chain				
範圍3 Scope 3	噸二氧化碳當量 tCO <sub>2</sub> -e	1,407	-	-
類別6 商務差旅 Category 6: Business Travel	噸二氧化碳當量 tCO <sub>2</sub> -e	28	-	-
類別7 僱員通勤 Category 7: Employee Commuting	噸二氧化碳當量 tCO <sub>2</sub> -e	105	-	-
類別8 上游租賃資產 Category 8: Upstream Leased Assets	噸二氧化碳當量 tCO <sub>2</sub> -e	75	-	-
類別13 下游租賃資產 Category 13: Downstream Leased Assets	噸二氧化碳當量 tCO <sub>2</sub> -e	1,199	-	-
範圍1+範圍2+範圍3 Scope 1+Scope 2+Scope 3	噸二氧化碳當量 tCO <sub>2</sub> -e	33,861	-	-



■ 範圍1 (單位: 噸二氧化碳當量) Scope 1 (Unit: tCO<sub>2</sub>-e)

■ 範圍2 (單位: 噸二氧化碳當量) Scope 2 (Unit: tCO<sub>2</sub>-e)

2024年按營運地劃分的溫室氣體排放量 (範圍1及範圍2)  
GHG Emissions, by Operation 2024 (Scope 1+Scope 2)

## 能源管理 Energy Management

金屬礦開採屬能源密集型行業，因此管理能源消耗已成為金川國際的重要任務，並推動我們向低碳營運逐步轉型。我們深明，各礦場均有義務不斷努力提高能源效率，減少對化石燃料的依賴，最大限度地使用清潔、可再生及/或可回收能源，多措並舉減少溫室氣體排放。值得注意的是，我們於剛果（金）及贊比亞進行礦產開採業務，絕大部分電力來自水力發電，擁有顯著的低碳排放及環境友好特性，能夠為礦場提供清潔、可再生及可持續的電力供應。

As a highly energy-intensive industry, metal mining makes energy consumption management a key priority for JCI, driving our gradual transition towards low-carbon operations. We recognise that each mining operation has an ongoing obligation to enhance energy efficiency, reduce reliance on fossil fuels, and maximise the use of clean, renewable and/or recyclable energy sources, while adopting multi-pronged measures to cut greenhouse gas emissions. Notably, our mining operations in the DRC and Zambia primarily utilise hydroelectric power, which offers significant low-carbon and environmentally friendly advantages, providing our mines with clean, renewable and sustainable electricity.

### ◆ 能源管理政策

#### Energy Management Policy

金川國際各礦區一貫重視能源管理，致力於提升能源使用效率，持續優化能源管理體系。基於 ISO 14001:2005 有關要求及實際營運情況，Ruashi 礦場制定並落實《能源及用水管理指引》，旨在規範營運端能源消耗的流程，以減少消耗及對環境的負面影響。依據該指引，一方面，Ruashi 礦場環保負責人需持續審查現有能源系統及節能潛力，檢查並分析能效等級，以及建築物及設備的運行及維護方式，確保整體環境保護措施的落實；另一方面，Ruashi 礦場向全體僱員提出了降低能耗的行動建議，並推動節能行動的有效執行。Ruashi 礦場亦開發有可編製每日、月度、半年度及年度電力報告的系統，以便實時監測能源消耗情況。

Always valuing energy management, JCI's mining sites are committed to improving energy efficiency and continuously optimizing energy management system. Based on the relevant requirements of ISO 14001:2005 and actual operations at the mining site, Ruashi Mine formulated and implemented the Guideline for Process Plant Energy & Water Management, which aims to standardize energy consumption procedures in operation to decrease the consumption and negative impact on environment. According to the Guideline, on the one hand, Ruashi Mine's environmental protection manager is responsible for continuously reviewing the existing energy system and tapping into its potential for conservation, reviewing and analysing energy efficiency ratings, building and equipment operation and maintenance practices, and ensuring the implementation of overall environmental protection measures. On the other hand, Ruashi Mine proposed action suggestion to all employees to reduce energy consumption, and promoted effective measures for energy saving. In addition, Ruashi Mine has developed a system for preparing daily, monthly, semi-annual, and annual power reports, which will facilitate real-time monitoring of energy consumption.

此外，Ruashi礦場於《環境管理計劃》中明確規定，礦場將在增加可再生能源使用、減少二氧化碳排放，以及任何其他現有的最佳做法或技術等方面作出不懈努力，以確保在政策與計劃層面進一步提升對能源管理、節能減排的重視程度。

Ruashi Mine also explicitly states in the Environmental Management Plan that the Mine will make relentless efforts in increasing the use of renewable energy, reducing carbon dioxide emissions, and adopting any other existing best practices or technologies, ensuring further emphasis on energy management, energy saving and emission reduction at the policy and planning level.

## ◀ 節能降耗行動

### Energy Saving and Consumption Reduction Action

積極推進節能降耗措施是應對氣候變化風險、把握氣候變化機遇以及推動企業低碳轉型的關鍵路徑。金川國際各礦場依據其實際情況，推行了一系列切實有效的能源管理及節能降耗措施，以提升能源營運效益，促成節能降耗與經營發展的雙贏。

Actively promoting energy-saving and consumption-reduction measures is essential to addressing climate change risks, seizing climate change opportunities, and advancing the Company's low-carbon transition. According to the actual situation, JCI's mining sites have implemented a series of effective energy management and energy-saving measures respectively, improving energy efficiency and also promoting a win-win situation of energy saving and business development.

#### Ruashi礦場

#### Ruashi Mine

2024年，Ruashi礦場延續了上一年度所訂立的能源使用效益目標，即於報告期內將銅金屬產量單位電耗降低5%，且該目標已於年內順利實現。

-開展餘熱發電：在酸廠利用預熱建設汽輪機發電項目，有效利用能源，確保酸廠不間斷運行；

-安裝儲能設備：在酸廠中安裝儲能電池組（SPS），以在電網停電及發電機啟動時為酸廠供電，保持酸廠運行；

-限制低效益生產：優化生產流程，限制高耗能、低效益生產產量；

-優化供電渠道：考慮SNEL、CEC外網供電與廠內柴發配套，降低外網頻繁斷電影響生產的風險。

In 2024, Ruashi Mine the energy efficiency target set in the prior year to reduce copper metal production unit electricity consumption by 5% during the reporting period, which has been achieved in this year.

-Residual heat power generation: Utilizing preheating to develop a steam turbine power generation project at the acid plant, which effectively utilised energy and ensures uninterrupted operation of the plant;

-Installing energy storage equipment: Installing the storage power supply (SPS) system at the acid plant to supply power during grid outages and generator start-ups and ensure normal operations of the plant;

-Restricting low-efficiency production: Optimizing production processes to restrict the output of energy-consuming and low-efficiency production;

-Optimizing power supply channels: Integrating external power supply from SNEL and CEC with on-site diesel power generation to reduce the risk of production disruptions caused by frequent external grid outages.

#### Kinsenda礦場

#### Kinsenda Mine

2024年，Kinsenda礦場持續開展設施優化改造及改進生產流程等措施，以減少不必要的電能消耗。

-設施優化改造：建設435ml主泵站，並對井下東部與西部的排水系統進行優化改造，節約能耗約1MW；

-改進生產流程：利用井下裂隙水為東部335m及以下、西部360m及以下的生產區域供水，減少地表向井下的供水量，從而降低排水壓力與能源負荷；

-照明設備替換：逐步將井下普通照明設備更換為低能耗LED燈具。

In 2024, Kinsenda Mine continued to optimize and upgrade its facilities and production process to reduce unnecessary electricity consumption.

-Facility optimisation and upgrades: Constructing a 435ml main pump station and optimised the drainage system in the eastern and western underground sections, saving approximately 1MW of energy;

-Production process improvements: Utilizing underground fissure water to supply production areas below 335m in the eastern section and below 360m in the western section, reducing the amount of water supplied from the surface to the underground areas, thereby lowering the drainage pressure and energy load;

-Lighting equipment replacement: Gradually replacing conventional underground lighting equipment with low-energy LED lighting fixtures.

#### Musonoi項目

#### Musonoi Project

Musonoi項目於報告期內仍處於建設階段，因此尚未設定能效目標。Musonoi項目在日常建設過程中關注節能降耗，致力於減少能源浪費。項目團隊鼓勵全體僱員在不使用照明設備時，主動關閉營地住宿區及行政辦公室的燈光，不斷強化僱員的節能環保意識。

Musonoi Project was still in the construction phase during the reporting period and therefore no energy efficiency targets have been set. During its daily construction activities, Musonoi Project focused on energy conservation and consumption reduction, seeking to minimize energy waste. The Project encouraged all employees to switch off the lighting equipment in the camp's accommodation area and administrative offices when they are not in use, so as to continuously strengthen the employees' awareness of energy saving and environmental protection.

## Chibuluma南礦場

## Chibuluma South Mine

就Chibuluma南礦場而言，雖然該礦場目前由融資租賃承租方營運，但金川國際作為該礦場的合法所有者仍對其所有環境管理議題（包括但不限於能源等）予以密切監督。Chibuluma南礦場所有業務均符合《贊比亞能源監管法》規定，並致力於持續提高節能降耗能力。根據Chibuluma南礦場制定的《能源倡議指南》，一方面，礦場僱員需避免主要設備的同時啟動，對各類機器及設備盡量錯峰操作，並通過MET工廠及礦井控制室進行持續在線監測；另一方面，礦場需每年進行內部能源消耗審計，按照審計結果制定並實施相應的能源管理策略及行動（如安裝變頻驅動電機控制，以避免多餘的能源損耗），強化能源管控並推動能源利用效率提升。

For Chibuluma South Mine, although the mine is now operated by the finance lessee, JCI, as the legal owner of the mine, maintained close oversight of the environmental management topics (including but not limited to energy). Chibuluma South Mine complies with the Energy Regulation Act of Zambia in all its business and is committed to continuously improving energy saving and consumption deduction capability. According to the Energy Efficiency Initiatives formulated by Chibuluma South Mine, on the one hand, all employees shall avoid starting major equipment at the same time, ensure the staggered operation of various machines and equipment, and keep carrying out online monitoring through the MET factory and mine shafts control room. On the other hand, the Mine shall conduct internal audit of energy consumption annually, and formulate and implement corresponding energy management strategy and action based on auditing results (for example, installing variable frequency drive motor control system to avoid unnecessary energy loss), to strengthen energy control and improve energy efficiency.

## ◀ 可再生能源使用

### Use of Renewable Energy

金川國際各礦區均位於剛果（金）及贊比亞，兩國水力資源豐沛，水電在其總發電量中佔比極高。由於各礦區主要通過與當地大型電力公司<sup>7</sup>簽署協議以獲取電力，礦場的絕大部分電力供應均來自水電，具備低碳排放、環境友好的綠色屬性，基本保證了礦場電力供應的清潔、可再生及可持續性。

JCI's mines are all in the DRC and Zambia. Both countries have abundant hydraulic resources, and hydropower accounts for a very high proportion of their total power generation. Each mine mainly obtains electricity through signing agreements with local large power companies<sup>7</sup>, and the vast majority of electricity in each mine is supplied by hydroelectric power generation, with green characterizes of being low carbon emissions and environmentally friendly, basically ensuring the clean, renewable and sustainable power supply in the mines.

在廣泛利用水電資源之外，我們的各礦區亦積極探索並部署其他形式的可再生能源。現階段，各礦區正逐步擴大太陽能的應用範圍，推動能源結構的綠色轉型。

In addition to make use of hydropower, our mining sites also proactively explore other forms of renewable energy. At current stage, we are gradually expanding the application of solar energy to promote the green transition of energy structure.

7. 包括剛果（金）國家電力公司（La Société Nationale d'Electricité, SNEL），以及贊比亞銅帶能源公司（Copperbelt Energy Corporation Plc, CEC）等。

Mainly include La Société Nationale d'Electricité, SNEL in the DRC, and Copperbelt Energy Corporation Plc, CEC in Zambia.

Ruashi礦場  
Ruashi Mine

- 積極探索光伏等新能源的建設和綜合利用，在實驗室頂部安裝太陽能電池板，降低電網用電負荷，確保實驗室在遭受網絡干擾時的電力供應
- 簽署合作協議，建設一座22MW太陽能發電廠，以保障加工廠生產用電，並在電網無法使用時維持工廠供電（計畫25年8月建成投產10MW，同年12月建成投產餘下12MW）
- 考慮在生活營地實施85kWp光伏系統與215kWh儲能設施的建設項目
- Ruashi Mine takes the initiative to construct and utilize photovoltaic systems and other new energy sources. Solar panels have been installed on the roof of the laboratory to reduce electricity load of the grid and ensure power supply during network disruptions.
- The Mine has signed a cooperation agreement to build a 22MW solar power plant to ensure electricity supply for the processing plant and maintain factory operations during grid outages (it has planned to complete and put into operation 10MW by August 2025 and the remaining 12MW by December 2025).
- It has also planned to establish an 85kWp photovoltaic system and a 215kWh energy storage facility at the living camp.

Kinsenda礦場  
Kinsenda Mine

- 礦場正在論證太陽能發電是否符合營運實際，以減少對電力、柴油等能源的使用
- Kinsenda Mine is currently evaluating the feasibility of solar power generation based on its operations to reduce the reliance on electricity and diesel fuels.

Musonoi項目  
Musonoi Project

- 礦場期望在項目建設完畢后立即部署可再生能源，持續優化礦區的能源結構
- Musonoi Project aims to deploy renewable energy sources immediately after the completion of the project, continuously optimizing the energy mix of the mining site.

Chibuluma南礦場  
Chibuluma South Mine

- 礦場鼓勵融資租賃承租方使用可再生能源，從而減少碳排放，提升整體環境效益
- Chibuluma South Mine encourages the finance lessee to adopt renewable energy sources, thus reducing carbon emissions and improving overall environmental benefits.

各礦場積極推廣可再生能源應用  
Each mine actively promotes the application of renewable energy



Kinsenda礦場太陽能路燈  
Kinsenda Mine Solar Streetlights

## 我們的表現 - 2022-2024年能源消耗總量 Our Performance - Total Energy Consumed 2022-2024

指標 Indicator	單位 Unit	2024	2023	2022
電力 Electricity	千瓦時 kWh	264,377,500	242,544,120	259,742,223
蒸汽 Steam	噸 Tonne	121,290	158,168	145,626
液化石油氣 Liquefied petroleum gas (LPG)	噸 Tonne	600	0	10
柴油 Diesel	噸 Tonne	8,701	13,715	9,048
汽油 Petrol	噸 Tonne	189	63	23

## 未來計劃 Future Plans

作為於聯交所主板上市的公司，金川國際將遵循於2025匯報年度起逐步生效的《環境、社會及管治報告守則》D部分載列優化後的氣候相關披露規定，幫助持份者了解氣候問題及相關政策變化如何影響我們的資產、業務運作及財務狀況。我們計劃持續完善四項氣候信息披露核心元素（管治、策略、風險管理、指標及目標），對尚未建立的機制或尚未開展的實踐給予重點關注，確保按照相關要求合規披露氣候相關風險及機遇的資料。

As a company listed on the Main Board of the Hong Kong Stock Exchange, JCI will adhere to the enhanced climate-related disclosure requirements outlined in Part D of the Environmental, Social and Governance Reporting Code, which will come into effect from reporting year of 2025, to help stakeholders understand how climate issues and related policy changes impact our assets, business operations, and financial condition. We plan to continuously improve the four core elements of climate-related disclosures (governance, strategy, risk management, metrics and targets), with a particular focus on mechanisms not yet established or practices not yet implemented, to ensure compliance with relevant requirements for disclosing climate-related risks and opportunities.

# 03

## 環境管治

### Environmental Stewardship

本章節所響應SDGs  
SDGs focus in this chapter



本章節所回應重要性議題  
Material topics addressed in this chapter

- 環境管理 Environmental Management
- 水資源 Water
- 廢棄物 Waste
- 排放物 Emissions
- 生物多樣性與土地利用 Biodiversity and Land Use
- 尾礦管理 Tailings Management



JINCHUAN 金川

# 亮點2024

## 2024 HIGHLIGHTS

金川國際致力於長期的環境保護，始終堅持生態友好方針，以充分彰顯對生態環境的責任擔當。我們在環境管治的方方面面著眼長遠，包括於各營運地點以對環境負責且具備成本效益的方式管理水資源、妥善處理各類廢棄物、積極推進生態保護，以及確保尾礦設施安全運行。報告期內，我們持續完善全生命周期的環境管治，並取得如下成績：

JCI is committed to long-term environmental protection and always follows the principle of ecological friendliness to fully demonstrate its responsibility for the ecological environment. We focus on all aspects of long-term environmental stewardship, including the use of water resources and the proper treatment of various types of waste at each mining site in an environmentally responsible and cost-effective manner, promoting ecological protection, and ensuring the safe operation of tailings facilities. During the reporting period, we continued to strengthen environmental stewardship throughout the life cycle and made the following achievements:

### 0 起與安全及環境事項有關的重大違法行為

0 material violations of laws related to safety and environmental matters

### 0 起重大環境突發事件或有害廢棄物違規行為

0 material environmental emergencies or hazardous waste violations

各礦場環保總投入達**112**萬美元，節能減排總投入達**40**萬美元

The total investment in environmental protection across all mines reached US\$ 1,120,000, while the total investment in energy conservation and emission reduction amounted to US\$ 400,000



### 0 起與取用水相關的重大事故

0 material incidents related to water usage

### 0 起尾礦設施安全事故

0 safety incidents related to tailings facilities

# 環境管理

## ENVIRONMENTAL MANAGEMENT

金川國際堅守可持續發展理念，將安全、健康、環境及社區關係的卓越管理視作業務發展的核心支撐，並將其深度融入企業營運的每一個環節。我們所有的礦場及項目均遵守高標準的環境管理體系，並在遵守當地法律要求的同時，全面保障我們營運所在區域及周邊社區的生態環境。

JCI adheres to the principle of sustainable development, regarding excellence in management of safety, health, environment, and community relations as the core foundation of its business growth. These principles are deeply integrated into every aspect of the Company's operations. All of our mining sites and projects follow a high-standard environmental management system that comprehensively protects the environment of the locations in which we operate and that of the surrounding communities while complying with local legal requirements.

### | 依法合規 Law-abiding and Compliant

金川國際嚴格遵守營運所在地區的环境相關法律法規，主要包括剛果（金）頒布的《礦業法》（二零零二年，經二零一八年三月九日第18/001號法律修訂）、《礦業條例》、二零一一年第11/009號《環境保護法》及二零零二年第011/2002號《森林法》，以及贊比亞環境管理局（ZEMA）管轄的《環境管理法》（二零一一年第12號法）等。

我們依據項目所在國的法律法規開展環境影響評價工作，並嚴格遵循環評報告中的環境管理要求，於項目建設前期、建設階段、營運階段及關停階段全程落實環境管理措施，確保礦山項目在整個生命周期均踐行環境保護責任。此外，我們定期向有關當局提交最新的環境影響研究報告、年度環境報告等法定審核文件，並定期邀請第三方專業機構對我們的水質、空氣質量及土壤質量進行檢測及分析，以評估我們環境管理措施的有效性。

JCI strictly abides by the environment-related laws and regulations in the jurisdiction where we operate, which primarily include the Mining Code (2002, amended by Law No. 18/001 dated 9 March 2018), the Mining Regulations, the Environmental Protection Act Law No. 11/009 of 2011 and the Forest Code Law No. 011/2002 of 2002 as promulgated in the DRC, and the Environmental Management Act, 12 of 2011 administered by the Zambian Environmental Management Agency (ZEMA).

We conduct environmental impact assessment (EIA) in accordance with the laws and regulations of the country where the project is located, and carry out environmental management measures during the pre-construction, construction, operation, and closure phases of the project according to the environmental management requirements stipulated in the EIA report to ensure that the responsibility for environmental protection is fulfilled throughout the life cycle of the mine projects. Besides, we regularly submit revised environmental impact studies, annual environmental reports, and audit reports as required by law to the relevant authorities, and regularly invite third-party professional institutions to examine and analyse our water quality, air quality and soil quality to assess the effectiveness of our environmental management measures.

## ■ 規範管理 Standardized Management

金川國際以可持續發展理念為導向，於公司管治及營運層面推行零傷害政策，積極消除工作環境中潛在的環境及安全風險。我們承諾盡力預防污染，通過妥善管理廢物、廢氣、噪音、粉塵及化學物質，保證我們的僱員擁有一個適宜工作的環境，並於任何地方均遵循減少、避免、再用及回收之原則。此外，我們還將通過對土地、能源、生物多樣性、空氣、水進行專門處理，確保物料及自然資源得以妥善保存於礦區之中。

我們的各礦場根據自身實際情況，建立與能源管理、用水管理、有害廢棄物管理、無害廢棄物管理、土壤污染防治及修復等相關的內部管理制度，並適時基於各礦場出現的新問題及國際環境新常規作出調整，推進環境管理體系建設及制度完善。我們於礦區確立了安全、健康、環境及社區（SHEC）架構，並依照ISO 14001之要求，定期審查SHEC管理體系，以確保其充分性及有效性。同時，我們還藉由數字化管理系統「IsoMetrix」對環境及風險事件進行統一管理，保證系統內各項管理程序及制度的嚴格落實，督促全體僱員履行環境保護責任。

Guided by the sustainable development concept, JCI has established the Zero Harm Policy for both corporate governance and operations, so as to eliminate potential environmental and safety risks in the working environment. We promise to do our best to prevent pollution, guarantee our employees a comfortable working environment through management of waste, air, noise, dust, and chemicals, and follow the principle of reduction, avoidance, reuse, and recycling everywhere. We will also conduct special treatment to land, energy, biodiversity, air, and water to ensure materials and natural resources are well preserved in the mining areas.

Each mine of JCI, based on the actual situation, has established internal systems related to energy management, water usage management, hazardous waste management, non-hazardous waste management, and soil pollution prevention and remediation, and made timely adjustments based on the new situations emerging in each mine and new regulations in the international community, to promote the establishment and improvement of environmental management system. We have established a structure of Safety, Health, Environment and Community (SHEC) at mining sites and following the requirement of ISO 14001, we regularly audit SHEC management system to ensure its sufficiency and effectiveness. We also achieve unified management of environment and risk incidents via the digital management system “IsoMetrix” to ensure the rigorous implementation of all management procedures and mechanisms in the system and urge all employees to fulfil their responsibility for environmental protection.

## 各礦場環境管理制度類別一覽(節選) Summary of Environmental Management System Categories of Each Mine (Excerpts)

	環境記錄 Environmental Records		監視及測量 Monitoring and Measurement
	糾正預防措施 Corrective and Preventive Actions		SHEC審計 SHEC Auditing
	水資源管理 Water Management		土壤污染防治及修復 Soil Pollution Prevention and Remediation
	有害廢棄物管理 Hazardous Waste Management		無害廢棄物管理 Non-Hazardous Waste Management
	粉塵水平 Dust Level		噪音水平 Noise Level
	環境應急管理 Environmental Emergency Management		廢水排放管理 Wastewater Discharge Management



Ruashi礦場ISO 14001:2015認證  
Ruashi Mine ISO 14001:2015 Certification

我們有序推進各礦場的環境管理體系認證工作，確保環境管理的科學性、規範性及有效性。Ruashi礦場於2021年至2024年6月期間獲得ISO 14001:2015認證，目前礦場正在籌備認證更新事宜；Kinsenda礦場的環境管理體系符合剛果(金)的環境法律法規；Musonoi項目仍在建設進程中，計劃於2025年營運開始後，獲得ISO 14000系列環境管理體系認證；Chibuluma南礦場的環境管理體系則符合贊比亞的環境法律法規。

We advance in a systematic way the environmental management system certification for each mine site to ensure that the environment management measures are scientific, standardised, and effective. Ruashi Mine: Obtained ISO 14001:2015 certification from 2021 to June 2024. It is currently preparing for certification renewal. Kinsenda Mine: Its environmental management system complies with the environmental laws and regulations of the DRC. Musonoi Project: It is still under construction, but it plans to obtain to obtain ISO 14000 series environmental management system certification after operation in 2025. Chibuluma South Mine: Its environmental management system complies with the environmental laws and regulations of Zambia.

## ◆ 環境管理計劃及目標

### Environment Management Plans and Targets

我們高度重視採礦作業對環境及社會的影響，每年制定詳細的環境管理計劃，明確礦區及項目的環境政策、環境目標及實現目標所採取的措施進行詳盡的規劃，確保礦山及項目活動符合國際標準要求。同時，各礦場根據所在地區的法律及其他要求、重要環境因素、技術、財務及營運需求、持份者的意見以及現有環境政策，制定、分配、監測及報告對應的環境目標及指標，以確保環境管理體系的持續改進。

We attach great importance to the environmental and social impacts of our mining operations. Each year, we develop detailed environmental management plans that clarify the environmental policies, objectives, and measures to achieve these goals for the mining sites and projects. These ensure that all mining and project activities are in accordance with international standards. Each mine also formulates, distributes, monitors, and reports corresponding environmental targets and indicators following the laws and other regulations of areas where the mine is located, material environmental factors, technology, finance and operational demands, stakeholders' opinions and existing environmental policies, to ensure the continuous improvement of the environmental management system.

#### Ruashi礦場

#### Ruashi Mine

Ruashi礦場於2024年度環境管理計劃中，針對水平衡、石油平衡等關鍵領域，實行了月度分配目標的管理模式。礦場為石油回收利用率、電力消耗量、柴油消耗量、材料採購與回收量以及化學品消耗量等環境指標設定了具體量化目標，並制定了年度減少用水量及降低能源消耗量的目標。同時，礦場明確劃分了各項目標的負責人及其職責，確保環境目標的精細化管理與高效達成。

In its 2024 Environmental Management Plan, Ruashi Mine implemented a management model that makes targets on a monthly basis for key areas such as water balance and oil balance. It has set specific quantified targets for environmental indicators such as oil recovery rate, electricity consumption, diesel consumption, material procurement and recycling, and chemical consumption, as well as annual goals for reducing water consumption and energy consumption. Additionally, the mine has clearly defined the personnel responsible for the targets and their duty to ensure precise management and achievement of these environmental goals.

#### Kinsenda礦場

#### Kinsenda Mine

Kinsenda礦場高度重視營運地區的環境及生態保護，圍繞污染防治及生態修復制定了年度目標及項目環境管理規劃，具體措施包括：在礦山周邊開展植樹造林活動，減少粉塵排放對空氣的污染，以及有效控制油類廢棄物對土壤的污染等。

Kinsenda Mine lays great emphasis on environmental and ecological protection in its operational areas. It has set annual goals and environmental management plans for projects focusing on pollution prevention and ecological restoration. Specific measures include: carrying out afforestation activities around the mine to reduce air pollution caused by dust emissions, as well as effectively addressing contamination of the soil brought about by oil waste.

## Musonoi項目

## Musonoi Project

Musonoi項目設置了多項環境管理目標，並積極推進相關工作。例如，對礦井不同水位的水質進行監測，建設廢水沉澱池以淨化排放水，完善雨水收集及排放管理；設計生活垃圾填埋場，規範垃圾處理；開展尾礦庫環境監測，確保尾礦庫的安全與環保等。

Musonoi Project has set multiple environmental management goals and is actively advancing them. For example, it monitors water quality at different levels of the mine, constructs wastewater setting ponds to purify discharged water, and improves rainwater collection and discharge management. It also establishes a domestic waste landfill to standardise waste treatment, and conducts environmental monitoring of tailings ponds to ensure their safety and environmental compliance.

## Chibuluma南礦場

## Chibuluma South Mine

Chibuluma南礦場嚴格遵循採礦許可證要求編製環境保護計劃，並於報告期內全面實現了各項環境管理目標。礦場的主要環境管理成果包括：自主清理污水沉澱池，有效降低污染物排放量；通過停用並維修故障機器、改進操作流程等措施，減少碳氫化合物洩漏或溢出；在工廠內實施循環用水，以地下取水替代部分地表取水，並成功運行人水處理廠，對生產用水進行處理，以提升水資源利用效率，減少廢水排放對環境的影響。

Chibuluma South Mine strictly follows the requirements clarified in the mining license to develop its environmental protection plan, and has fully achieved all environmental management goals during the reporting period. Its key environmental management achievements include: independently cleaning sewage setting ponds to effectively reduce pollutant emissions; reducing hydrocarbon leaks or spills by measures such as decommissioning and repairing faulty machines and improving operational processes; recycling water within the plant, replacing part of the surface water with groundwater, and successfully operating a water treatment plant to process production water. These measures improve water usage efficiency and minimise the environmental impact of wastewater discharge.

## ◆ 全生命周期環境影響管理

### Environmental Impact Management of Product Life Cycle

我們的各礦場嚴格遵循當地法律法規及環境義務要求，積極開展環境影響評估工作。我們全面落實全生命周期環境管理理念，將生態保護、環境風險管控以及生物多樣性保護貫穿於礦山項目的建設、改擴建、生產營運以及關閉等階段。透過科學的環境影響管理措施，我們致力於為當地社區留下綠色、可持續的資源遺產，推動礦業開發與環境保護的和諧共生。

Our mining sites strictly comply with local laws, regulations, and environmental obligations, and actively conduct environmental impact assessments. Fully implementing the concept of environmental management of product life cycle, we integrate ecological protection, environmental risk control, and biodiversity conservation into the construction, renovation and expansion, production, operation, and closure phases of our mining projects. Through scientific measures for environmental impact management, we are committed to giving green and sustainable resources to local communities, promoting the harmony between mining development and environmental protection.

Ruashi礦場

Ruashi Mine

2024年，Ruashi礦場聘請第三方專業機構，開展了覆蓋礦山全生命周期的環境及社會影響審核。此次審核全面評估了礦場營運活動在地表水及地下水、空氣質量、土壤質量、噪音及振動、生物多樣性、廢棄物排放等方面對當地環境的影響，並審查了礦場已採取的各項緩解措施，幫助礦場精準識別潛在的環境風險，為進一步優化其長期的環境管理措施提供科學依據。

In 2024, Ruashi Mine consigned third-party professional institutions to conduct an environmental and social impact audit covering the entire life cycle of the mine. The audit comprehensively assessed the impact of the mine's operations on the local environment in aspects such as surface water and groundwater, air quality, soil quality, noise and vibration, biodiversity, and waste emissions. It also reviewed the various mitigation measures already implemented by the mine. These helped the mine to accurately identify potential environmental risks and provided it with a scientific basis for further optimising its long-term environmental management measures.

Kinsenda礦場

Kinsenda Mine

Kinsenda礦場在其環境及社會影響研究中，嚴格審查自身採礦工程及相關營運支持單位可能產生的潛在環境影響，並識別出主要涉及的作業活動，包括地下鑽探及採礦作業、礦石及廢石堆砌、操作機械及設備維護、燃料及油類物質處理等。為減輕項目對環境的負面影響，礦場在《項目環境管理規劃》中制定了多項環境緩解及恢復措施，包括減少大氣排放、降低資源退化及污染風險、防止土地退化、減輕噪音及振動干擾等，以確保礦場在滿足生產需求的同時，兼顧環境及社會責任。

In its research on environmental and social impact, Kinsenda Mine rigorously examined the potential environmental impacts of its mining operations and activities conducted by related operating units. Major operational activities identified include underground drilling and mining, ore and waste rock stockpiling, machine operation and equipment maintenance, and disposal of fuel and oil, etc. In order to mitigate the project's impacts on the environment, the mine has developed multiple measures for environmental mitigation and restoration in its Project Environmental Management Plan. These include reducing atmospheric emissions, lowering the risk of resource degradation and pollution, preventing land degradation, and minimising noise and vibration disturbances, which ensure that the mine fulfils its environmental and social responsibility while meeting its production needs.

Musonoi項目

Musonoi Project

Musonoi項目關注礦山營運可能造成的生態紊亂、自然動植物破壞、空氣污染、水污染及土地污染、土壤不穩定、景觀退化等環境影響，定期邀請第三方專業機構開展環境監測，以及時識別與管理項目建設過程中的潛在環境風險。

Musonoi Project focuses on potential environmental impacts such as ecological disruption, destruction of natural flora and fauna, air pollution, water and land contamination, soil instability, and landscape degradation. It regularly invites third-party professional institutions to conduct environmental monitoring, so as to ensure timely identification and management of potential environmental risks during the construction.

## Chibuluma南礦場

## Chibuluma South Mine

Chibuluma南礦場每年邀請具有資質的第三方機構，對礦山整體進行環境合規性監測審計，並將監測審計報告反饋至贊比亞環境局及礦山環境部門，以便相關部門及負責人對環境影響問題進行監督與整改。同時，礦場遵守採礦許可證要求，制定並實施年度環境管理計劃，最大限度地減少採礦作業對環境的影響。

Each year, Chibuluma South Mine invites qualified third-party institutions to conduct an environmental compliance audit of the mining site. The audit report is submitted to the Zambia Environmental Management Agency and the mine's environmental department for relevant authorities and personnel to supervise and rectify environmental impact issues. Additionally, the mine adheres to the requirements clarified in the mining license, making and implementing annual environmental management plans to minimise the environmental impact of its mining operations.

## ◀ 環境事件管理

### Environmental Incident Management

我們設有專門的環境事件調查與報告程序，對所報告事件的記錄進行保存及分析，並積極採取措施，汲取經驗教訓，防止因相同或類似原因導致相似事件再次發生；同時依據環境事件對生態系統功能的損害程度及公眾關注程度，對環境事件進行分級，並採取相應的調查方式及糾正措施。此外，我們定期對環境事件記錄進行維護管理，由環境經理負責定期審查記錄，確保其適用性、相關性、實用性及有效性。

We formulate special environmental incidents investigation and reporting procedure to preserve and analyse the record of reported incidents. We take active measures and learn experiences and lessons to prevent the recurrence of similar incidents due to the same or similar cause. Meanwhile, based on the damage extent of the environmental incidents to ecological system function and the extent of public concern, we divide the environmental incident into different levels, and adopt corresponding investigation methods and rectification measures. We will maintain and manage the records of environment-related measures and incidents. The environmental manager is responsible for regularly examining the records to ensure that they are adaptable, relevant, practical, and effective.

在日常營運中，我們定期在礦場開展安全與環境審計，對僱員行為及礦場情況進行跟蹤調查，並將發現的環境不符合項將記錄於IsoMetrix系統中，確保問題得到及時解決。我們會針對環境問題及不符合項制定專項糾正計劃，在現場採取適當的補救措施；對於嚴重的環境問題，我們會召開會議，尋求最優的解決方案。

In our daily operations, we conduct safety and environmental audits at the mines on a regular basis, and track employees' behaviour and the mine conditions. The environmental non-conformities in daily operation will be recorded in IsoMetrix to ensure that these issues are solved in time. We will formulate official rectification plans for these environmental incidents and non-conformities, adopt appropriate remedies on site. For severe environmental incidents, we will convene a meeting to seek for the best solutions.

此外，我們重視提升僱員對環境事件的應對意識，在僱員入職培訓中融入環境問題及應對方法的教育培訓，內容涵蓋所有可能發生的突發環境事件，以及規範的處理措施。我們還會不定期組織應急情況模擬，讓僱員熟悉應對流程，提升應變能力。在每日礦場工作開始前，我們會進行日常動員，強化僱員對礦山環境及突發事件應對計劃的認識。

In addition, we lay great emphasis on improving employees' awareness to help them respond to environmental incidents. Environmental issues and response methods are integrated into employee induction training, which covers all potential environmental emergencies and standardised countermeasures. We also carry out emergency drills from time to time to ensure that employees are familiar with response procedures and improve their ability to cope with the incidents. Each day before the mining operations begin, we hold routine briefings to enhance employees' understanding of the mine's environmental and emergency response plans.

報告期內，我們旗下所有礦場均未發生任何與安全及環境事項有關的重大違法行為，亦未面臨任何重大罰款。

During the reporting period, in all of our mining sites, there were no material violations of laws related to safety and environment or significant fines.

# 水資源管理

## WATER RESOURCES MANAGEMENT

負責任的水資源管理是金川國際的一項重要議題。由於採礦活動涉及大量地下水的處理，且選礦及冶煉過程需要消耗大量水資源，因此確保清潔且安全的水資源對本公司的日常生產經營及周圍社區的生活至關重要。基於此，我們於營運過程中尤為重視水資源管理，不斷提高水資源利用效率，竭力降低對水資源的負面影響。

Responsible water resources management is an essential topic of JCI. Since mining operations involve the treatment of large volumes of underground water and concentration and refining require a large amount of water for refining processes, ensuring clean and safe water resources is crucial for the Company's production operations and the livelihoods of surrounding communities. In view of this, we greatly value water resources management in operation, constantly improve water usage efficiency, and try to lower negative impact on water resources as much as possible.

### 取用水管理 Water Usage Management

我們嚴格遵守項目所在地的法律法規要求，要求各礦場根據每一礦址的氣候及地質條件以及採礦過程的特點等因素，制定獨立的用水管理政策及舉措，以確保盡量減少淡水消耗及不必要的廢水排放。Metorex SHEC委員會作為各礦場水資源管理的最高管理機構，在項目現場提供專業的安全與環境指導，並嚴格監督礦場水資源管理措施的有效執行。2024年，金川國際在求取水源方面並未遇到難處，且並未發生與取用水相關的重大事故。

Strictly abiding local laws and regulations of the jurisdiction where our mines locate, we require each mine to develop independent water management policies and initiatives based on factors such as the climatic and geological conditions of each site and the characteristics of the mining process to ensure that freshwater consumption and unnecessary wastewater discharge are minimised. As the top governing body for water resource management at each mining site, the Metorex SHEC Committee provides on-site professional guidance on safety and environmental issues and rigorously oversees the implementation of measures for water resource management. In 2024, JCI did not encounter any problem in seeking water resources, and did not have any material accidents related to water use.

## ◆ 水資源風險識別

### Identification of Water Risks

採礦作業涉及大量水資源的使用與處理，若忽視水資源風險，可能導致水資源短缺、污染或生態破壞，進而影響企業營運及周邊社區的可持續發展。因此，精準識別並有效管理水資源風險，可在保障生產營運的同時，有效維護生態平衡，以助於實現可持續發展。

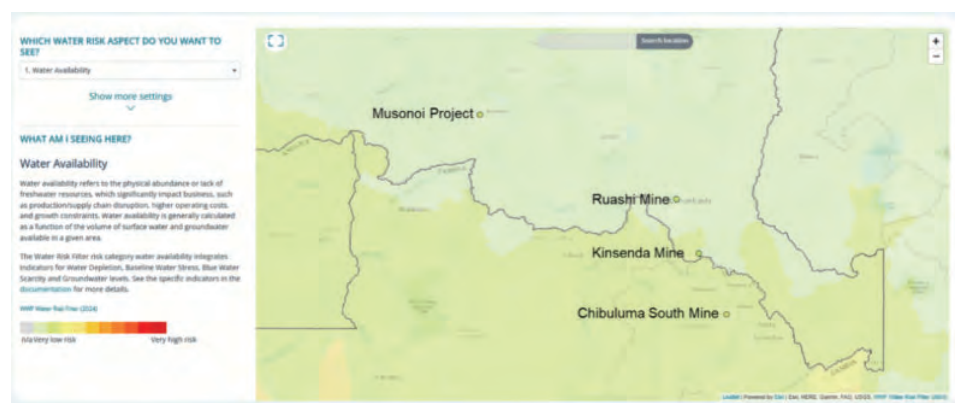
Since mining operations involve the treatment of a large amount of water resources, neglecting water risks may cause water shortages, pollution, or ecological damage, further impacting on both business operations and the sustainable development of surrounding communities. Therefore, it is important to accurately identify and effectively manage water risks. This can not only ensure production operations but also maintain ecological balance, so as to contribute to sustainable development.

我們持續識別、管理及監控礦場營運過程中的水資源風險。2024年，我們繼續採用世界自然基金會 (WWF) 水風險過濾器 (Water Risk Filter)，並依據WWF最新版水風險評估方法論，識別自身各生產營運點所處區域的水風險等級及水資源可用性<sup>8</sup>。

We continue to identify, manage, and monitor water risks during mining operations. In 2024, we continued to use the Water Risk Filter of World Wildlife Fund (WWF). Based on WWF's latest Water Risk Assessment Methodology, we identified the water risk levels and water resource availability in the regions where our Company's production and operation sites are located<sup>8</sup>.

評估結果顯示，我們目前營運的三個礦場及一個融資租賃項目所在地之水資源可用性風險評分均低於2分，代表風險等級為「非常低」，表明這些區域不屬於水資源壓力地區。

The evaluation results show that the three mining sites that we currently operate and one finance lease project are all in areas where the water availability risk scores are below 2 points, indicating a “very low” risk level. This suggests that these regions do not belong to areas under water resources pressure.



WWF水風險過濾器評估結果  
Evaluation Results of WWF Water Risk Filter

8. 水資源可用性是指淡水資源的實際豐富程度或缺乏程度，這對企業有重大影響，例如生產/供應鏈中斷、營運成本上升以及成長受限。水資源可用性通常是以特定區域的地表水及地下水可用量來計算。

Water resource availability refers to the actual abundance or scarcity of freshwater resources, which is of great importance to companies. Its impacts mainly include disruptions in production/supply chains, increased operational costs, and constrained growth. Water resource availability is generally calculated based on the volume of surface water and groundwater available in a certain region.

## ◀ 循環用水

### Water Recycling

我們不斷優化生產工藝、升級水處理設施，引入先進的水資源管理技術，持續提升用水效率，減少新鮮水的取用量，並積極推進水資源的回收與再利用，以實現負責任、可持續的用水目標。

We continue to improve our production processes, upgrade water treatment facilities, and introduce advanced water resources management technologies, so as to enhance water usage efficiency and reduce the withdrawal of fresh water. We also take the initiative to promote the recycling and reuse of water resources to achieve responsible and sustainable water usage goals.

#### Ruashi礦場

#### Ruashi Mine

報告期內，Ruashi礦場積極開展水平衡分析，覆蓋礦石浸出、洗滌及回收等整個工藝流程的用水情況，有助於礦場了解用水來源及去向，從而精準定位用水效率低下的環節，及時發現並整改潛在的水資源浪費。同時，Ruashi礦場通過建設雨水壩及尾礦壩收集雨水、尾礦水，並將其回用至工藝流程中，形成水循環利用閉環，並持續在閉環中開展節水工作。

During the reporting period, Ruashi Mine has conducted water balance analysis of water usage across the entire process, including ore leaching, washing, and recovery. This helps the mine find out where water resources come from and go and precisely identify the parts where the water usage efficiency is low, ensuring timely rectification for potential water waste. At the same time, Ruashi Mine has constructed rainwater dams and tailings dams to collect rainwater and tailings water, which are then reused in the production process, thus creating a closed-loop water recycling system. The mine continues to take water-saving measures within this closed loop.

2024年，Ruashi礦場繼續設置每年減少5%總用水量的用水效率目標，且該目標已於年內順利實現。未來，礦場將加大節水力度，持續深化水資源循環及再利用措施。

In 2024, Ruashi Mine maintained its annual target of reducing total water consumption by 5%, which was then achieved within the year. Looking ahead, it will redouble its efforts to save water resources and continue to deepen its water recycling and reuse measures.

Kinsenda礦場 Kinsenda Mine

Kinsenda礦場在日常營運中強化節約用水管理，及時發現並處理跑冒滴漏情況，避免水資源浪費。報告期內，Kinsenda礦場持續採用井下裂隙水提供生產用水，完善東部井下335ml、西部井下360ml的供水系統建設，降低地表工業供水量，減輕井下排水壓力。同時，礦場在地表工程部內部建設沉澱水池，將井下排出的水進行二次利用，用於井下及地表生產用水。此外，礦場亦對雨水進行收集與管理，設計並建設清水和污水分離的溝渠，並將廠區內所有徑流水匯集至工藝水壩，在進行合規處理後排放至場外。



Kinsenda 雨水管理設施  
Kinsenda Rainwater Management Facilities

In its daily operations, Kinsenda Mine has strengthened its water conservation management to promptly identify and address water leaks and avoid water waste. During the reporting period, it has continued to use underground fissure water for production and improve the water supply systems below 335ml in the eastern section and below 360ml in the western section. These measures reduce surface industrial water supply and alleviate underground drainage pressure. At the same time, setting ponds have been constructed within the surface engineering area to reuse water discharged from underground for both underground and surface production. Furthermore, it has also implemented rainwater collection and management systems and built separate ditches for clean water and wastewater. All runoff water within the plant area is directed to a process water dam for compliant treatment and is then discharged off-site.

Musonoi項目 Musonoi Project

Musonoi項目建設並實施水管理系統，對特許礦區內的雨水進行集中收集。其中，未受污染表面的徑流雨水將被排水溝隔開，並通過周邊的主要下水道收集，最終排放到工廠廢水儲存池中，並在淨化處理後回用至工廠生產流程。

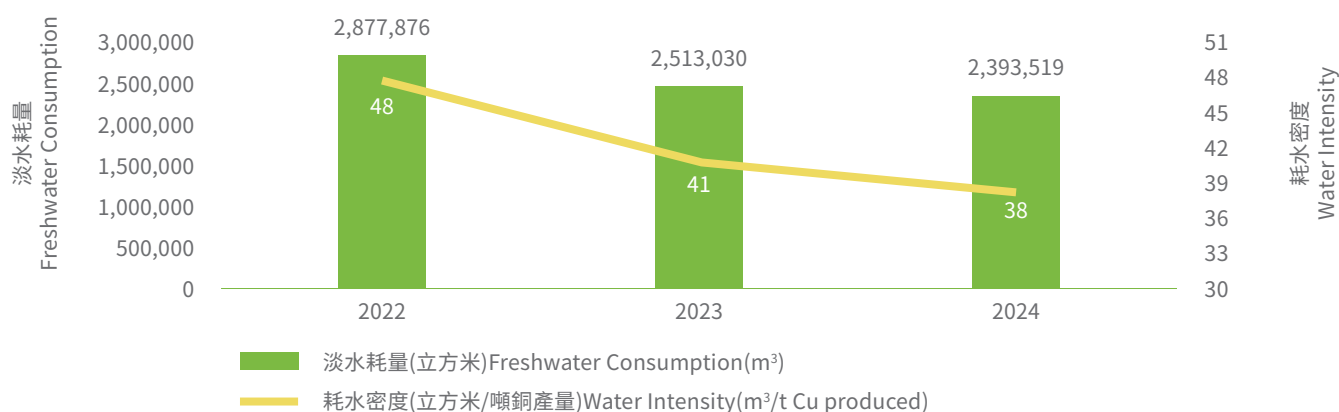
Musonoi Project has developed and implemented a water management system to collect rainwater within the concession area. Rainwater runoff from uncontaminated surfaces is separated by drainage channels and collected through the surrounding main sewer system. It is then discharged into the plant's wastewater storage pond, where it is purified and reused in the plant's production processes.

## Chibuluma南礦場

## Chibuluma South Mine

Chibuluma南礦場為進一步實現水資源循環利用，最大限度地減少從周邊的Kalulushi溪流抽取工業用水，於報告期內制定並實施了一套綜合用水管理方案。該方案從三個不同水源取水：從奇富普(Chifupu)井下抽取並輸送到水庫的水，尾礦儲存設施沉澱池中經過固體沉澱後的清水，以及從鑽孔抽取並直接輸送到工廠的水。此外，Chibuluma南礦場專門配備了水處理廠，對三種不同水源進行有效處理，確保水質符合生產及其他用途的要求，顯著降低對周邊自然水體的依賴。

To further advance water recycling and minimise the extraction of industrial water from the nearby Kalulushi stream, Chibuluma South Mine has made and implemented a comprehensive water management plan during the reporting period. Based on the plan, the mine withdraws water from three different sources: water pumped from the Chifupu underground mine and transported to the reservoir, clean water from the settling ponds in the tailings storage facility after solid settling, and water extracted from boreholes and directly transported to the plant. Additionally, Chibuluma South Mine is equipped with a dedicated water treatment plant that can effectively treat water from the three sources, so as to ensure that it meets the quality standards for production and other uses. This significantly reduces the mine's reliance on surrounding natural water bodies.



2022-2024年水消耗情況  
Total Water Consumed 2022-2024

## 排水管理 Water Discharge Management

工業廢水主要產生自採礦及選礦的營運過程。我們在每個礦場均會對廢水污染物進行監測，涵蓋的主要污染物包括酸性污染物、鹼性污染物、油類污染物、各類重金屬、氰化物、氟化物等。我們將廢水排放管理視為重點任務之一，優先對廢水進行妥善處理，盡量在工廠內部實現循環利用，並確保向外排放的廢水不對環境造成重大影響。

Industrial wastewater is mainly generated from the operational process of mining and beneficiation. Pollutants from wastewater are monitored at each mining site, which mainly includes acidic pollutants, alkaline pollutants, oil pollutants, various heavy metals, cyanide, fluoride, etc. We see wastewater discharge management as one of our key tasks, prioritise the proper treatment of wastewater, and try our best to recycle and reuse the wastewater in the factory, ensuring that discharged wastewater will not exert a material impact on the environment.

## ◆ 水質監測與管理

### Water Quality Monitoring and Management

我們充分考慮到礦場的採礦活動可能會釋放污染物，對地下水、河流水等水域造成負面影響，且這些污染物或將滲透至地下水層，含水層內的水流將會把污染物擴散到更廣的區域。為妥善管理礦產周邊的水資源，我們在營運層面制定了一套詳盡的水資源管理流程，並定期對可能受礦區影響的水體進行檢測，以全面了解礦區周邊環境的水資源情況，並評估我們水資源管理策略的成效。

Given that during their operations, the mining sites may produce pollutants, which have a negative impact on groundwater, river water, and other water bodies and may penetrate to the ground water layer. These pollutants will then be spread to a wider area by the waterflows in aquifer. To manage water resources in the surrounding area of the mining sites, we formulated a set of detailed ground water management procedures for our operations. We also conduct regular inspections to water bodies that may be influenced by the mining sites to comprehensively understand the quality of water resources in surrounding area and evaluate the effectiveness of our water resources management strategies.

#### Ruashi礦場

#### Ruashi Mine

2024年，Ruashi礦場與盧本巴希 (Lubumbashi) 大學實驗室合作開展水質監測，每季度提取地下水、河流水等液體樣本進行水質化驗與分析，檢測採樣水體中化學元素及化合物的濃度，重點關注的參數包括pH、導電率、溶解性固體總量、溶解鈷、溶解銅、溶解錳、溶解鋅、溶解鐵、硫化物等；檢測報告亦對化學需氧量、五日生化需氧量、微生物含量，以及液體透明度、氣味、濁度等指標進行了嚴謹的評估與分析，以綜合判斷液體樣本是否符合工業排放及衛生標準。

In 2024, Ruashi Mine collaborated with the laboratory of University of Lubumbashi to conduct water quality monitoring. Liquid samples such as groundwater and river water were collected quarterly for water quality testing and analysis. The concentration of chemical elements and compounds in the sampled water was tested, with a focus on indicators such as pH, conductivity, total dissolved solids, dissolved cobalt, dissolved copper, dissolved manganese, dissolved zinc, dissolved iron, and sulfides. The testing report also contains rigorous evaluation and analysis of indicators such as chemical oxygen demand, five-day biochemical oxygen demand, microbial content, liquid clarity, odour, and turbidity to determine whether the liquid samples met industrial discharge and health standards.

#### Kinsenda礦場

#### Kinsenda Mine

為應對潛在的酸性岩排水 (ARD) 問題，Kinsenda礦場設置了專門的酸性岩廢水排放池，並在富含銅離子的水池中定期添加石灰粉，以中和並沉澱水中的銅離子，從排水中回收有價值的金屬物質，確保中和後的廢水排放符合當地環保要求。

To address potential acid rock drainage (ARD) issues, Kinsenda Mine established a dedicated acid rock wastewater discharge pond. Lime powder is regularly added to the pond that contains a large amount of copper ions to neutralise and precipitate the ions and recover valuable metals from the discharge water. This ensures that the neutralised wastewater discharge is in accordance with local environmental protection requirements.

## Musonoi項目

## Musonoi Project

Musonoi項目秉持科學嚴謹的管理理念，每季與專業實驗室合作進行水質監測，並定期向公司高層呈報監測報告。項目在排水管理方面採取分類處理措施：生產廢水與生活污水分別進入獨立處理系統。經過嚴格質量控制處理的廢水將回收至工廠，實現循環利用，有效減少對新鮮水資源的依賴；礦井水則被引導至沉澱池，經過初步處理後回用於工廠生產，確保水資源的高效利用。生活污水將被收集至每個設施附近的地下化糞池中進行集中處理，以降低污染物排放。此外，車間及車庫產生的含油廢水或污水會被收集至閉環系統中，其中的油類成分將通過分離裝置被有效分離並送至廢油罐，避免對環境造成污染。

Upholding a scientific and rigorous management philosophy, Musonoi Project collaborated with professional laboratories for quarterly water quality monitoring and regularly submitted monitoring reports to senior management. It implements classified treatment measures for water discharge management, i.e. production wastewater and domestic sewage are directed into separate treatment systems. Wastewater will undergo strict quality control treatments and be recycled to the factory for reuse, effectively reducing the reliance on fresh water resources. Mine water is transported to settling ponds for preliminary treatment and then reused in factory production, ensuring efficient utilisation of water resources. Domestic sewage is collected in underground septic tanks near each facility for centralised treatment to reduce pollutant discharge. In addition, oily wastewater from workshops and garages is collected in a closed-loop system. Oil components are effectively separated by separation devices and sent to waste oil tanks, thus preventing environmental pollution.

## Chibuluma南礦場

## Chibuluma South Mine

Chibuluma南礦場設置了一套完善的閉環水循環系統，當工廠產生的廢水排入尾礦儲存設施 (TSF) 沉澱池時，廢水中的固體物質需在池內充分沉澱，經過澄清處理後的清水隨即被泵送至水處理廠進行進一步淨化處理，並在銅加工過程中實現循環利用。同時，從奇富普 (Chifupu) 井下排出的廢水亦被泵送至地表水庫，隨後再被轉送至水處理廠進行處理，處理後的水將在採礦過程中被重新使用或循環利用。此外，礦場定期委託具備專業資質的第三方機構對廢水排放進行嚴格監測，出具詳細的水質分析報告，同步提交至公司加工廠與環境部門，以便對水質狀況進行實時跟蹤與評估，並根據報告數據進一步優化工藝流程，確保廢水排放完全合規。

Chibuluma South Mine has established a comprehensive closed-loop water recycling system. When wastewater generated by the factory is discharged into settling ponds of the Tailings Storage Facility (TSF), solid substances in the wastewater will be fully settled within the pond. The clarified water is then pumped to the water treatment plant for further purification and reused during copper processing. At the same time, wastewater discharged from the Chifupu underground mine is pumped to the surface reservoir and then transferred to the water treatment plant for treatment. Then the water is reused or recycled in the mining process. Furthermore, the mine regularly consigns qualified third-party institutions to conduct rigorous monitoring of wastewater discharge and make detailed water quality analysis reports. These reports are submitted to both the Company's processing plant and environmental department for real-time tracking and evaluation of water quality. Based on the reports, the mine further optimises its processes to ensure the wastewater discharge is in accordance with regulations.

# 固體廢棄物及 廢氣排放物管理

## SOLID WASTE & AIR EMISSIONS MANAGEMENT

礦石開採及選礦過程中會產生大量採掘廢棄物（大部分為固體廢棄物）及廢氣排放物，若管理不當可能對當地環境、當地社區及正常生產營運造成負面影響。金川國際的環境政策以遵守當地法律法規為基本準則，通過一系列嚴格的管理措施，負責任地處理固體廢棄物及廢氣排放物，減少對生態環境及周邊社區的擾動。2024年，我們未發生重大環境突發事件或有害廢棄物違規行為。

Ore mining and ore processing processes generate a large amount of mining wastes (mostly solid wastes) and emissions, which if not properly managed may adversely affect the local environment, local communities and normal production operations. The basis of JCI's environmental policy is compliance with local laws and regulations. Taking a series of rigorous management measures, we handle solid waste and air emissions in a responsible way to minimise the impact of solid waste and air pollutants to surrounding communities and the environment. In 2024, we had no environmental emergencies or hazardous waste violations that are material.

### 固體廢棄物及有害廢棄物 Solid Waste and Hazardous Waste

我們嚴格遵守項目所在國家及地區的相關環保法律法規處理生產營運中產生的廢棄物，如剛果（金）新《礦業法》及《礦業條例》。各礦場根據當地採礦規範及採礦法規條件，結合自身營運實際情況，參照ISO 14001之要求制定相應的有害廢棄物及無害廢棄物管理程序。我們將責任落實到每位僱員、供應商及承建商，部門負責人將確保廢棄物管理程序的有效執行，環境部門及安全部門將開展例行檢查以衡量合規程序。

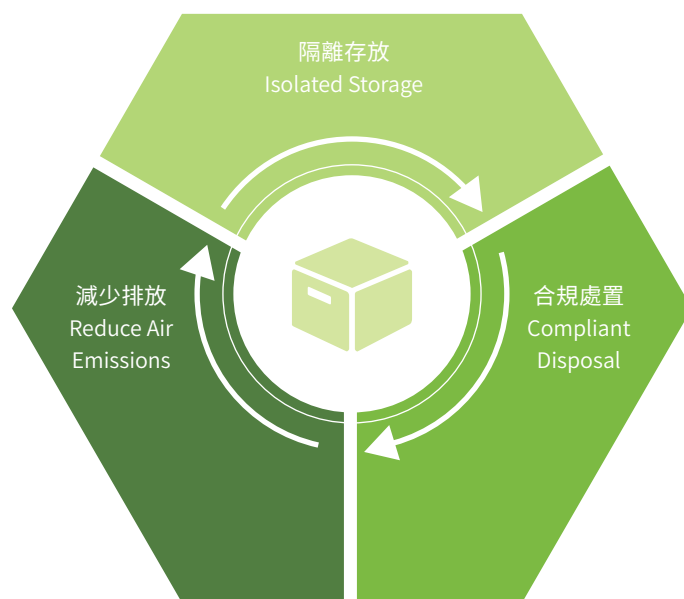
We handle the waste generated in production and operation strictly following the local environmental protection laws and regulations of the countries and regions where our mines operate, such as the new Mining Code and Mining Regulations in the DRC. Each mine site formulates corresponding hazardous waste and non-hazardous waste management procedures following local mining standards, laws and regulations, combining their own situation, and referring to requirements of ISO 14001. We delegate responsibilities to each employee, supplier, and contractor. The department manager will ensure the effective implementation of waste management procedures, and environmental department and safety department will conduct routine inspections to assess compliance with the procedures.

我們主要涉及的固體廢棄物為採礦、選礦過程中產生的廢棄石料、廢棄塑料、廢棄木材等，這些廢棄物通常具有體積大、數量多的特點。因此，我們對其進行分類收集、妥善存放，並在符合環保要求的前提下，選擇合適的處置方式，例如進行資源回收利用或運往指定的廢棄物填埋場進行安全處理，以減少對環境的影響。

We mainly handle waste rock, waste plastics, waste wood, and other solid waste generated during mining and mineral processing. These wastes are generally characterised by their large volume and quantity. Therefore, we classify and store them in a proper way, and select appropriate disposal methods that are in compliance with environmental requirements. For example, we recycle the resources or transport the waste to designated landfills for safe treatment to reduce environmental impact.

- 對固體廢棄物採取嚴格的隔離措施，與危險廢棄物分開存放
- 在運輸過程中特別注意防止各類廢棄物混合，確保運輸安全
- Implement strict isolation measures for solid waste and store it separately from hazardous waste
- During transportation, we pay special attention to preventing the mix of different kinds of waste, to ensure the safety of the transportation

- 設置年度廢棄物排放量化目標，嚴格實施廢棄物減排計劃
- 對有價值的廢棄物進行回收再利用，或委託第三方機構進行回收
- Set annual quantified targets for waste emissions and strictly implement plans to reduce the emissions
- Recycle and reuse waste that are valuable, or consign third-party institutions for recycling



- 明確禁止將焚燒作為廢棄物的處置方式
- 固體廢棄物的處置必須在指定地點進行
- 一般廢棄物可交由具備相應資質的第三方機構負責處置
- Explicitly prohibit incineration as a way of waste disposal
- Solid waste must be disposed of at designated areas
- General waste can be handled by qualified third-party institutions

無害廢棄物管理規範  
Non-Hazardous Waste Management Standards

針對廢油、廢油過濾器、廢棄電池、廢熒光管、墨盒、醫療廢棄物等有害廢棄物，我們制定了更為嚴格的管理程序，以防止因處理、儲存、運輸或處置不當而導致意外洩漏或釋放，避免對土壤、水或空氣造成污染。

As to hazardous waste such as waste oil, waste oil filters, waste batteries, waste fluorescent tubes, ink cartridges, and medical waste, we formulated more rigorous management procedures to prevent accidental leakage or release due to inappropriate handling, storage, transportation, or disposal, and to avoid pollution to soil, water, or air.

存放與標識  
Storage and  
Warning Signs

我們要求所有類別的危險廢棄物不得提供或出售予未持有危廢運輸或處理許可證的第三方機構及組織，亦不得隨意傾倒在任何未經許可的垃圾場；我們要求所有危險廢棄物應當儲存在指定的儲存地或設施中，進行分類存放與規範管理，並設置清晰醒目的警告標識，以防止誤觸或誤用導致的安全事故。

We require that all categories of hazardous waste should not be provided or sold to third-party institutions or organisations without a hazardous waste transportation or disposal license, nor should they be dumped in any unauthorised landfill sites. All hazardous waste must be stored in designated areas or facilities and be classified and managed in accordance with relevant regulations. The waste should be marked with clear and prominent warning signs to prevent incidents caused by accidental contact or misuse.



應急準備  
Emergency  
Preparedness

我們制定詳盡的危險廢棄物應急預案，要求各個危廢儲存地均配備消防應急裝備、洩漏工具包及急救設備，確保危廢洩漏事故的影響能夠得到及時有效的控制，避免人員傷亡或財產損失。

We have made detailed emergency response plans for hazardous waste, requiring that all hazardous waste storage sites should be equipped with firefighting emergency equipment, spill kits, and first aid supplies. These ensure that the incidents of hazardous waste leakage can be promptly and effectively controlled, preventing injuries or property damage.



人員管理  
Personnel  
Management

我們嚴格限制未經授權的人員接觸危險廢棄物，並定期組織負責處理或運輸危廢的人員開展應急演練及培訓活動，以保障其具備充分的應急意識及技能；我們為危廢作業人員配備專門的防護裝備，最大限度地降低危廢可能造成的職業健康與安全風險。

We strictly prohibit unauthorised personnel from accessing hazardous waste and regularly organise emergency drills and training events for personnel responsible for handling or transporting hazardous waste to ensure that they have emergency awareness and necessary skills. We also provide specialised protective equipment for hazardous waste workers to minimise occupational health and safety risks related to hazardous waste handling.



有害廢棄物處置規範  
Hazardous Waste Disposal Standards

Ruashi礦場

Ruashi Mine

2024年，Ruashi礦場對塑料、木材、紙張、醫療廢棄物、IT廢棄物等主要廢棄物訂立了年度減量目標，有序推進廢棄物減量化計劃。在獲得當地政府授權後，礦場將廢墨盒、廢油等危險廢棄物轉運至第三方資質機構進行回收處置，並在內部推進廢舊電池回收、塑料及金屬廢棄物回收等計劃及措施，實現廢棄物資源化利用。

In 2024, Ruashi Mine has set annual reduction targets for major waste categories such as plastics, wood, paper, medical waste, and IT waste, thus advancing its waste reduction plans in a systematic way. After being approved by local authorities, it transfers hazardous waste such as waste ink cartridges and waste oil to qualified third-party institutions for recycling and disposal. It also implements measures such as recycling waste batteries, plastic waste, and metal waste to promote utilisation of the waste.

## Kinsenda礦場 Kinsenda Mine

Kinsenda礦場對所有金屬廢棄物進行集中儲存，並轉移至第三方專業機構進行統一回收處理，2024年共轉運了73,040噸金屬廢棄物，有效提升了資源利用效率。同時，礦場協調礦山井下的採礦與掘進工程，使掘進產生的廢石能夠回填至井下採空區，避免大量廢石拉運至地表，從而降低對土地資源的佔用及對環境的影響。

Kinsenda Mine stores all metal waste in a designated area and transfers it to third-party professional institutions for recycling and processing. In 2024, a total of 73,040 tonnes of metal waste were transported, significantly improving resource utilisation efficiency. Additionally, the mine coordinates underground mining and tunnelling operations to backfill the voids created by mining with waste rock generated from tunnelling. By taking such measures, it avoids transporting large amounts of waste rock to the surface, thus minimising land resource occupation and environmental impact.

## Musonoi項目 Musonoi Project

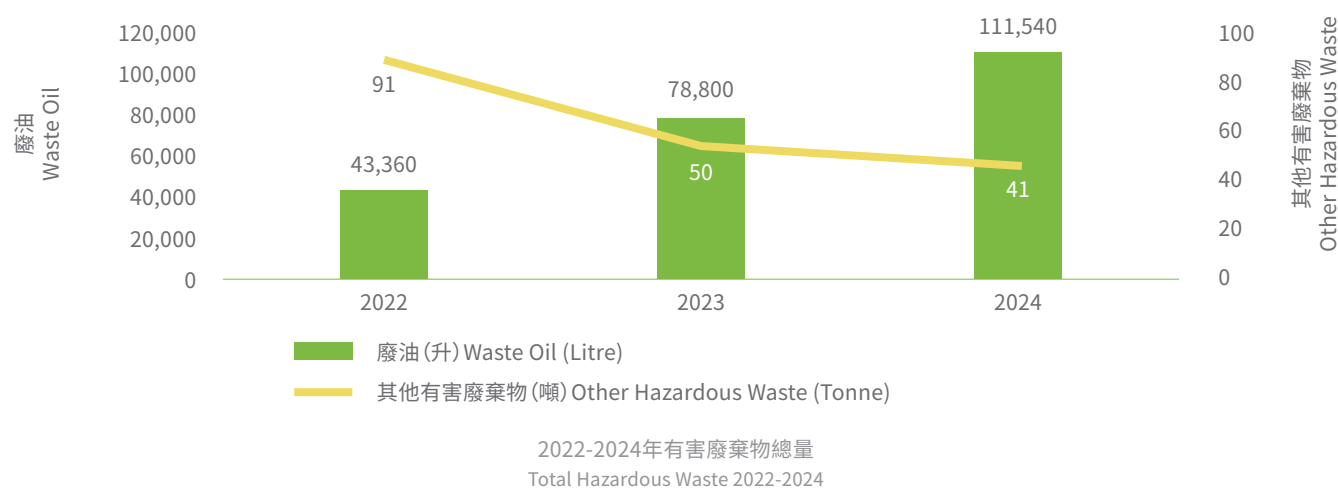
Musonoi項目目前仍在礦井建設階段，因此產生的危險廢棄物較少，主要通過僱傭承建商來收集及運送各區域的廢棄物。目前，項目已完成永久性垃圾填埋場的設計，預計將在建設完成後於2025年投入使用，為廢棄物存放及處置提供更安全環保的場所。

Musonoi Project is currently in the mine construction phase, and thus the amount of hazardous waste remains small. Waste from various areas is primarily collected and transported by hiring contractors. The project has completed the design of a permanent landfill site, which is expected to be put into operation by 2025 after the construction is finished. This site will serve as a safer and more environmentally friendly facility for waste storage and disposal.

## Chibuluma南礦場 Chibuluma South Mine

Chibuluma南礦場聘請擁有許可證及授權的第三方組織，定期從礦場收集固體廢棄物及廢油等危險廢棄物；在處理化學品包裝等危廢的過程中，礦場要求工人必須穿戴個人防護裝備，並將危廢存放至已授權的儲存地點，以便後續進行合規的處置。

Chibuluma South Mine consigns licensed and authorised third-party institutions to regularly collect solid waste, waste oil and other hazardous waste from the mine. When handling hazardous waste such as packaging of chemicals, workers are required to wear personal protective equipment and store the waste in authorised locations for subsequent compliant disposal.



## 廢氣排放 Air Emissions

礦山的開採活動，如井下開拓、爆破等作業，以及車輛通行、運輸過程等，均會產生粉塵。若廢氣排放未得到有效治理，將對空氣質量、生態環境以及周邊社區及生產活動中人員的健康造成不良影響。為此，我們的所有礦場均嚴格遵循所在國家及地區的廢氣排放法律法規及標準，並在營運層面制定相應的控制程序，管理礦場內外的廢氣排放，且定期展開監測以評估及調整管控策略。

Mining operations will generate dust, such as underground development, blasting, vehicle traffic, and transportation. If air emissions are not treated in a proper way, they will have adverse effects on air quality, ecological environment, as well as the health of people in surrounding communities and personnel involved in production activities. All our mines strictly comply with the air emissions laws, regulations, and standards of the country and region where they operate, and develop corresponding control procedures for operations to manage the air emissions inside and outside the mining site. Monitoring is conducted regularly to evaluate and adjust the control strategies.



廢氣排放控制程序  
Air Emissions Control Procedures

Ruashi礦場

Ruashi Mine

Ruashi礦場根據剛果(金)礦業法規定，針對廢氣排放及空氣質量設定了量化目標，包括要求在礦井內砷濃度不超過0.5 mg/m<sup>3</sup>，一氧化碳濃度不超過29 mg/m<sup>3</sup>，銅濃度不超過1 mg/m<sup>3</sup>，以及要求礦井外600米處二氧化矽濃度不超過5 mg/m<sup>3</sup>等目標，以控制生產過程中的粉塵、煙霧及大氣污染物排放量，減少礦場活動對大氣環境的污染。報告期內，Ruashi礦場的二氧化硫排放總量為122噸。

In accordance with the Mining Code of the DRC, Ruashi Mine has set quantified targets for air emissions and air quality. These targets require that arsenic concentrations in the mine do not exceed 0.5 mg/m<sup>3</sup>, carbon monoxide concentrations do not exceed 29 mg/m<sup>3</sup>, copper concentrations do not exceed 1 mg/m<sup>3</sup>, and silica concentrations at 600 metres outside the mine do not exceed 5 mg/m<sup>3</sup>. By taking these measures, the mine aims to control the emissions of dust, smoke, and atmospheric pollutants during production, so as to reduce the impact of mining operations on air quality. During the reporting period, the total sulfur dioxide emissions of Ruashi Mine were 122 tonnes.

Kinsenda礦場

Kinsenda Mine

Kinsenda礦場在日常營運中關注到，工地車輛通行在旱季易造成揚塵，影響礦場內外部的空氣質量。因此，礦場要求車輛限速在20至40公里/小時，並每日對路面進行淋水，以沉降灰塵；礦場還收集粉塵樣本送至專業實驗室進行分析，以精準監測礦廠範圍內的空氣質量。此外，為進一步降低排放，礦場積極督促承建商更換先進設備，選用尾氣排放量低、柴油消耗少的礦用無軌設備，淘汰技術落后、排放量大的設備，減少尾氣對大氣的影響。

During its daily operations, Kinsenda Mine has noticed that vehicle traffic on construction sites during the dry season can easily cause road dust, which affects air quality both inside and outside the mining site. Therefore, the mine enforces a speed limit of 20 to 40 km/h and waters the roads on a daily basis to settle the dust. Additionally, dust samples are collected and sent to professional laboratories for analysis to monitor air quality within the mining site. In order to further reduce air emissions, the mine urges contractors to adopt advanced equipment, such as trackless mining machinery with lower air emissions and less diesel consumption. Outdated equipment with high air emissions is phased out to minimise the impact on the atmosphere.

Musonoi項目

Musonoi Project

Musonoi項目根據環境許可要求，定期進行廢氣及空氣質量監測，並計劃在項目正式投產後逐步實施廢棄排放管理措施。Musonoi項目重點關注所在區域影響空氣質量主要因素，包括採礦作業產生的粉塵、重型車輛在未鋪裝道路上行駛時排放的尾氣，以及礦區周邊土壤的不穩定性及景觀退化等，以期在未來項目營運中對相關大氣污染物進行處理及控制。

In accordance with the requirements of environmental permit, Musonoi Project regularly conducts monitoring of air emissions and air quality, and plans to gradually implement its emission management measures after the project is put into operation. Musonoi Project focuses on key factors affecting air quality in the region, such as dust generated in mining operations, air emissions from heavy vehicles on unpaved roads, soil instability, and landscape degradation around the mining site, seeking to facilitate the treatment and control of relevant air pollutants in its future operations.

Chibuluma南礦場

Chibuluma South Mine

Chibuluma南礦場聘請第三方機構，每季度對礦山進行粉塵及氣體採樣檢測與分析，涵蓋對一氧化碳、氮氧化物、硫氧化物、硫化氫等污染物的監測，並將形成的空氣質量分析報告上報至贊比亞環境管理機構與礦山環境部門，確保廢氣處理及排放符合國家及地方要求。

Chibuluma South Mine consigns third-party institutions to conduct dust and gas sampling, testing, and analysis on a quarterly basis, including pollutants such as carbon monoxide, nitrogen oxides, sulfur oxides, and hydrogen sulfide. Then the air quality analysis reports are submitted to the Zambia Environmental Management Agency and the mine's environmental department to ensure that the treatment and emissions are in accordance with national and local requirements.



我們的表現 - Ruashi礦場的主要廢氣排放物類別及排放濃度

Our Performance - Major Waste Gas Emission Types and Their Respective Concentrations from Ruashi Mine

指標 Indicator	單位 Unit	2024年排放濃度 Emissions concentrations in 2024
一氧化碳 (CO) Carbon monoxide	mg/m <sup>3</sup>	0.001
硫酸霧 Sulfuric acid mist	mg/m <sup>3</sup>	0.11
固體顆粒物 Solid particles	mg/m <sup>3</sup>	0.012

# 生物多樣性及土地利用

## BIODIVERSITY & LAND-USE

生物多樣性及土地資源為生產經營提供至關重要的食物、燃料及淡水，同時亦對氣候變化的影響有所緩解。金川國際深明礦山開採活動將對生態環境造成一定影響，高度注重生物多樣性保護及土地保育。為此，我們實施了一系列措施，如植樹造林、合法採伐、設立土壤污染事故應急程序等，旨在加強礦區及周圍社區的環境保護及生態修復，致力於最大限度地降低生產活動對生物多樣性的風險及影響，努力實現自然和諧與商業活動的可持續協調發展。

Biodiversity and land provide food, fuel, freshwater and other resources that are vital to productive operations, while also mitigating the effects of climate change. JCI fully recognises that mining activities inevitably impact ecosystems, and places utmost importance on biodiversity conservation and soil conservation. Therefore, we have implemented a series of measures, such as afforestation, legal logging, and setting up emergency procedures for soil contamination incidents to enhance the environmental protection and ecological restoration at the mining sites and in neighbouring communities. We are dedicated to minimising the risks and impacts of production activities on biodiversity, so as to pursue sustainable development of both the natural environment and our business activities.

### 生物多樣性 Biodiversity

生物多樣性關係到人類福祉，是人類生存及社會發展的重要基礎。每年，我們的各礦場皆會根據當地情況開展一系列生物多樣性保護行動，促進礦區及周圍社區生態系統的穩定性及多樣性。

Biodiversity relates to human benefits and is a critical foundation of human existence and social development. Every year, our mines will take a series of biodiversity conservation actions in accordance with local conditions, to enhance ecosystem stability and diversity at the mining sites and in neighbouring communities.

#### Ruashi礦場

#### Ruashi Mine

Ruashi礦場遵循零傷害政策，對土地、生物多樣性、空氣、水等關鍵自然資源實施嚴格的保護措施，確保這些資源在礦區營運過程中得到妥善管理及維護，從而保持其完整性及可持續性。

Ruashi Mine adheres to the Zero Harm Policy and takes stringent protection measures for key natural resources such as land, biodiversity, air, and water, ensuring that these resources are properly managed and maintained during mining operations and then preserving their integrity and sustainability.

### Kinsenda礦場 Kinsenda Mine

Kinsenda礦場根據剛果(金)礦業法規制定環境影響緩解及恢復方案,對地下水等自然資源實施長期監測,確保礦山營運產生的廢棄物及污染不會進入自然系統。礦場每年組織僱員參與植樹造林活動,並向當地居民宣傳森林保護意識,呼籲停止森林砍伐等破壞自然生態的行為。

In accordance with the Mining Code of the DRC, Kinsenda Mine has made plans for mitigation and restoration of environmental impact. It conducts long-term monitoring of natural resources such as groundwater, to ensure that waste and pollutants from mining operations will not enter the natural ecosystem. The mine carries out annual tree-planting activities for employees and promotes knowledge of forest conservation among local residents, advocating against deforestation and other activities that harm the natural ecosystem.

### Musonoi項目 Musonoi Project

Musonoi項目嚴格遵守剛果(金)法律、《礦業法》第42條及《礦業條例》第527條對法律條款及生物多樣性保護(由政府部門掌管)作出的規定,堅決不在當地法律禁止的區域進行森林砍伐,並根據法律要求逐步制定及實施植樹造林計劃。

Musonoi Project strictly complies with the regulations on legal provisions and biodiversity protection (controlled by government service) stipulated in the DRC laws, article 42 of the Mining Code, and article 527 of the Mining Regulations. The project will not deforest areas prohibited by local laws and begin to develop and implement afforestation plans that are in accordance with laws.

### Chibuluma南礦場 Chibuluma South Mine

Chibuluma南礦場根據贊比亞環境管理局對生物多樣性保護的相關要求,不在礦區內擅自砍伐樹木,並積極恢復尾礦庫周圍的植被,幫助穩固尾礦壩體,防止土壤侵蝕及溝壑的形成。同時,礦場定期檢查撇油器的運作情況,確保油類物質從廢水中分離,不會進入到生態環境中。

In compliance with the requirements in biodiversity protection set by the Zambia Environmental Management Agency, Chibuluma South Mine will not cut down trees within the mining site without approval. It actively restores vegetation around tailings ponds to reinforce the tailings dam and prevent soil erosion and the formation of gullies. The mine also regularly inspects the operation of oil skimmers to ensure that oil substances are separated from wastewater and do not enter the ecosystem.



Kinsenda礦場植樹造林活動  
Kinsenda Mine Tree-Planting Activities

## 生態應急處置 Biological Emergency Handling

我們遵循項目所在地的採礦條例規定，於礦場營運層面制定了《應急準備響應計劃》，針對火災、化學品洩漏、放射性同位素或生物危害洩漏、酸或其他腐蝕性試劑洩漏等情況，規定了專項應急處置措施，以便及時控制事故影響，降低安全及生態污染風險。

We adhere to the mining regulations of locations in which we operate and have developed the Emergency Preparedness Response Plan for operations. The plan outlines specific emergency response measures for incidents such as fires, chemical leaks, radioactive isotope or biohazard leaks, and leaks of acids or other corrosive agents. These measures are designed to promptly control the incidents and reduce safety and ecological pollution risks.



典型洩漏事故應急處置規範  
Typical Leakage Incidents and Emergency Handling Standards

## 土壤保育 Soil Conservation

我們的各礦場均高度重視土壤保育工作，不斷加強對土地資源的有效保護。Ruashi礦場已設立符合ISO 14001:2015標準的土壤污染防治與修復程序，明確了總經理、工廠經理、部門負責人、環境經理以及物流/倉庫經理在洩漏預防、處理與修復過程中的職責。該程序文件為燃料及潤滑劑的儲存與處置，以及燃料及潤滑劑儲罐、管道及燃料轉運場維護提供了規範指引。如遇土壤污染事件，Ruashi礦場將按照程序規定，使用磷酸一銨及水或微生物對受污染土壤進行生物修復，並由礦場的環境部門根據洩漏物質及洩漏程度，對土壤修復方法提出建議。此外，礦場應按照環境事件分類在IsoMetrix中報告洩漏事件，必要時，礦場總經理需向環境當局報告事件情況。

Kinsenda礦場嚴格遵守剛果（金）相關法律法規，對土地資源進行妥善管理，以盡量減少土壤事故的發生及其造成的損失。Musonoi項目亦對土壤管理風險進行了評估，積極實施土壤保育策略，包括於污水坑、尾礦壩、沉澱池等關鍵區域鋪設土工膜，以有效阻擋酸性物質滲透至土壤；監控廢油、與土壤接觸的酸性物質以及廢油的回收及儲存情況；通過專用桶回收所有廢油，並妥善存放於合適的場所，確保土壤不受污染。此外，Chibuluma南礦場已委託第三方對礦山各點進行土壤分析，並將分析報告送交贊比亞環境管理局及礦山環境部門，確保土壤質量符合當地環境標準。

Our mines attach great importance to soil conservation and are dedicated to enhancing the protection of land resources. Ruashi Mine has established the Soil Pollution Prevention and Remediation Procedure, which complies with the ISO14001:2015 standard. It clarifies the responsibilities of the general manager, plant manager, department heads, environmental manager, and logistics/warehouse manager for leakage prevention, handling, and remediation. The Procedure provides standard guidelines for the storage and disposal of fuels and lubricants, as well as the maintenance of fuel and lubricant tanks, pipelines, and fuel transfer areas. In case of soil contamination incidents, Ruashi Mine will bioremediate the contaminated soil using Mono-Ammonium Phosphate and water or microorganisms, as specified in the Procedure. The mine's environmental department will provide advice on the selection of soil remediation methods based on the substance spilled and the extent of the spill. Additionally, the mine shall report leakage incidents in IsoMetrix based on environmental event categories. When necessary, the general manager must report the incident to the environmental authorities.

Kinsenda Mine strictly abides by laws and regulations of the DRC and properly manages its land resources to minimise the occurrence of soil incidents and the resulting losses. Musonoi Project has also evaluated soil management risks and actively implements soil conservation strategies, which include laying geomembranes in key areas such as sumps, tailings dams, and settling ponds to prevent acidic substances from penetrating the soil. It monitors the recovery and storage of waste oil and acidic substances that come into contact with the soil. All waste oil is collected in dedicated barrels and stored in appropriate facilities to prevent the soil from being contaminated. Moreover, Chibuluma South Mine has consigned a third party to conduct soil analysis at different points across the mine. The analysis reports are submitted to the Zambia Environmental Management Agency and the mine's environmental department to ensure that soil quality meets local environmental standards.

# 尾礦管理

## TAILINGS MANAGEMENT

尾礦管理及儲存是全球採礦業當前面臨的一項關鍵挑戰，亦是我們的重要性議題之一。金川國際深知需要於尾礦設施的全生命周期管理中承擔相應責任，涵蓋從設計、建設、營運至關閉以及閉庫後的管理，並確保尾礦設施的穩定性及安全性。在此過程中，我們綜合考慮了社會、環境、地理條件及技術等多方面的要求，並要求各礦區採取必要措施，保障尾礦存儲設施的絕對安全。我們旨在最大限度地減少因尾礦管理不當而造成的環境損害、社會影響及財產損失。

Tailings management and storage is a critical challenge encountered by the mining industry worldwide, and is one of our material topics. JCI is well aware that we need to take responsibility for life cycle management of tailings facilities, including design, construction, operation, closure, and post-closure management. We also ensure the stability and safety of the facilities. In this process, we take social, environmental, geographical conditions, and technical factors into account, and urge each mining site to take various initiatives to ensure the absolute safety of tailings storage facilities. We aim to minimise the environmental damage, social impact, and property loss due to improper tailings management.

### Ruashi礦場

### Ruashi Mine

Ruashi礦場主動辨識尾礦管理方面的風險因素，識別出壩體侵蝕、回水壩淤堵等主要風險點，並針對性開展修壩清淤等整改措施。在尾礦壩監測方面，Ruashi礦場於報告期內繼續委聘第三方機構進行安全審核，並撰寫年度審核報告及警戒報告，以識別尾礦設施的風險並提出優化建議。



Ruashi礦場尾礦壩  
Ruashi Mine's Tailings Dam

Ruashi Mine takes the initiative to identify risk factors related to tailings management and pinpoint key risk areas such as erosion around the dam and siltation in the return water dam. After that, it implements targeted measures such as dam repairs and dredging. In terms of tailings dam monitoring, during the reporting period, Ruashi Mine insists on engaging third-party institutions to conduct safety audits, and write Annual Audit Reports and Vigilance Reports to identify the risks of tailings facilities and propose optimisations.

### Kinsenda礦場

### Kinsenda Mine

Kinsenda礦場建立尾礦儲存設施(TSF)，並委託第三方專業機構每六個月進行一次檢查，確保設施保持最佳運行狀態。TSF中的尾礦水通過壓力水管輸送至回水壩(RWD)，經處理後回用於工廠生產活動中；RWD周圍亦設有額外的溢流壩，用於在強降雨時容納溢流水，防止尾礦水流入周邊環境，有效降低環境污染風險。該礦場預計於未來約十年內達到礦產可持續儲量，並計劃進行閉礦。目前，礦場每年對礦區及尾礦壩進行一次全面檢測，並對尾礦壩進行砂三軸壓縮試驗等專業測試，以及時發現及應對尾礦壩的安全風險。



Kinsenda 尾礦回水壩  
Kinsenda Tailings Return Water Dam

Kinsenda Mine has established a Tailings Storage Facility (TSF) and engages third-party professional institutions to conduct inspections every six months, ensuring the optimum conditions of the facility. Tailings water from the TSF is transported via pressure pipelines to the Return Water Dam (RWD), where it is treated and reused in the plant's production activities. Additional overflow dams are also constructed around the RWD to contain excess water during heavy rainfall, thus preventing tailings water from entering the surrounding environment and effectively reducing risks of environmental pollution. The mine is expected to reach its sustainable mineral reserves in approximately ten years and plans to cease its operations then. Currently, every year the mine conducts a comprehensive inspection of the mining site and tailings dam, including specialised tests such as triaxial compression tests on the tailings dam material/tailings dam sand, to promptly identify and address safety risks related to the tailings dam.

### Musonoi項目

### Musonoi Project

Musonoi項目於本年度完成了尾礦壩建設，正在初步投入使用。目前，礦場建設的尾礦儲存設施完全符合當地法律法規的要求，暫未發現安全隱患或環境風險。此外，Musonoi項目在回水壩及TSF中均鋪設防水襯墊，防止尾礦水滲透導致的地下水污染。



Musonoi尾礦儲存設施  
Musonoi Tailings Storage Facility

This year Musonoi Project has completed the construction of its tailings dam, which is in the initial stages of operations. At present, the tailings storage facility at the mining site fully complies with local laws and regulations, and no safety hazards or environmental risks have been identified. Moreover, it has laid waterproof liners in both the RWD and the TSF to prevent groundwater contamination caused by tailings water penetration.

Chibuluma南礦場

Chibuluma South Mine

Chibuluma南礦場識別到尾礦壩在管理不當的情況下，可能存在坍塌的風險。因此，礦場每日委派工作人員進行專項檢查，以確保大壩處於良好穩固的狀態；一旦發現有溝壑形成，則需立即報告礦場主管，並通過放置沙袋等措施防止壩體進一步受到侵蝕。

Chibuluma South Mine has identified the tailings dam may collapse in case of improper management. Given that, the mine assigns personnel to conduct specialised inspections on a daily basis to ensure that the dam is in good condition. If any gullies are detected, the personnel shall immediately report to the mine supervisor, and measures such as placing sandbags are taken to prevent further erosion around the dam.



我們的表現 - 2023-2024年尾礦設施有關數據  
Our Performance - Data Pertaining to Tailings Facilities for 2023-2024

指標 Indicator	單位 Unit	2024	2023
尾礦總重量 Total weight of tailings	噸 Tonne	1,754,695	1,768,843
尾礦庫總數 Total number of tailings storage facilities	個 Number	4	3
活躍的尾礦庫數量 Number of active tailings storage facilities	個 Number	3	2
高風險尾礦庫數量 Number of high-risk tailings storage facilities	個 Number	0	0

# 04

## 社會影響

## Social Impact

本章節所響應SDGs  
SDGs focus in this chapter



本章節所回應重要性議題  
Material topics addressed in this chapter

- 僱傭與勞工管理 Employment and Labour Management
- 多元、平等與包容 Diversity, Equity and Inclusion
- 僱員發展與培訓 Employee Development and Training
- 僱員安全與健康 Employee Safety and Health
- 社區關係 Community Relationships
- 原住民關係 Indigenous Peoples Relationships



JINCHUAN 金川



# 亮點2024

## 2024 HIGHLIGHTS

金川國際堅守其根本責任，切實保障僱員、當地社區等全體持份者的合法權益。報告期內，我們在所有業務中積極打造安全、健康、公平且包容的工作環境，確保每位僱員均能在平等、尊重的基礎上貢獻自身力量，同時強化構建與屬地社群的良好關係，並取得如下成績：

Upholding its fundamental responsibility, JCI takes concrete measures to safeguard the legal rights and interests of employees, local communities, and other stakeholders. During the reporting period, we strived to establish a secure, healthy, equitable, and inclusive working environment across all our operations in an effort to ensure that each employee can contribute their efforts on the basis of equality and respect, while actively fostering positive relationships with local communities. As a result of our efforts, we achieved the following outcomes:

**0** 起童工使用或強迫勞動事件  
0 incidents of child or forced labour

社區投資較上一年度增長

**8%**，達 **334** 萬美元

An 8% increase in community investment compared to the previous year, reaching US\$ 3,340,000

**0** 起因工死亡事件

0 work-related fatalities



**0** 起營運地罷工或停工事件

0 incidents of strikes or lockouts at any of our mining operations

**0** 起侵犯原住民人權及侵犯文化遺產權利事件

0 incidents of indigenous human rights violations or cultural heritage infringements

# 人權

## HUMAN RIGHTS

金川國際堅持聯合國人權宣言以及國際勞工組織的基本公約。為於本企業內部維護並促進對人權的尊重，我們努力確保本企業內部每個個體均承認及尊重基本人權與自由，並保障人權政策得到有效認可及遵守。我們的人權政策聲明概述了我們對僱員作出的承諾及制定的標準，包括消除童工及強迫勞動、不歧視、有權自由結社及集體談判等，且該政策聲明適用於所有僱員、承建商、顧問及其他受僱於或參與我們擁有的所有業務及項目的第三方。此外，我們的所有經營活動中均有設立礦工工會，以保護礦工的合法權利。

JCI firmly adheres to the United Nations Universal Declaration of Human Rights and the International Labour Organization's fundamental conventions. To uphold and promote respect for human rights within the Company, we strive to ensure that every individual within the Company recognises and respects basic human rights and freedom and ensure our Human Rights Policy is effectively recognised and observed. Our Human Rights Policy Statement outlines our commitment and standards set out for our people, including the eradication of child and forced labour, non-discrimination, the right to freedom of association and collective bargaining. Our Human Rights Policy Statement applies to all employees, contractors, consultants, and other third parties employed by or involved in all businesses and projects that we own. Mine workers' unions are established in all operations to protect the mine workers' rights.

### 勞工人權 Labour Rights

我們遵從聯合國《世界人權宣言》以及各項目所在國及地區的法律法規，制定了《集團道德規範和人權制度》並發布了《人權制度聲明》，致力於確保本公司內的全體僱員享有以下權利及自由，包括不受奴役、勞役及強迫勞動，享有言論自由及和平集會的權利等。Ruashi礦場則制定有《Ruashi人權聲明政策》以保障僱員合法權益。

We adhere to the United Nations Universal Declaration of Human Rights and the laws and regulations of the country and region where our projects are located. We have formulated the Group Code of Ethics and Human Rights Policy and issued the Human Rights Policy Statement, so as to ensure that all employees within the Company enjoy the following rights and freedoms, including freedom from slavery, forced labour, and coercion, as well as the right to freedom of speech and peaceful assembly. Ruashi Mine has also formulated the Ruashi Human Rights Statement Policy to safeguard the legitimate rights and interests of its employees.

## ◆ 杜絕童工及強迫勞動

### Elimination of Child and Forced Labour

我們的招聘常規完全符合中國香港、南非、剛果（金）及贊比亞等地的法律法規。在剛果（金），當地的招聘常規遵守國際勞工組織《關於最低就業年齡的第138號公約》及《關於最惡劣形式童工的第182號公約》，剛果（金）法律對僱傭16歲以下兒童作出具體規定；而在贊比亞，2019年第3號《就業法》及國際勞工組織勞工標準則規定，最低就業年齡為15歲。

The recruitment practices of JCI fully comply with local laws and regulations, including Hong Kong SAR (China), South Africa, the DRC, and Zambia. In the DRC, local recruitment practices adhere to the International Labour Organization Conventions No. 138 on the Minimum Age of Employment and No. 182 on the Worst Forms of Child Labour, and DRC law makes specific provisions for the employment of children under the age of 16, while in Zambia, the Employment Code Act No. 3 of 2019 and the International Labour Organization's labour standards specify that the minimum age for employment is 15 years of age.

為全面遵守當地法律法規，我們設有嚴格的年齡要求，禁止僱傭任何年齡低於18歲的人員，所有僱員在獲錄用及加入本企業時均須出示身份證件並完成背景調查。該政策亦適用於承建商，我們不與使用童工的供應商、承建商或其他第三方合作。Ruashi礦場制定《Ruashi童工及現代奴役政策及程序》，並開展《騷擾、童工、申訴和現代奴役》有關培訓課程，共計982人參加；Kinsenda礦場、Musonoi項目及Chibuluma南礦場亦完全遵守本公司及當地相關法律規定。

To comply with the local laws and regulations, we have a strict age requirement that we do not employ anyone younger than 18 years of age. All employees are required to present identity documentation and complete background checks when hiring and joining the Company. The policy also applies to contractors. We do not collaborate with suppliers, contractors, or other third parties that use child labour. Ruashi Mine has made Ruashi Child Labour & Modern Slavery Policy and Procedure and carried out training sessions about Harassment, Child Labour, Grievance and Modern Slavery, with a total of 982 participants. Kinsenda Mine, Musonoi Project, and Chibuluma South Mine also comply with relevant laws and regulations of the Company and local areas.

2024年，我們的作業現場概無發生童工及強迫勞動情形。

No cases of child labour and forced labour have occurred at our operation sites in 2024.



### 案例: Ruashi礦場的童工及現代奴役政策及程序

Case: Child Labour and Modern Slavery Policy and Procedure at Ruashi Mine

依據剛果(金)當地法律法規及相關國際公約, Ruashi礦場制定了《Ruashi童工及現代奴役政策及程序》,以確保在管理及經營企業業務時對童工及現代奴役情況有所關注、糾正及監督,詳述如下。

In compliance with applicable laws and regulations of the DRC and relevant international conventions, Ruashi Mine formulated the Ruashi Child Labour & Modern Slavery Policy and Procedure, which ensures child labour and modern slavery are noted, corrected, and monitored when governing and conducting the enterprise's business. The policy specifies cases handling processes where child labour and modern slavery have been noticed, as detailed below:

一旦發現童工及現代奴役情形時, Ruashi礦場人力資源管理部應:

When noticing cases of child labour and modern slavery, the Human Resource Management Department at Ruashi Mine should:

- 立即編製報告並告知本企業。  
Immediately prepare a report and inform the Company.
- 立即將兒童調離異常情況。  
Immediately remove the child from the abnormal situation.
- 探查定位問題所在,特別是確定其是否為最惡劣形式的童工或現代奴役,並採取適切的糾正措施。  
Investigate to find out what went wrong, especially determine whether it is a case of the worst form of child labour or modern slavery, and take appropriate corrective measures.

Ruashi礦場為最惡劣形式的童工及受現代奴役僱員提供諮詢渠道及申訴機制,並將對違反政策內容的僱員採取嚴厲的紀律處分。

Ruashi Mine provides consultation channels and grievance mechanisms for the worst form of child labour and employees subjected to modern slavery, and will impose strict disciplinary actions on employees who violate the policy.

## ◆ 反歧視及反騷擾

### Non-Discrimination and Anti-Harassment

為創造包容的工作環境，令每位僱員得到應有尊重，我們及全體僱員的一切行為應基於相互尊重之原則。我們不接受組織內出現任何形式的霸凌、騷擾、歧視及其他可能被視為威脅或有辱人格的行為。

To create an inclusive work environment where every employee is treated with the respect they deserve, the behaviour of us and our employees should be based on mutual respect. We do not accept any form of bullying, harassment, discrimination, and other behaviour that may be regarded as threatening or humanly degrading across our organisation.

我們的《企業性騷擾政策》旨在預防工作場所中任何形式的性騷擾，保障僱員於職場中的人身安全及尊嚴，且該政策適用於所有長期、定期及臨時僱員。該政策之目的是為僱員提供可信、可靠及公正的機制來處理性騷擾的指控。我們致力於嚴肅處理所有性騷擾事件，並對該等被發現有此行徑的人採取適當的行為。同時，企業僱員亦可將根據《反欺詐、不當行為及舉報政策》開展舉報行動，以保障僱員能夠安心舉報任何他們懷疑的不當行為，而不必擔心遭到任何形式的報復。Ruashi礦場制定了《Ruashi性騷擾和欺凌政策與程序》，並開展《騷擾、童工、申訴和現代奴役》有關培訓課程；Kinsenda礦場在企業細則內規定了僱員歧視或騷擾行為的處理程序；Musonoi項目及Chibuluma南礦場遵守本公司及當地相關法律規定，其中Musonoi項目從2025年1月起接受監督。

We have a Corporate Sexual Harassment Policy that aims to prevent and protect employees against any form of sexual harassment in the workplace and safeguard the personal safety and dignity of employees. Furthermore, this policy applies to all permanent, fixed-term, and temporary employees. The objective of the policy is to provide employees with credible, accessible, and fair mechanisms to deal with allegations of sexual harassment. We are committed to dealing with all sexual harassment incidents in a serious manner and will take the appropriate action against those who are found guilty of such an offense. Meanwhile, employees are also encouraged to report any suspected misconduct in accordance with the Anti-Fraud, Misconduct and Whistleblowing Policy to ensure that employees feel comfortable reporting any suspected misconduct without fear of retaliation of any kind. Ruashi Mine has made Ruashi Sexual Harassment & Bullying Policy and Procedure and carried out training sessions about Harassment, Child Labour, Grievance and Modern Slavery. Kinsenda Mine has formulated procedures in its Corporate Policy for addressing discrimination or harassment. Musonoi Project and Chibuluma South Mine comply with relevant laws and regulations of the Company and local areas, with the Musonoi Project being subject to supervision from January 2025.



### 案例：Kinsenda礦場對僱員歧視或騷擾行爲的處理程序

Case: Kinsenda Mine's Procedures for Addressing Discrimination or Harassment

Kinsenda礦場在企業細則中明確規定，僱員舉報歧視或騷擾行爲的權利受到嚴格保護，實施歧視或騷擾行爲的僱員將受到懲罰，詳述如下：

Kinsenda Mine's Corporate Policy clearly affirms the protection of employees' rights to report incidents of discrimination or harassment, and emphasises that individuals who engage in such behaviour will face consequences according to the outlined penalties:

- 任何僱員均不得遭受任何形式的性騷擾，包括帶有性含義或暗示的言語或行爲。這些言語或行爲因其有辱人格或侮辱性的性質而攻擊或玷污了一個人的尊嚴，或對他們造成了一種恐嚇、敵意或冒犯的局面。

Employees are strictly prohibited from engaging in any form of sexual harassment, including the use of sexually explicit or suggestive language or actions, which, due to the degrading or humiliating nature, undermines an individual's dignity or creates an intimidating, hostile, or offensive environment.

- 任何僱員、求職者或在職培訓生均不得因遭受或拒絕接受歧視或騷擾行爲，或因就此類行爲作證或舉報此類行爲，而受到直接或間接的處罰、解僱或歧視性措施，特別是在薪酬、培訓、重新定級、分配、職業晉升、調動或續簽合同方面。

No employee, job applicant, or current trainee shall face any form of direct or indirect punishment, dismissal, or discriminatory measures, particularly concerning their salary, training, reclassification, assignment, career advancement, transfer, or contract renewal, for being subjected to or refusing to tolerate discriminatory or harassing behaviour, or for providing testimony or reporting such behaviour.

- 任何實施歧視或騷擾行爲的僱員都將受到紀律處分。

Any employee found to be involved in discriminatory or harassing behaviour will be subject to disciplinary action.

### ◆ 結社自由及集體談判

Freedom of Association  
and Collective Bargaining

我們竭力為所有僱員創造公平、尊重的工作環境，並就共同關注事項尋求所有僱員的交流意見、信息及感受。本企業的僱員關係政策及相關程序與營運所在國家及地區的當地法例保持一致，且將有助於我們管理勞資關係，維護企業、管理層、僱員及勞工聯盟之間的良好關係，並於僱員待遇方面促進公正、公平、平等、合理及一致。2024年，我們的採礦營運地均未發生因罷工導致的停工事件。

We strive to create a fair and respectful working environment for all employees, and also seek to exchange ideas, information, and feedback with all employees on matters of mutual concern. Our Group Employee Relations Policy and related procedures are aligned with the local legislation in the country and region where we operate. It also helps manage our industrial relations, maintain the existence of healthy relationships among the company, management, employees, and worker's unions, and promote justice, fairness, equity, reasonableness, and consistency in the treatment of employees. There were no lockouts due to strikes at any of our mining operations in 2024.

具體而言，我們承認並維護僱員結社自由及集體談判的權利，我們的僱員有權選擇加入或不加入工會，無需擔心受到干擾或報復。我們與工會保持積極的合作關係。截至報告期末，Ruashi礦場、Kinsenda礦場、Musonoi項目已根據當地法律法規建立工會，Chibuluma南礦場的融資承租人亦已為該礦場建立工會組織。工會定期推選僱員代表，了解並回應僱員的期望及訴求。

Specifically, we recognise and uphold the rights of our employees to freedom of association and collective bargaining. Our employees have the rights to choose whether or not to join a trade union without fear of interference or retaliation. Moreover, we maintain a positive cooperative relationship with trade unions. As of the end of the reporting period, Ruashi Mine, Kinsenda Mine and Musonoi Project have established trade unions according to local laws and regulations. Chibuluma South Mine's finance lessee has also set up a trade union organisation for the mine. The Trade Union regularly selects employee representatives to understand and respond to employees' expectations and demands.

#### Ruashi礦場 Ruashi Mine

報告期內，Ruashi礦場按季度開展4次會議，討論內容及成果包括：

- **薪資談判**：為工會成員加薪3%，並發放50公斤大米。
- **署任津貼**：按集體協議向高級職務僱員支付。
- **PPE發放頻率**：定期向僱員發放個人防護裝備。
- **通勤巴士**：2023年購買，2024年交付礦場，目前運行正常。
- **午餐飯票**：向礦場人員發放飯票，價值待定。
- **土地購買**：為僱員購買土地。
- **非獎金核算**：進行非獎金部分核算。

During the reporting period, Ruashi Mine held four quarterly meetings. The discussions and achievements include:

Salary negotiations: It has a 3% increase in salary for union members and distributes 50 kg of rice to them.

Acting allowances: Pay senior employees in accordance with the collective agreement.

PPE distribution frequency: Regularly distribute personal protective equipment to employees.

Commuter buses: Purchased in 2023 and delivered to the mine in 2024. Currently they operate normally.

Lunch vouchers: Issued to mine personnel, with the value to be determined.

Land purchase: Purchase land for employees.

Accounting of payments that do not belong to bonuses: Conduct accounting of payments that do not belong to bonuses.

## Kinsenda礦場

## Kinsenda Mine

Kinsenda礦場與僱員簽訂了集體協議，包含工會活動的組織及運作、工作人員及僱主的權利及義務、代理人的職業生涯、工資獎金及津貼、一般工作條件、紀律制度、終止僱用合同或結束職業生涯、工作人員社會福利等內容。

報告期內，Kinsenda礦場開展了4次定期會議及1次特別會議（特別會議討論薪資審查的特別會議，最終要求加薪6%）；定期會議包括2次季度會議、1次半年會議及1次年度會議，其討論內容包括：

- 按類別、級別及性別分列的所有工作人員的流動情況
- 職業病及工傷事故申報。
- 僱員培訓統計數據等。

Kinsenda Mine has signed a collective agreement with its employees, which covers the organisation and operation of union activities, the rights and obligations of employees and employers, career development of representatives, salaries, bonuses, and allowances, general working conditions, disciplinary systems, termination of employment contracts or career endings, and social welfare for employees.

During the reporting period, Kinsenda Mine held four regular meetings and one special meeting (the special meeting was centred on salary reviews and ultimately demanded a 6% increase in salaries). The regular meetings included two quarterly meetings, one semi-annual meeting, and one annual meeting. The discussions included:

Staff turnover categorised by type, level, and gender.  
Reporting of occupational disease and work-related injuries.  
Employee training statistics.

## Musonoi項目

## Musonoi Project

Musonoi項目與僱員簽訂了集體協議，包含就業條件改善、工會權利義務、工會使命、會議日程等內容。

報告期內，Musonoi項目開展了2次定期會議及1次特別會議（特別會議討論修訂工會會費標準及出席費率），定期會議討論內容包括：

- 按類別、級別及性別分列的所有人員的流動情況。
- 職業病及工傷事故申報。
- 地下礦井及變電站工作人員保險費支付。
- 改善工作場所衛生條件。
- 加班費支付。
- 向已服務滿5年的代理人發放地塊的申請等。

Musonoi Project has signed a collective agreement with its employees, which covers improvements in employment conditions, rights and obligations of the trade union, missions of the trade union, and meeting schedules.

During the reporting period, Musonoi Project held two regular meetings and one special meeting (the special meeting was centred on revising union fee standards and attendance rates). Topics discussed in the regular meetings included:

Staff turnover categorised by type, level, and gender.  
Reporting of occupational disease and work-related injuries.  
Payment of insurance premiums for workers at underground mine and substations.  
Improving hygiene conditions in workplace.  
Overtime payment.  
Applications for allocation of land to representatives who have served for five years.

Chibuluma南礦場

Chibuluma South Mine

Chibuluma南礦場尊重僱員結社自由及集體談判權利，融資承租人亦已為該礦場建立工會組織。Chibuluma南礦場將繼續秉持開放態度，積極溝通，鼓勵僱員參與工會活動，並推動集體談判的開展，以確保其合法權益得到充分保障。

Chibuluma South Mine respects the rights of our employees to freedom of association and collective bargaining. The finance lessee has also set up a trade union organisation for the mine. It will continue to uphold the principle of openness and stay ready to communicate with employees and encourage them to participate in union activities. It will also promote the collective bargaining to ensure that employees' legitimate rights and interests are fully guaranteed.

## 原住民人權及文化遺產權利 Indigenous Human Rights and Cultural Heritage Rights

原住民關係為我們的重要議題。我們遵守《聯合國土著人民權利宣言》，承認並尊重原住民的文化、傳承及傳統權。我們的《集團社會政策》規範了各營運項目的社區關係管理標準，並承諾維護及促進營運地所在社區的人權，以及承認並尊重土著人民的文化、遺產及傳統權利，支持土著文化遺產的鑒定、記錄、管理及保護。報告期內，Musonoi項目制定了傳統生活方式保護政策，承諾避免在徵地、移民搬遷過程中對傳統文化場所、宗教聖地及歷史遺蹟造成破壞。

Indigenous Peoples Relationships is a material topic for us. We adhere to the United Nations Declaration on the Rights of Indigenous Peoples, recognise and respect indigenous peoples' culture, heritage, and traditional rights. Our Group Community Policy specifies the standards of community relationships management at each of our operations and pledges to uphold and promote the human rights of the communities in which we operate. Additionally, we recognise and respect the culture, heritage, and traditional rights of indigenous peoples. We also support the identification, documentation, management, and preservation of indigenous cultural heritage. During the reporting period, Musonoi Project has made the Traditional Lifestyle Protection Policy. It promises to avoid damage to traditional cultural sites, religious sanctuaries, and historical relics during land acquisition and resettlement.

在我們的營運體系中，Chibuluma南礦場與所在社區有著獨特而重要的關係，其中包括贊比亞憲法建立並得到其確認的酋長領地、社區及村莊。為此，Chibuluma南礦場制定了《與外部持份者接觸的程序》——這些外部持份者包括居住在現址的住民（無論是否擁有產權）、與土地有特殊關係或擁有特定土地資源及文化權利的土著或部落人民以及受項目影響或確定需要重新安置的土地或資產的人員等。該程序不僅為原住民提供了自由表達觀點的機會，還有助於企業了解原住民的關切及訴求，以將相關信息納入企業決策過程。

在開採礦活動中，我們嚴格遵循國際金融公司（IFC）績效標準8，全力保護文化遺產。我們通過前期評估及項目優化，儘量避免項目開發對所在地周邊原住民的傳統領土或具有歷史意義的文化遺產造成影響或破壞。如不可避免，我們會與原住民社區充分協商，獲得其自由、事先及知情同意，並制定保護或修復方案，最大限度減少不利影響。同時，我們通過社區發展項目，改善當地經濟及文化環境，助力可持續發展。

2024年，我們未發現任何涉及侵犯原住民人權的事件，亦無任何涉及侵犯文化遺產權利的事件。

In our operating system, Chibuluma South Mine encompasses distinct and significant relations with the local communities, which include chiefdoms, communities, and villages established and acknowledged by the Zambian Constitution. In this regard, Chibuluma South Mine has formulated an External Stakeholder Engagement Procedure. These individuals comprise indigenous peoples residing on the site (irrespective of property rights), aboriginal peoples or tribes with a special connection to the land or specific resource and cultural rights, and those who will be impacted by the project or necessitate resettlement of their land or assets. This procedure not only facilitates indigenous peoples in freely expressing their opinions but also enables the Company to comprehend their concerns and aspirations. Consequently, such information can be integrated into the Company's decision-making process.

In our mining activities, we strictly adhere to the International Finance Corporation (IFC) Performance Standard 8, making every effort to protect cultural heritage. Through preliminary assessments and optimisation of our projects, we strive to avoid impacts or damage to the traditional territories of indigenous peoples or cultural relics of historical significance in surrounding areas of our project sites. If impacts are unavoidable, we will consult with indigenous communities to obtain free, prior, and informed consent from them and then develop protection or restoration plans to minimise adverse effects. At the same time, we will also launch community development projects to improve the local economic and cultural environment and contribute to sustainable development.

In 2024, there were no incidents involving violations of the human rights of indigenous peoples or incidents related to violations of cultural heritage rights.

## 手工及小規模開採礦 Artisanal and Small-Scale Mining

我們關注礦場及項目所在地的手工和小規模開採礦 (ASM) 情況，尊重其作為當地社區的重要經濟支柱，同時亦認識到非法採礦活動可能帶來的諸多問題，包括濫用有毒化學品、環境破壞、缺乏勞動保護裝備以及勞工人權問題。我們積極踐行企業社會責任，與政府及社會各界共同努力，推動從業者的正規化轉型，保障當地居民的生計。

我們致力於在營運當地打造可持續發展的社區生態，改善經濟環境與基礎設施，提供技術培訓及教育機會，幫助當地居民開拓更廣闊的發展空間（詳見本報告「社區繁盛」章節）。通過種種舉措，我們希望從根本上削弱非法採礦活動的生存土壤，緩解非法及無序開採對採礦者、社區、企業及僱員造成的環境、安全及人權方面的負面影響。報告期內，Ruashi礦場為ASM工作者開展了安全相關培訓，以助力其合規合法；Musonoi項目為ASM工作者提供法律合規培訓，拓展就業機會，並加強環境保護與生態修復教育；Chibuluma南礦場繼續通過實施《SHEC政策》，以有效管理社區的健康、安全及環境的可持續發展。

We focus on the artisanal and small-scale mining (ASM) in surrounding areas of our mines and project sites. We recognise its crucial contributions to local economy and also realise that the issues brought about by illegal mining activities, including the misuse of poisonous chemicals, environmental damage, lack of labour protection equipment, and labour rights violations. We take the initiative to fulfil our corporate social responsibility, working with the government and various sectors of society to promote the formalisation of ASM practitioners and safeguard the livelihoods of local residents.

We are committed to fostering sustainable ecosystems of communities in which we operate, improving the economic environment and infrastructure, providing technical training and educational opportunities, so as to help local residents embrace a promising future of broader development prospects (see the Thriving Community chapter of this report for more details). Through various measures, we aim to fundamentally undermine the hotbed of illegal mining activities, thus mitigating the environmental, safety, and human rights-related adverse impacts of illegal and unregulated mining on miners, communities, businesses, and employees. During the reporting period, Ruashi Mine has carried out safety training for ASM workers to steer them towards compliance with laws and regulations. Musonoi Project has provided them with legal compliance training, helped to create more job opportunities, and strengthened education on environmental protection and ecological restoration. Chibuluma South Mine has also continued to implement the SHEC Policy to ensure the health and safety of communities and the sustainable development of environment.





### 案例: Musonoi項目助力手工和小規模開採礦業工作者之正規化建設

Case: Musonoi Project Supports the Formalisation of ASM Workers

Musonoi項目積極支持項目所在地周邊的ASM工作者之正規化建設,助力其依法合規、更科學高效地經營,繼而消除助長非法手工採礦的經濟社會因素。措施詳述如下:

Musonoi Project supports the formalisation of ASM workers in surrounding areas of our project sites. It makes efforts to steer them towards compliance with laws and regulations and helps them operate in a more efficient way, so as to eliminate the socio-economic factors that fuel illegal artisanal mining. Detailed measures are as follows:

- 提供法律及合規培訓:定期為ASM礦工舉辦法律法規培訓,幫助其了解相關的採礦法規、環保規定、勞動法等。培訓內容包括如何合法申請採礦許可證、如何遵守環境保護標準,以及如何處理與僱員及社區的關係等,以提升其法律意識,規避非法採礦活動。

Providing legal and compliance training: It regularly carries out training sessions on laws and regulations for ASM miners to help them understand relevant mining laws, environmental regulations, and labour laws. The training covers aspects such as how to legitimately apply for a mining license, how to comply with environmental protection standards, and how to manage relationships with employees and communities. By doing so, it enhances their legal awareness and avoids illegal mining activities.

- 提升教育及就業機會:通過社區教育及意識提升活動,幫助周邊居民及礦工認識到合法採礦的長期益處,如提高收入、減少環境損害、改善工作條件等,從而擺脫對非法採礦的依賴,轉向可持續經營模式;同時為其提供長期與短期工作崗位,有效解決其合法就業問題。

Enhancing awareness and providing job opportunities: Through educational events, it helps local residents and miners enhance their awareness of the long-term benefits of legal mining. For example, they will have more income, reduce the damage to environment, and have better working conditions. These benefits help them to get rid of illegal mining and then operate in a sustainable way. At the same time, it provides them with long-term and short-term job opportunities to steer them towards legal employment.

- 環境保護與恢復培訓:為避免環境破壞問題,提供環境保護及礦山恢復的技術培訓,教導礦工如何實施環保措施並恢復被破壞的生態環境,如指導礦工如何避免使用有害化學品、如何進行礦區水土保持、如何進行廢棄物管理等。

Environmental protection and restoration training: In order to avoid environmental damage, it offers technical training on environmental protection and mine restoration. The training instructs miners to implement environmental protection measures and restore the damaged ecosystems, such as avoiding the use of harmful chemicals, strengthening the conservation of water and soil in the mining site, and managing waste.

## ■ 安保人權管理 Security-Related Human Rights Management

我們始終將人權理念融入安保工作的全過程，致力於為僱員、社區及其他持份者提供安全、可靠的營運環境保障。在營運過程中，我們嚴格遵循國際人權標準，確保各類持份者的生命財產安全、自由及基本權利得到充分尊重與保護。我們以Metorex SHEC委員會作為最高管理機構，嚴格遵守國家、地區以及行業安保及人權管理的相關法律法規及義務要求，竭力規避任何暴力衝突事件。

We always integrate the philosophy of human rights into all aspects of our security operations, committed to providing a safe and reliable operational environment for employees, communities, and other stakeholders. Throughout our operations, we strictly adhere to international human rights standards and ensure that the safety of lives and property, freedom, and fundamental rights of all stakeholders are fully respected and protected. With the Metorex SHEC Committee as the top governing body, we strictly comply with national, regional, and industry laws, regulations, and obligations related to security and human rights management, making every effort to prevent any incidents of violent conflict.

### Ruashi礦場

### Ruashi Mine

Ruashi礦場企業細則包含防止礦山暴力及衝突的聲明，制定了遵循自願安全及人權原則的政策，並採取以下措施：

- 對第三方安保人員進行人權培訓。
- 安排OPJ(司法警官)負責跟進政策，確保政策得到相應遵守。
- 與政府有關部門合作促進項人權事務。
- 設置攝像頭、圍欄、出入控制系統等現代化安保設備。

此外，報告期內，Ruashi礦場對總共240名第三方安保人員接受了人權培訓。

Ruashi Mine has clarified in its Corporate Policy the statement on preventing violence and conflicts in the mine and established the policy that centres on the voluntary principles on security and human rights. It has implemented the following measures:

Carrying out human rights training for third-party security personnel.

Assigning OPJs (Judicial Police Officers) to oversee the implementation of the policy to make sure that it is observed.

Collaborating with relevant government departments to advance human rights initiatives.

Installing modern security equipment such as cameras, fences, and access control systems.

During the reporting period, Ruashi Mine provided human rights training for a total of 240 third-party security personnel.

## Kinsenda礦場

## Kinsenda Mine

Kinsenda礦場遵循自願安全及人權原則，並採取以下措施：

- 與當地社區安全部門合作，促進項目在當地的安全及人權事務。
- 定期對安保人員及礦警進行人權保護方面的培訓。
- 與政府部門合作，在項目現場設立司法點。
- 為高風險地區的每個項目制定分析報告及安全計劃。
- 使用現代化設備保護人權。
- 實施安全審計計劃等。

報告期內，Kinsenda礦場169名第三方安保人員均接受了人權培訓，覆蓋率100%。

Kinsenda Mine adheres to the voluntary principles on security and human rights and has implemented the following measures:

Collaborating with local community security departments to promote safety and human rights initiatives in the area.

Regularly carrying out training in human rights protection for security personnel and mine police.

Collaborating with government departments to establish stations to offer legal services at the project site.

Developing analytical reports and safety plans for each project in high-risk areas.

Adopting modern equipment to protect human rights.

Conducting safety audits.

During the reporting period, 169 third-party security personnel at Kinsenda Mine received human rights training, achieving 100% coverage.

## Musonoi項目

## Musonoi Project

Musonoi項目遵守相關法律法規以及行業安保及人權管理慣例，並採取以下措施：

- 制定透明的安保政策，明確安保人員職責與權利。
- 定期開展人權意識培訓，避免濫用武力。
- 透過工會、勞工部人員及人權觀察組織監督，防止不當對待及歧視。
- 制定應急預案應對突發情況。
- 安裝現代化攝像頭及智能監控系統，使用無人機進行空中巡邏，減少衝突和暴力風險。
- 定期開展安保審計，評估安保措施是否符合國際人權標準，防止濫用權力並確保問責制落實。

Musonoi Project complies with relevant laws, regulations, and industry practices for security and human rights management. It has implemented the following measures:

Formulating transparent security policies that clarify the responsibilities and rights of security personnel.

Regularly carrying out training in enhancing awareness of human rights to prevent the use of force.

Supervising employees with the help of trade unions, the labour department, and human rights organisations to prevent mistreatment and discrimination.

Making emergency response plans for unexpected situations.

Installing modern cameras and intelligent monitoring systems and using drones for patrols to reduce the risk of conflicts and violence.

Conducting security audits on a regular basis to assess whether security measures meet international human rights standards, so as to prevent abuse of power and ensure the implementation of accountability.

Chibuluma南礦場

Chibuluma South Mine

Chibuluma南礦場意識到安保人權管理的重要性，遵從的《SHEC政策》中包含了：

- 遵守適用國家及地區SHEC法規法定義務及其他要求。
- 開發、實施及維護SHEC管理系統。
- 識別、評估危害及風險。
- 為所有僱員提供必要培訓等。

此外，報告期內，Chibuluma南礦場對總共11名第三方安保人員接受了人權培訓，覆蓋率100%。

Chibuluma South Mine has been aware of the importance of security and human rights management. It adheres to its SHEC Policy, which includes:

Complying with legal obligations of SHEC regulations and other requirements in the country and region where it operates.

Developing, implementing, and maintaining the SHEC management system.

Identifying and assessing hazards and risks.

Providing necessary training for all employees.

During the reporting period, Chibuluma South Mine provided human rights training for a total of 11 third-party security personnel, with the coverage of 100%.





### 案例: Ruashi礦場安保人權管理實踐

#### Case: Security and Human Rights Management Practices at Ruashi Mine

Ruashi礦場周邊環境複雜，附近失業居民常試圖非法入侵以獲取礦石，導致安全風險較高，衝突時有發生。同時，該地區存在非法武裝團體活動，進一步加劇了安全威脅。為應對這些挑戰，礦場採取了一系列安保人權管理措施：

The surrounding environment of Ruashi Mine is complex, where unemployed residents often trespass to the mine to obtain ores, leading to high security risks and frequent conflicts. At the same time, the presence of illegal armed groups there poses more threats to security. In response to these challenges, the mine has implemented a series of measures of security and human rights management:

- 政策培訓：遵循自願安全及人權原則，制定安保人權管理政策，確保所有安保人員（包括第三方安保及武裝警察）接受相關培訓，並安排OPJ（司法警官）監督政策執行。

Policy training: Upholding the voluntary principles on security and human rights, the mine has formulated the security and human rights management policy. It ensures that all security personnel, including third-party security and armed police, receive relevant training, and OPJs (Judicial Police Officers) are assigned to oversee the implementation of the policy.

- 社區與社會工作：設立社會部門，專門負責處理與當地社區的關係，解決土地糾紛等問題；每年制定社會工作計劃，按照採礦法的要求，為周邊社區提供支持及福利，且相關信息通過官方渠道公開；同時明確反對侵犯人權的行為，定期向當地檢察官及政府部門報告相關情況。

Community and social relationships: The social department has been established to manage relationships with local communities and address land disputes and other issues. The mine sets annual social work plans in accordance with mining laws to provide support and benefits to surrounding communities, with relevant information published through official channels. It also explicitly opposes human rights violations and regularly reports related incidents to local prosecutors and government departments.

- 安保措施：部署了CCTV監控系統，用於實時監控礦區周邊情況，以便及時發現並報告潛在威脅；礦區周圍設有圍欄，儘管圍欄常遭到破壞，但Ruashi礦場持續修復並加強門禁系統，依法驅逐或逮捕非法入侵者。

Security measures: A CCTV surveillance system has been deployed for real-time monitoring of the surrounding environment to promptly identify and report potential threats. Moreover, fences have been installed around the mining site. Although they are frequently damaged, Ruashi Mine has continued to repair and strengthen the access control system to evict or arrest intruders in accordance with the law.

- 衝突管理：每年的11月、12月通常是非法入侵事件的高峰期，透過安保人員之及時干預，有效降低了入侵頻率；對於非法武裝團體的活動，我們採取積極的應對措施，並與政府合作打擊非法行為。

Conflict management: Generally, November and December witness a peak in illegal intrusion incidents. Through timely intervention by security personnel, the frequency of intrusions has been effectively reduced. For activities of illegal armed groups, we have taken countermeasures and collaborated with the government to combat these activities.

# 賦能僱員

## EMPOWERED WORKFORCE

金川國際嚴格遵守業務所在國家及地區的勞動法律法規。剛果(金)及贊比亞兩地的礦場必須遵守勞工守則、部長法令及集體協議。為確保合規，我們制定了《集團招聘及選擇政策》，嚴格規定了從啓動、招聘、篩選、評估、背調到簽訂合同的全招聘流程，致力於在標準、公平及透明的招聘程序基礎上，選出最優秀的申請人擔任職位。例如，Chibuluma南礦場注重以技能型人才為基礎的招聘，以確保自身競爭力。

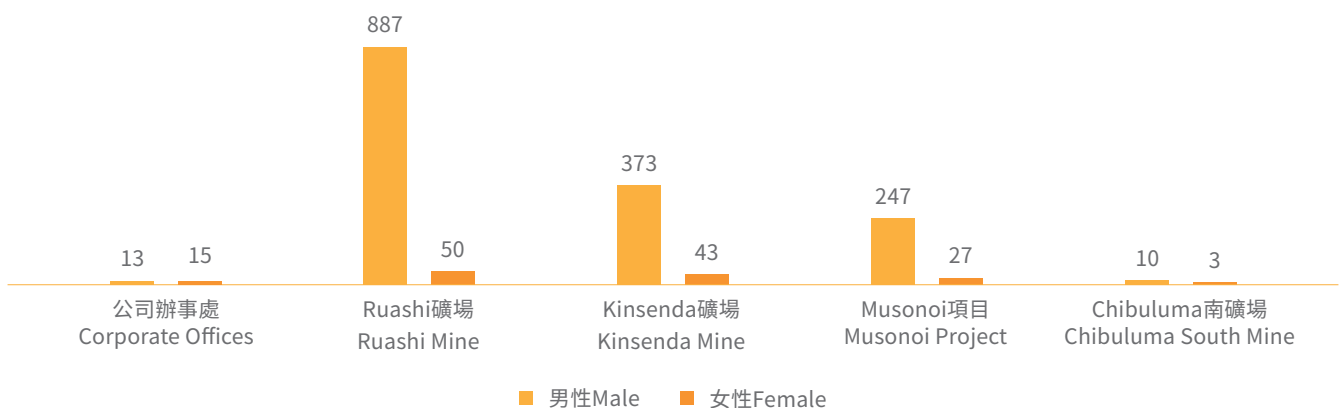
JCI strictly adheres to the labour laws and regulations of the countries where our mining operations are located. Mines in the DRC and Zambia are required to follow the Labour Code, Ministerial Decrees, and Collective Agreements. To ensure compliance, we have established the Group Recruitment and Selection Policy, which strictly outlines the entire recruitment process from initiation, hiring, screening, evaluation, background checks to contract signing. Our commitment is to identify the most outstanding candidates for positions based on standardised, fair and transparent recruitment procedures. For instance, Chibuluma South Mine emphasises skill-based recruitment to maintain its competitive edge.

此外，我們嚴格遵守相關地方法例，對工作時間、休息時段、平等機會、薪酬、離職、工作條件及職業資格等進行了規範及說明，並通過提供優質就業機會、公平補償及福利、多樣化的健康福利以及發展成長機會等方式，持續吸引並保留優秀人才。

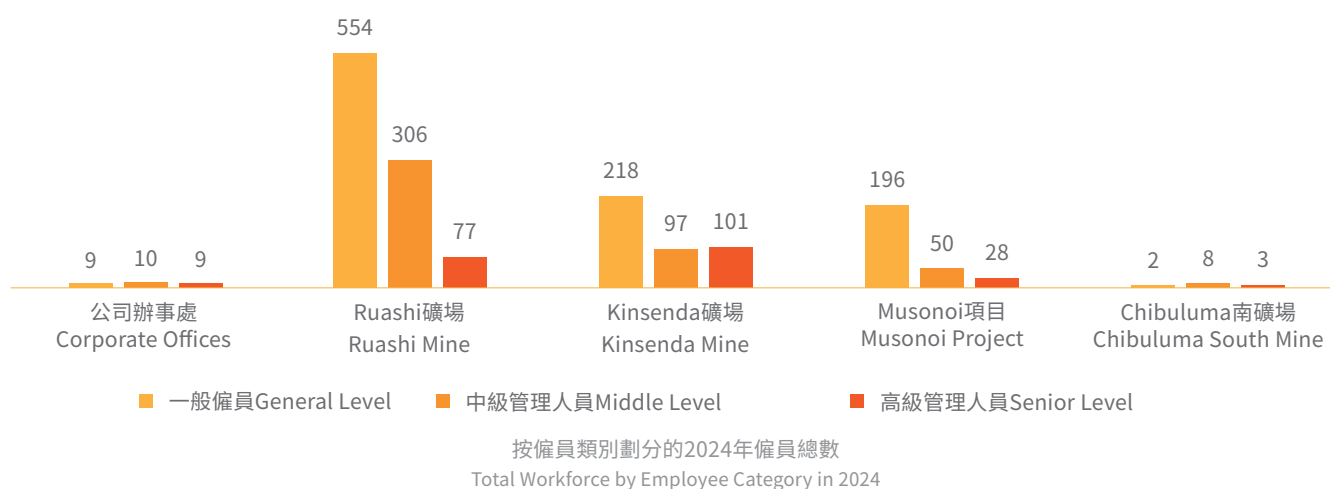
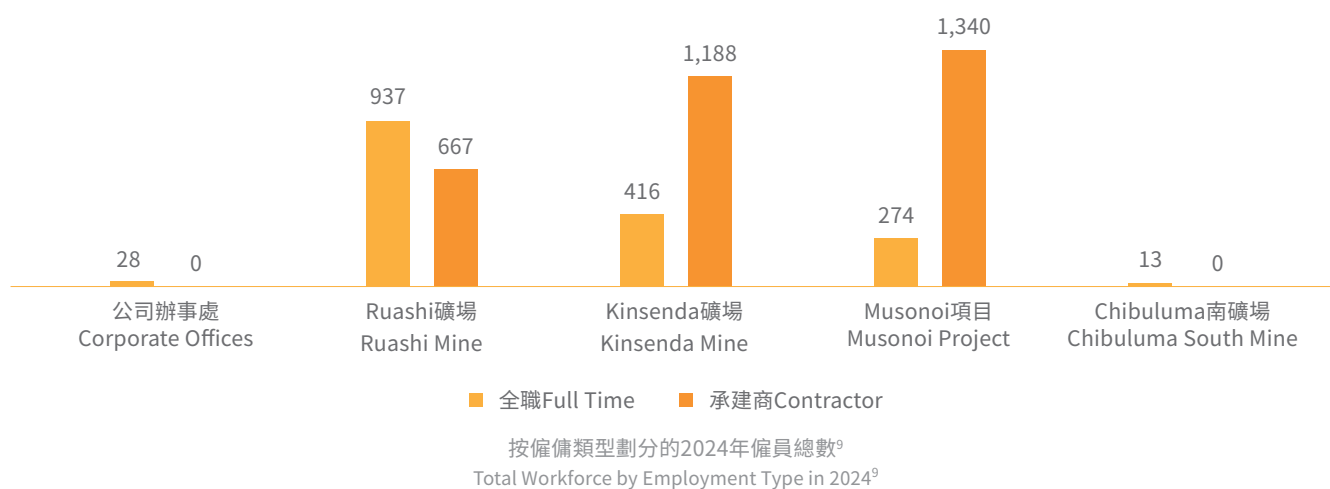
Moreover, we strictly adhere to local regulations and provide clear guidelines regarding work hours, rest periods, equal opportunities, compensation, termination, working conditions and occupational qualifications. By offering top-notch employment opportunities, equitable remuneration and benefits, diverse health benefits, and opportunities for growth and development, we consistently attract and retain exceptional talent.

截至報告期末，金川國際全球僱用1,668名長期僱員，包含我們於中國香港、剛果(金)、贊比亞及南非之營運礦場及公司辦事處。

As of the end of the reporting period, JCI globally employed 1,668 permanent employees across our operating mines and corporate offices in Hong Kong SAR (China), the DRC, Zambia and South Africa.



按性別劃分的2024年僱員總數  
Total Workforce by Gender in 2024



2024年僱員流失率 - 2024年總僱員流失率 <sup>10</sup> (單位: %) Employee Turnover 2024—Total Employee Turnover 2024 <sup>10</sup> (Unit: %)	
公司辦事處 Corporate Offices	10
Ruashi礦場 Ruashi Mine	4
Kinsenda礦場 Kinsenda Mine	10
Musonoi項目 Musonoi Project	16
Chibuluma南礦場 Chibuluma South Mine	19

9. 按僱傭類型劃分的僱員總數包括承建商。

Total workforce by employment type includes contractors.

10. 計算公式: 年度僱員流失率 = 全年離職僱員數目 / (年初僱員數目 + 全年新聘僱員數目) \* 100%

Calculation formula: Annual employee turnover = No. of employees who left their job in the year / (No. of employees at the beginning of the year + No. of new recruits in the year) \* 100%

## 多元共融 Inclusion and Diversity

我們積極落實多元化、本地化的僱傭政策，並於《集團招聘及選擇政策》中明確強調招聘過程中的多元化之重要性，旨在尋求適合在本公司營運所在國家及市場的文化環境中工作的優秀人才。我們接納僱員的不同國籍、種族、性別、宗教信仰及文化背景，致力於為他們提供公平公正的發展機會。同時，我們積極推動海外採礦業務的本地化進程，在能力範圍內為項目所在國家及地區創造就業機會。報告期內，Musonoi項目購置並部署了額外的考勤設備，將外籍僱員納入與當地僱員相同的考勤系統。

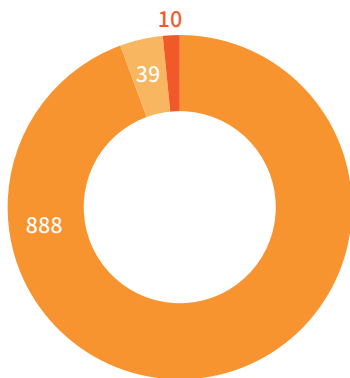
We actively implement diverse and localised employment policies, explicitly emphasising the importance of diversity in the recruitment process within the Group Recruitment and Selection Policy. Our aim is to seek outstanding talents who are well-suited to thrive in the cultural environments of the countries and markets where our operations are based. We embrace and value the diversity of nationalities, races, genders, religious beliefs, and cultural backgrounds among our employees. We are committed to providing them with equal and impartial opportunities for professional growth. Meanwhile, we are actively promoting the localisation of our overseas mining operations, creating employment opportunities within our capacity in the countries and regions where our projects are located. During the reporting period, additional attendance devices were purchased and deployed for the Musonoi Project, integrating foreign employees into the same attendance system as local employees.

截至報告期末，Ruashi礦場、Kinsenda礦場、Musonoi項目及Chibuluma南礦場的當地就業率分別為95%、88%、61%及62%。

As of the end of the reporting period, the local employment rates of Ruashi Mine, Kinsenda Mine, Musonoi Project, and Chibuluma South Mine were 95%, 88%, 61%, and 62% respectively.

### ▼ Ruashi礦場按國籍劃分的勞工總數

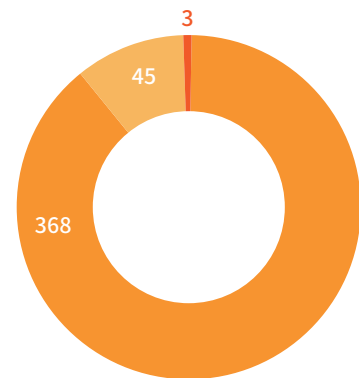
Total Workforce 2024 by Nationality at Ruashi Mine



- 剛果(金) the DRC
- 中國 Chinese
- 其他國籍 Other Nationalities

### ▼ Kinsenda礦場按國籍劃分的勞工總數

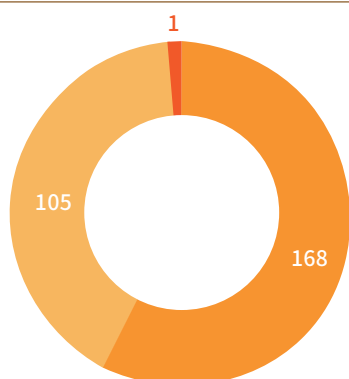
Total Workforce 2024 by Nationality at Kinsenda Mine



- 剛果(金) the DRC
- 中國 Chinese
- 其他國籍 Other Nationalities

## ▼ Musonoi 項目按國籍劃分的勞工總數

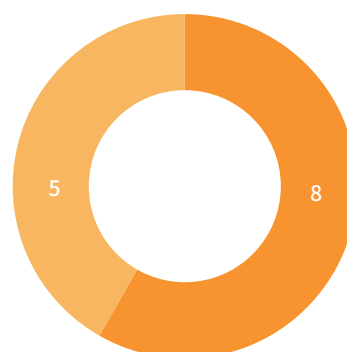
Total Workforce 2024 by Nationality at Musonoi Project



- 剛果 (金) the DRC
- 中國 Chinese
- 其他國籍 Other Nationalities

## ▼ Chibuluma 南礦場按國籍劃分的勞工總數

Total Workforce 2024 by Nationality at Chibuluma South Mine



- 贊比亞 Zambia
- 中國 Chinese



## 案例:Kinsenda礦場本地化招聘實踐

Case: Localised Recruitment Practices at Kinsenda Mine

Kinsenda礦場致力於優先關注受採礦活動直接影響的當地社區居民,並與當地社區領導人簽訂協議:確保非特殊技能崗位的本地應聘者佔比達60%,同時為特殊技能崗位的本地應聘者提供就業及培訓機會。

Kinsenda Mine is committed to prioritising local community members directly affected by mining activities and has entered into agreements with local community leaders to ensure that local candidates account for 60% of non-specialised skill positions. Additionally, the mine provides employment and training opportunities for local candidates in specialised skill positions.

## 公平薪酬及福利關懷 Fair Remuneration and Welfare

透過公平及共融的僱傭策略,我們為僱員提供具有行業競爭力的薪酬及福利體系,並持續檢視薪酬及福利計劃,以吸引、激勵及保留有才能的僱員。

Through fair and inclusive employment strategies, we offer our employees an industry-competitive remuneration and benefits package and consistently assess our compensation and benefits schemes to attract, inspire and retain skilled employees.

## ◆ 公平薪酬

### Fair Remuneration

我們致力根據中國香港、剛果（金）、贊比亞及南非相關就業法及勞工法向全體僱員提供平等的就業機會，並尊重公平及平等工資權利。我們認為，僱員是維繫企業競爭優勢的關鍵，企業的最終價值來源是所有僱員共同的知識、技能及貢獻。為此，我們不僅設有績效管理指導委員會，還制定了《集團就業條件政策》《集團獎勵與表彰制度》《集團工作評估政策》《集團職位剖析政策》《集團僱員表彰政策》《集團管理成果及爭取優惠政策評審獎勵辦法》等制度及政策，使僱員獲得與所從事崗位及所創造價值一致的薪酬（工資及福利）。

We are committed to providing equal employment opportunities for all employees in accordance with the relevant employment and labour acts in Hong Kong SAR (China), Zambia, South Africa and the DRC, and to respecting the rights to fair and equal wages. We firmly believe that our employees are instrumental in maintaining our competitive advantage and that the true value of the company stems from the knowledge, skills and contributions of each individual. In pursuit of this belief, we have established a performance management steering committee and developed several policies and systems, such as the Group Conditions of Employment Policy, Group Reward and Recognition System, Group Job Evaluation Policy, Group Job Profiling Policy, Group Employee Recognition Policy and Group Incentive Measures for Management Innovations and Obtaining Preferential Policies. These initiatives ensure that our employees receive appropriate remuneration (including wages and benefits) aligned with their roles and the value they bring to the organisation.

具體而言，我們從內部及外部兩方面確保薪酬公平。於企業內部，我們藉助第三方的Paterson定級系統，根據不同崗位的複雜性及工作產出，確定其相對價值及貢獻。同時，我們每年監測市場動向，通過與不同營運地目標勞工市場、礦業市場及競爭者對比，保持薪酬合理性及競爭優勢，從而幫助我們的僱員實現體面生活。必要時，我們將參與由第三方進行的臨時薪酬調查。

To be specific, we guarantee fair remuneration, both within our organisation and compared to external benchmarks. Internally, we employ a third-party Paterson grading system to assess the relative value and impact of various roles, taking into account their complexity and output. Simultaneously, we conduct an annual market trend analysis to ensure our compensation remains reasonable and competitive by comparing it with the target labour market, the mining market in different operating locations and our competitors. This approach aids our employees in achieving a decent standard of living. When necessary, we will participate in ad-hoc remuneration surveys conducted by third parties.

我們根據僱員的業績與績效目標達成情況，還會提供額外獎金，以此激勵僱員持續提升工作表現，推動個人與企業的共同成長。

Based on employees' performance and the achievement of performance targets, we offer additional bonuses to motivate employees to continuously enhance their work performance, thereby driving mutual growth for both individuals and the enterprise.

## Ruashi礦場

## Ruashi Mine

Ruashi礦場為全體僱員提供兩個不同級別的短期獎金，包括：

- **產量獎金**：每季度向全體初級僱員發放，只要達到銅及/或鈷的季度產量目標即可；報告期內，由於達到銅產量目標，Ruashi礦場於2024年7月向全體僱員發放了獎金。
- **年度獎金**：年度獎金以記分卡形式發放給資深僱員，根據個人業績、企業業績及公司業績發放；所有相關僱員的獎金於次年3月發放。

Ruashi Mine offers two distinct levels of short-term bonuses to all employees, comprising:

**Production Bonus**: Quarterly disbursements to all junior employees upon achieving quarterly production targets for copper and/or cobalt. During the reporting period, a bonus was distributed to all employees in July 2024 due to the attainment of the copper production target.

**Annual Bonus**: Annual bonuses, issued in the form of a scorecard to senior employees, are based on individual, corporate and company performance. Bonuses for all relevant employees are paid out in March of the following year.

## Kinsenda礦場

## Kinsenda Mine

Kinsenda礦場除了向全體僱員提供在就業市場上具有競爭力的工資外，還提供以下獎金：

- **年度獎金**：最高可達月淨薪資的100%，僅適用於剛果（金）籍僱員。
- **季度生產獎金**：向剛果（金）籍僱員發放季度生產獎金，向高級管理人員及外籍僱員發放記分卡形式獎金。
- **優秀僱員獎金**：全體僱員均有資格評選。
- **年假薪資**：等同月淨工資的100%。

In addition to offering competitive wages in the job market to all employees, Kinsenda Mine also provides the following bonuses:

**Annual Bonus**: Up to 100% of the monthly net salary, applicable only to the DRC employees.

**Quarterly Production Bonus**: Issued to the DRC employees, with scorecard bonuses for senior management and foreign employees.

**Merit Employee Bonus**: All employees are eligible for selection.

**Annual Leave Pay**: Equivalent to 100% of the monthly net salary.

#### Musonoi項目

#### Musonoi Project

Musonoi項目為僱員提供豐富的獎金，包含季度獎金、年度獎金（記分卡形式）、十三薪、優秀僱員獎金等。

The Musonoi Project offers employees a variety of bonuses, including quarterly bonuses, annual bonuses (in the form of a scorecard), the 13th month salary and outstanding employee bonuses.

報告期內，Musonoi項目開展了優秀僱員表彰，指定並獎勵了5名僱員。

During the reporting period, the Musonoi Project conducted an outstanding employee recognition event, designating and rewarding five employees.

#### Chibuluma南礦場

#### Chibuluma South Mine

Chibuluma南礦場除了正常薪資之外，還提供兩類獎金以提升僱員績效：

In addition to regular salaries, Chibuluma South Mine provides two types of bonuses to enhance employee performance:

- **優秀僱員獎金**：每年評選優秀僱員並提供獎金。
- **年度獎金**：為達到績效目標僱員提供額外獎金。

Merit Employee Bonus: Annual selection of outstanding employees with bonuses provided.

Annual Bonus: Additional bonuses for employees achieving performance targets.

此外，Chibuluma南礦場每年為全體僱員升薪。

Furthermore, Chibuluma South Mine conducts annual salary increments for all employees.

### ◆ 僱員關懷

#### Employee Care

我們拓寬僱員溝通渠道，為僱員提供全面的福利及關懷，包括生活、健康、居住、出行等方面，致力於提升僱員的滿意度及幸福感。根據企業發展及僱員需求，未來我們將不斷對福利計劃進行調整及優化，以回饋僱員的付出。

We have expanded communication channels for employees, providing them with a wide range of benefits and support for their life, health, housing and travel, and improving their contentment and well-being. As the company grows and the requirements of our employees evolve, we will persist in refining and enhancing our benefits schemes to recognise the efforts of our employees.



此外，我們亦十分關注僱員的業餘生活，透過組織各類休閒活動及運動賽事，鼓勵僱員積極參與文體休閒活動，在培養興趣愛好的同時強身健體，有效釋放平日積攢的工作壓力。

Additionally, we are highly attentive to our employees' leisure lives, organising various recreational activities and sports events to encourage active participation in cultural and recreational pursuits. This approach not only fosters personal interests and hobbies but also promotes physical health, effectively alleviating accumulated work stress.



Ruashi礦場、Kinsenda礦場舉辦籃球比賽  
Basketball Competitions at Ruashi Mine and Kinsenda Mine



Kinsenda礦場、Musonoi項目與當地僱員共慶中秋佳節  
Mid-Autumn Festival Celebration with Local Employees at Kinsenda Mine and Musonoi Project



Chibuluma南礦場年終禮品發放活動  
Chibuluma South Mine Year-End Gift Distribution

## 發展及培訓 Development and Training

僱員成長是我們成功的關鍵因素。因此，確保僱員的繼續培訓及發展對我們的可持續發展息息相關。

我們的《集團培訓及發展政策》是人力資源戰略的基礎，該政策支持所有礦場根據組織需要及營運要求制定並執行培訓及發展計劃。我們將提供資源及機會，確保僱員掌握高效營運所需專業技能，並安全有效地執行任務。此外，我們的《集團助學制度》則為僱員提供參與教育、培訓及發展計劃的機會，參加企業所批准的學習項目及/或資格考試的僱員將被提供進修假，且所有僱員均有機會申請學習援助，並獲提供財務及其他類型的支持。Chibuluma南礦場亦制定了《培訓及僱員發展政策》，通過培訓對僱員進行投資，充分發揮僱員的個人價值。

The growth of our employees is a key part of our success, and thus ensuring our workforce's continued training and development is critical to our sustainability.

Our Group Training and Development Policy serves as the foundation for our human resources strategy and facilitates the creation and implementation of training and development initiatives across all our mines, tailored to meet organisational needs and operational demands. We are committed to providing resources and opportunities to ensure that employees acquire the necessary professional skills to operate efficiently and carry out their duties safely and effectively. Additionally, the Group Study Assistance Policy offers employees the chance to participate in education, training and development programmes. Study leave is granted to staff undertaking company-approved study programmes and/or qualification examinations, and all employees have the opportunity to apply for study assistance, with financial and other types of support being provided. Chibuluma South Mine has also implemented a Training and Staff Development Policy aimed at investing in our employees through training to maximise their personal value.

### ◆ 僱員發展

#### Employee Development

僱員通過參與正式的選拔或繼任程序可以獲得晉升的機會。在選拔程序中，我們將綜合考慮僱員過去的工作表現及出勤記錄、崗位的最低資格要求及所需技能，以及崗位的職業發展路徑，深入分析、比較擇優。

Employees can obtain promotion opportunities through participation in formal selection or succession processes. As part of this process, we comprehensively assess and compare their past job performance, attendance records, the minimum qualifications and required skills for the position, and career trajectory of the role, conducting in-depth analysis and comparisons to select the best candidate.

我們高度重視新入職僱員的成長，為全體新僱員提供豐富資源，助力其快速融入工作環境。Kinsenda礦場為新僱員提供包括人力資源部培訓及業務部門之入職培訓，並制定重要職位的「繼任計劃」，以期退休人員能夠實現以老帶新技能傳授；Musonoi項目為新僱員開展入職培訓，制定績效目標，試用期後每月進行一次績效評估。

We place great emphasis on the growth of newly hired employees and provide comprehensive resources to facilitate their swift integration into the work environment. Kinsenda Mine offers new hires training from both the Human Resources Department and respective business departments, along with a "succession plan" for key positions to ensure the transfer of skills from retiring employees to new ones. Musonoi Project conducts orientation for new employees, establishes performance objectives, and conducts monthly performance reviews post-probation.

我們亦建立了僱員成長體系，為僱員提供晉升渠道。Ruashi礦場僱員晉升主要通過系統性內部培養，以填補高級職位的空缺；Musonoi項目建立績效評估制度並實施晉升政策，助力僱員在職業生涯中不斷成長。

We have also established an employee growth system, providing avenues for career advancement. At Ruashi Mine, employee promotion primarily relies on systematic internal training to fill senior position vacancies; Musonoi Project has implemented a performance evaluation system and promotion policies, fostering continuous professional growth for its employees.

## ◆ 僱員培訓

### Employee Training

為使僱員能夠適應業務中愈發增多的技術及創新應用，我們推進了多項培訓計劃。2024年，Ruashi礦場開展4類培訓（通用、安全、技術及法規）共計119場培訓，並為僱員提供帶薪學習假；Kinsenda礦場開展了多場培訓，涉及技術、安全、急救等；Musonoi項目提供電氣安全、語言、企業文化、電氣法規、信息等9類課程，共計315學時；Chibuluma南礦場共3名僱員參與了由贊比亞特許會計師協會舉辦的《國際財務報告準則》(IFRS)更新培訓課程，並鼓勵僱員繼續深造，提供學費退還補貼。

To help our employees adapt to the increasing use of technology and innovation, we have introduced a range of training programmes. In 2024, Ruashi Mine conducted a total of 119 training sessions, covering general, safety, technical and regulatory categories, and offered paid study leave to employees. Kinsenda Mine organised multiple training sessions covering technology, safety, first aid and other essential areas. Musonoi Project provided nine types of courses, including electrical safety, language, corporate culture, electrical regulations and information, totalling 315 hours. At Chibuluma South Mine, three employees participated in the IFRS update training organised by the Zambian Institute of Chartered Accountants. The Company also encouraged further education by offering tuition reimbursement.



Musonoi項目開展多元化培訓項目  
Musonoi Project Implements a Diversified Training Program

我們的表現 - 2024年僱員培訓人數總體數據  
Our Performance - Data on the Number of Employees Trained in 2024

已培訓僱員總數(單位: 人) Total Number of Employee Trained	1,238
已培訓僱員所佔百分比(單位: %) % of Employee Trained	74

我們的表現 - 2024年僱員培訓時長總體數據  
Our Performance - Employee Training Hours in 2024

培訓總時數(單位: 小時) Total Training Hours (Unit: Hours)	10,322
每年僱員平均培訓時數(單位: 小時) Average Training Hours per Employee (Unit: Hours)	6

# 職業健康及安全

## OCCUPATIONAL HEALTH & SAFETY

金川國際始終致力於創造安全、健康的工作環境。鑒於礦場僱員每天從事包括鑽探、爆破、高空及地下作業、接觸高壓電、使用化工品及操作重型機械等高風險活動，保障僱員、承建商、來訪者、社區及任何其他會受到礦場營運影響人士的健康及安全至關重要。

JCI is committed to creating a safe and healthy work environment. Mining employees are engaged in high-risk activities every day, including drilling, blasting, working at height and underground, exposure to high-voltage electricity, using chemicals, and operating heavy machinery. The health and safety of our employees, contractors, visitors, and the community, or any other persons who might be impacted by the mines where we operate, are of paramount importance.

我們的礦場嚴格遵守所處國家、地區及地方的安全法規、法定義務及其他適宜的規定（如剛果（金）的《礦業法》《礦業條例》及贊比亞於二零一零年頒布的《職業健康及安全法》）進行營運。我們的《集團零傷害政策》適用於所有採礦業務，且各礦場設有自身的安全及健康政策，其適用於所有僱員及承建商。

Our mines are operated by applicable national, regional, and local safety regulations, statutory obligations, and other requirements as appropriate, such as the Mining Code and Regulations in the DRC and the Occupational Health and Safety Act of 2010 in Zambia. Our Zero Harm Policy applies to all mining operations and each mining site has its own safety and health policies that apply to all employees and contractors.



提供有利於實現零傷害的工作環境  
Providing a working environment that is conducive to achieving zero harm.



確保提供適當的資源、培訓及個人防護設備  
Providing adequate resources, training, and personal protective equipment.



應用Metorex風險管理框架管理工作場所風險  
Managing workplace risks through the Metorex Risk Management Framework.



遵守適用的法律要求，及組織所訂的其他要求  
Comply with relevant legal and organizational requirements.



在與所有持份者的互動中遵循協商、透明、建設性的方法  
Adopting a consultative, transparent, and constructive approach when engaging with stakeholders.



最大限度地減少潛在的負面社會影響，同時促進東道國社區的機會及利益  
Minimizing potential negative social impacts while prioritizing the interests and opportunities of the host community.



確保僱員及承建商具備以安全、環保的方式執行與工作相關的任務的相關技能，並了解其個人的環境、社區、健康及安全義務及權利

Ensuring that employees and contractors possess the necessary skills to perform their work in a safe and environmentally friendly manner, while also being aware of their individual obligations and rights regarding environmental, community, health, and safety matters.



在考慮持份者的期望、最佳實踐、科學知識及新技術的同時，通過設定並實踐擴展目標，不斷提高環境、職業健康、公共健康及安全績效

Continuous improving environment, occupational health, public health, and safety performance by setting and striving for targets while considering stakeholder expectations, best practices, scientific knowledge, and new technologies.

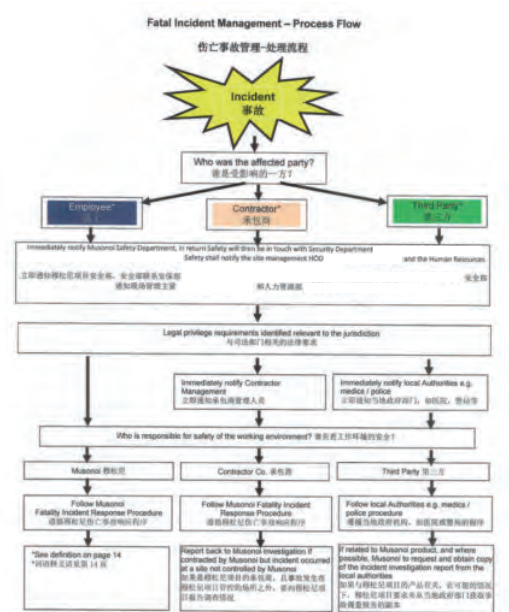
#### 金川國際零傷害政策 JCI Zero Harm Policy

我們制定《集團傷亡事故處理辦法》，確保對傷亡事故進行謹慎處理及對信息傳播進行適當管控，將未來發生傷亡事故的可能性消除到最低實際水平。

We have formulated the Group Fatality Guidance Procedure to ensure meticulous handling of casualties and appropriate control over information dissemination, aiming to minimise the likelihood of future casualties to the lowest feasible level.

在職業健康與安全管理文件方面，Ruashi礦場基於《集團零傷害政策》及「為了我們的僱員，環境及利益相關者，我們要實現零傷害」的願景，制定了《2024安全管理計劃》，確保安全管理有據可循；Kinsenda礦場制定了《安全生產規則》，旨在為消除致命及嚴重事故提供依據，實現安全工作；Musonoi項目在《集團傷亡事故處理辦法》之基礎上制定了《集團傷亡事故處理辦法/Musonoi項目》；Chibuluma南礦場嚴格遵循《SHEC政策》，透過提供安全健康的工作環境，降低職業危害風險，推動零傷害目標的實現。

In its occupational health and safety management documents, Ruashi Mine has developed the 2024 Safety Management Programme based on the Group Zero Harm Policy and the vision of "To cause Zero Harm to our employees, the environment and our stakeholders". This ensures that safety management is well-grounded. Kinsenda Mine has established the Safe Production Rules, aiming to provide a basis for eliminating fatal and serious accidents and achieving safe work. Musonoi Project has developed the Group Fatality Guidance Procedure/Musonoi Project based on the Group Fatality Guidance Procedure/Musonoi Project. Chibuluma South Mine strictly adheres to the SHEC Policy, striving to reduce occupational hazard risks and promote the realization of the zero-harm target by providing a safe and healthy working environment.



Musonoi項目傷亡事故管理-處理流程  
Musonoi Project Fatal Incident Management—Process Flow

2024年，我們全體營運礦場錄得零宗因工死亡事故；且於過去的連續3年內，全體營運礦場死亡事故數目、每百萬工時死亡頻率均保持為零。

In 2024, our entire operations achieved zero work-related fatalities. Moreover, for the past three consecutive years, the number of fatal incidents across all operating mines and the fatality frequency rate per million man-hours have remained at zero.



#### 案例：Chibuluma南礦場工傷事件

Case: Chibuluma South Mine Occupational Injury Incident

報告期內，Chibuluma南礦場發生了一起工傷事件。

During the reporting period, one occupational injury incident occurred at Chibuluma South Mine.

2024年9月6日13時30分，一名中國籍鑿岩機操作工在礦區事故中受傷。事發時，該操作工及其班組正在582米中段16號出礦點進行採場工作面裝藥作業。作業期間突發岩爆，工作面一塊碎石飛濺擊中其右耳下方頸部，導致該部位出現輕微劃傷。

At 13:30 hours on 6 September 2024, a Chinese jackhammer operator was injured in a mining accident. The incident occurred while the operator and his crew were charging the stope face at Draw Point No. 16 (582 mL). During the charging process, a rock burst caused a small rock fragment to dislodge from the face, striking the operator on the neck below the right ear, resulting in a minor laceration.

儘管程度輕微，Chibuluma南礦場仍重視該起事件，持續為避免僱員事故和死亡而努力，並嚴格執行以下目標：

Although minor in severity, Chibuluma South Mine has treated this incident with high priority, maintaining its commitment to avoiding employee accidents and fatalities through strict adherence to the following objectives:

- 每項作業前必須進行風險評估。  
Risk assessment must be conducted for every assigned task.
- 僱員須嚴格遵守現行安全管理制度。  
Employees must observe the safety management system in place.
- 僱員應具備危險辨識能力，並及時整改工作場所隱患。  
Employees must be capable of both identifying workplace hazards and implementing corrective actions.
- 發現隱患必須上報處理，嚴禁放任不管。  
Employees must report all identified hazards immediately to ensure prompt corrective action.

- 僱員須始終遵守安全操作規程。  
Employees must observe safety rules at all times.
- 僱員應按規範安全作業，嚴格執行各項操作流程。  
Employees must work safely by strictly following all procedures for assigned tasks.
- 主管人員須下達明確的工作指令。  
Supervisors must give clear job instruction.

## 我們的表現-健康與安全有關績效 Our Performance-Health and Safety Performance

指標 Indicator		2024	2023	2022
死亡事故數目 Number of Fatalities	Ruashi礦場 Ruashi Mine	0	0	0
	Kinsenda礦場 Kinsenda Mine	0	0	0
	Musonoi項目 Musonoi Project	0	0	0
	Chibuluma南礦場 Chibuluma South Mine	0	0	0
每百萬工時死亡頻率 Fatality Frequency Rate per Million-man Hours Worked	Ruashi礦場 Ruashi Mine	0	0	0
	Kinsenda礦場 Kinsenda Mine	0	0	0
	Musonoi項目 Musonoi Project	0	0	0
	Chibuluma南礦場 Chibuluma South Mine	0	0	0
因工傷損失工作日數(單位:天) Number of Lost Days Due to Work Injury (Unit: days)	Ruashi礦場 Ruashi Mine	20	0	79
	Kinsenda礦場 Kinsenda Mine	0	0	0
	Musonoi項目 Musonoi Project	0	0	0
	Chibuluma南礦場 Chibuluma South Mine	0	4	3

## 隱患管控 Hazard Control

我們積極識別並排查作業現場的安全隱患，採取預防措施以規避此類風險。我們堅信，通過科學的安全風險管控，能夠有效防止事故的發生。我們期望全體僱員及承建商對自身的安全、同事的安全及對營運所在社區的安全負責，共同營造安全生產文化。

### ► 安全管理架構

#### Safety Management Framework

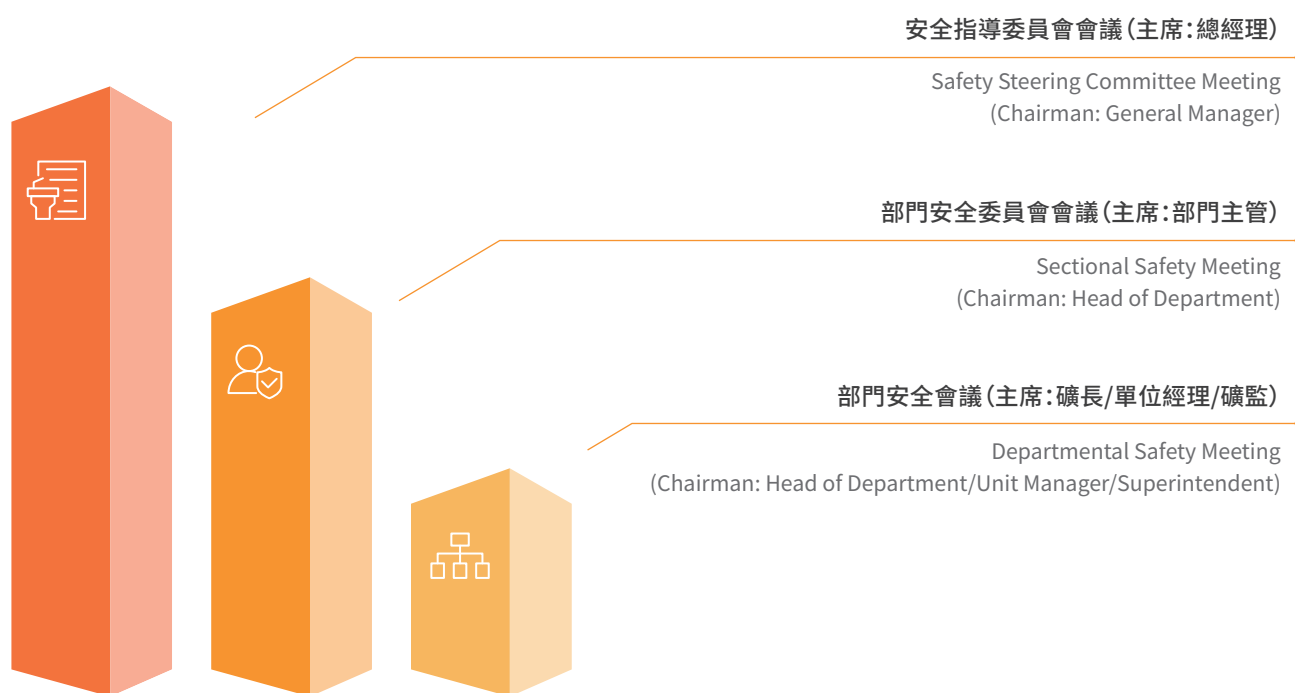
Metorex SHEC委員會作為我們最高的安全管理機構，負責為礦場提供安全指導、監測及監督。我們於所有礦場均組建了安全管理團隊，包括一名安全經理及若干名安全員，其中安全經理負責日常安全管理工作，安全員負責協助執行日常檢查、爆炸物管理、緊急情況等工作。全體礦場總經理的薪酬均與健康及安全績效掛鉤。

我們定期召開安全會議及講座。報告期內，Ruashi礦場設置了涵蓋安全指導委員會、部門安全委員會及部門的安全會議架構，並每月及每季度對目標進行測量及報告；Kinsenda礦場組織每日部門會議，並每月開展安全、健康及職場美化委員會會議，定期管理安全指標；Musonoi項目開展每日安全會議及「工具箱安全談話」，每周召開由礦山不同承建商參加的安全會議；Chibuluma南礦場每日開展進行「工具箱安全談話」，旨在向僱員提供有關危險及安全過程的信息。

We proactively identify and address safety hazards at our sites, taking preventive measures to avoid such risks. We believe that all incidents can be prevented and avoided through scientific safety risk management. We expect all employees and contractors to take responsibility for their own safety, the safety of their colleagues, and the safety of the communities in which we operate, and to create a culture of safe work together.

The Metorex SHEC Committee serves as our highest safety management authority, responsible for providing safety guidance, monitoring, and supervision for the mine sites. We have established safety management teams at all mine sites, comprising a safety manager and several safety officers. The safety manager is in charge of daily safety management operations, while the safety officers assist with daily inspections, explosive management, emergency situations, and other tasks. The compensation of all mine General Managers is linked to health and safety performance.

We regularly hold safety meetings and lectures. During the reporting period, Ruashi Mine established a framework for safety meetings that includes the Safety Steering Committee, Departmental Safety Committee, and departmental safety meetings, with targets measured and reported monthly and quarterly. Kinsenda Mine organised daily departmental meetings and monthly Safety, Health, and Workplace Beautification Committee meetings, and regularly managed safety indicators. Musonoi Project conducted daily safety meetings and Safety Toolbox Talks, and held weekly safety meetings attended by contractors from different parts of the mine. Chibuluma South Mine carried out daily Safety Toolbox Talks aimed at providing employees with information on hazards and safety procedures.



Ruashi礦場安全會議結構圖  
Safety Meeting Structure at Ruashi Mine



#### 案例: Ruashi礦場對安全會議議程的規定 Case: Ruashi Mine's Requirements for Safety Meeting Agendas

Ruashi礦場深明安全會議是礦場安全計劃不可或缺的部分, 並對安全會議的議程作出了具體規定, 詳述如下:

Ruashi Mine recognises that safety meetings are an integral part of the mine's safety programme and has made specific provisions for safety meeting agendas as detailed below:

- 匯報上次會議的未決事項。  
Report back on outstanding items from previous meetings.
- 本月及本年度迄今為止的部門/分區安全統計數據。  
Departmental/sectional safety statistics for the current month and year to date.
- 已發現及糾正的危險。  
Hazards identified and corrected.
- 審查登記簿(設備檢查表)。  
Review of registers (equipment checklists).
- 下一級安全會議的報告。  
Issues to be taken to the next level safety meeting.

- 科室/部門的內務管理狀況，如存儲、排水、垃圾等。  
Status of housekeeping in the section/department, e.g., storage, drains, litter.
- 安全代表對其指責檢查的反饋意見。  
Feedback from the Safety Representative regarding his/her duties and inspections.
- 一般情況。  
General matters.

此外，這些會議的記錄必須妥善保存在IsoMetrix中，並將提供一份副本供僱員參考。主管將代表其委員會出席下一級會議，並提出在該會議上無法解決或令人關切的問題。

A proper documented record of these meetings must be kept on IsoMetrix, with a copy made available for easy reference by employees. The supervisor will represent his/her committee at the next level meeting and raise matters that could not be resolved or are of concern in that forum.

## ◆ 安全風險評估

### Safety Risk Assessment

安全風險評估是企業識別及管理潛在安全威脅的關鍵環節，以助於我們制定有效的預防及應對措施，確保僱員、資產及營運的安全及穩定。我們全體礦場積極開展安全風險評估，致力於為僱員提供安全、可靠的工作環境。

Safety risk assessment serves as a critical process for enterprises in identifying and managing potential security threats, facilitating the formulation of effective preventive and responsive measures to ensure the safety and stability of employees, assets, and operations. Across all our mining sites, we actively conduct safety risk assessments with the goal of providing employees with a secure and reliable working environment.

報告期內，Ruashi礦場、Kinsenda礦場、Musonoi項目及Chibuluma南礦場均接受了第三方機構Digby Wells Environmental的EHS審查，針對運營風險管理、設備機械安全、事故管理報告、應急準備等問題開展差距分析，重點評估了組織對ISO 45001職業健康與安全管理體系的遵循情況，並提出降低安全風險的改進措施，推動其符合國際行業最佳實踐。

During the reporting period, Ruashi Mine, Kinsenda Mine, Musonoi Project, and Chibuluma South Mine underwent EHS reviews by the third-party organisation Digby Wells Environmental. These reviews included gap analyses on operational risk management, equipment and machinery safety, incident management reporting, and emergency preparedness, with a particular focus on assessing compliance with ISO 45001 Occupational Health and Safety Management Systems. Improvement measures to mitigate safety risks were proposed, aimed at aligning with international industry best practices.

## Ruashi礦場

## Ruashi Mine

Ruashi礦場根據Metorex規定的風險評估程序開展風險評估，風險評估基線由部門主管與SHEC主管共同維護。礦場制定了風險評估程序，並對不同等級的風險進行了劃分，以全面了解不同工作區域及工作任務中存在的潛在風險，並每周開展巡視工作。

Risk assessments at Ruashi Mine are conducted according to Metorex's risk assessment procedures. The risk assessment baseline is maintained jointly by department supervisors and SHEC supervisors. The mine has developed a risk assessment process and categorised the risks into various levels to provide a comprehensive understanding of the potential risks across various work areas and tasks. Inspections are carried out on a weekly basis.



Ruashi礦場工作前風險評估五步法則  
 Ruashi Mine's Five-Step Pre-Work Risk Assessment Process

Kinsenda礦場

Kinsenda Mine

Kinsenda礦場切實開展危險識別及風險評估，制定每項工作的風險評估表，定期檢查機器、梯子、搬運設備及安全裝置等，對高風險區域進行晝夜例行檢查，並及時報告每個已識別的危險及事故，以助於後續妥善處置。

Kinsenda Mine rigorously conducts hazard identification and risk assessments. It formulates risk assessment forms for each task, regularly inspects machinery, ladders, lifting equipment, and safety devices, carries out routine day and night checks in high-risk areas, and promptly reports each identified hazard and incident to facilitate proper subsequent handling.

Musonoi項目

Musonoi Project

Musonoi項目通過每日、每周及每月的安全檢查以及跨部門的交叉巡查來識別安全隱患，檢查審計內容包括管理現場檢查審計、車輛使用前檢查、消防設備檢查等，而檢查中發現的風險點將於每周、每月及季度SHEC報告中得到闡明，並要求核銷。同時，Musonoi項目通過開發並使用DSTI程序對礦場小型風險進行評估，且礦場HSE及管理層強制所有承建商使用此程序來開展跟進工作，並開展工作危害分析（JHA）。Musonoi項目亦每日進行日常「工具箱安全談話」，以作為日常安全風險檢查系統的一部分。

Safety hazards at Musonoi Project are identified through regular safety inspections conducted daily, weekly, and monthly, as well as cross-inspections carried out by various departments. The audit content includes site inspection audits, vehicle pre-use checks, fire equipment inspections, among others. Any identified risk points must be documented in weekly, monthly, and quarterly SHEC reports, and their resolution is required. Additionally, Musonoi Project has developed and implemented the Daily Safety Task Instruction (DSTI) programme for assessing minor risks at the mine. The mine's HSE and management require all contractors to use this programme for follow-up work and to conduct Job Hazard Analysis (JHA). Moreover, Musonoi Project conducts daily Safety Toolbox Talks as an integral component of the daily safety risk inspection system.

報告期內，Musonoi項目查出的80%安全隱患已在安全監督下得到整改，並計劃在2025年建成礦場後通過公認標準（ISO 45001）認證。

During the reporting period, 80% of the safety hazards identified at Musonoi project were rectified under safety supervision, with plans to achieve certification under recognised standards (ISO 45001) upon the mine's completion in 2025.

Chibuluma南礦場

Chibuluma South Mine

Chibuluma南礦場始終將風險評估作為安全管理的重要環節，定期開展任務風險檢查，確保每個環節符合安全標準。工作前嚴格執行風險評估，識別隱患並制定防範措施。

Risk assessment has always been a crucial component of safety management at Chibuluma South Mine, with regular task risk inspections conducted to ensure compliance with safety standards at every stage. Prior to commencing work, rigorous risk assessments are carried out to identify potential hazards and develop preventive measures.



### 案例: Musonoi 項目風險評估實踐

Case: Musonoi Project Risk Assessment Practice

報告期內, Musonoi 項目透過以下風險管理舉措  
持續提升安全管理水平:

During the reporting period, Musonoi Project continuously enhanced its safety management through the following risk management measures:

- 持續改進DSTI系統: 每日安全任務指令 (DSTI) 包括任務清單、相關風險及預防措施, 確保每日安全審查。  
Continuous Improvement of the DSTI System: The Daily Safety Task Instruction (DSTI) includes task lists, associated risks, and preventive measures, ensuring daily safety talks.
- 即時整改: 對不安全行為及條件立即採取行動, 每日開展5分鐘安全談話。  
Immediate Rectification: Prompt actions are taken against unsafe behaviours and conditions, with daily 5-minute safety talks conducted.
- 定期檢查與持續改進: 每周兩次安全巡查, 每月一次全面檢查, 確保24/7全天候監控與整改。  
Regular Inspections and Continuous Improvement: Bi-weekly safety patrols and monthly comprehensive inspections ensure 24/7 monitoring and rectification.
- 創建安全健康環境: 消除日常任務中的風險, 推動高標準的安全文化建設。  
Establishing Safe and Healthy Environments: Eliminating risks in daily tasks and fostering the development of a high-standard safety culture.
- HSE監控: HSE團隊監控現場安全。  
HSE Monitoring: The HSE team oversees site safety.
- 高標準檢查與零事故目標: 在所有工作區域保持高標準的觀察與檢查, 致力於實現零事故率。  
High-Standard Inspections and Zero Incident Goal: Maintaining rigorous observation and inspections across all work areas, committed to achieving a zero-incident rate.

### ◆ 安全管理數字化

Digitalization of Safety  
Management



礦場藉助數字系統IsoMetrix進行安全風險管理  
The Mine Utilises the Digital System IsoMetrix  
for Safety Risk Management

我們的所有礦場均定期進行安全檢查、審計、工廠參觀以及工廠任務觀察, 建立職業健康與安全管理系統, 並將發現的各類問題錄入IsoMetrix系統。該系統圍繞國際標準化組織 (ISO) 制定的「計劃、執行、檢查、行動」框架構建, 用於描述並記錄風險評估全流程, 明確負責人員。一旦現場整改完成, 該風險問題將在系統中關閉。

All our mines undergo regular safety inspections, audits, plant visits, and task observations to establish an occupational health and safety management system. Identified issues are documented in the IsoMetrix system. Built around the Plan-Do-Check-Act framework set by the International Organization for Standardization (ISO), this system is designed to outline and record the entire risk assessment process, clearly identifying responsible personnel. Once corrective actions are completed on-site, the risk issue is closed within the system.

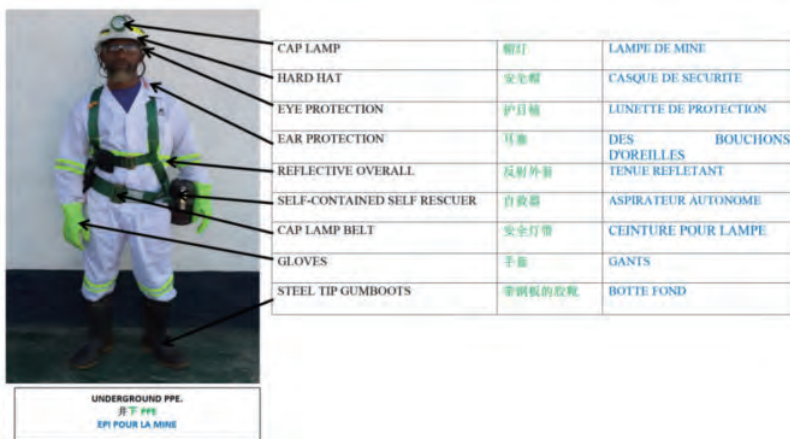
## 安全防護 Safety Protection

為確保所有僱員在工作環境中執行任務時得到充分保護，我們免費為所有僱員提供適用的防護服及個人防護設備（PPE），並強制要求正確使用。我們於政策中明確規定了特殊工種個人防護設備的要求以及各類個人防護設備的更換頻率，如Kinsenda礦場制定了《PPE程序》政策，明確僱員、承建商、臨時工及參觀者的基本個人防護裝備的強制要求，並將於分發個人防護設備後將跟蹤其使用情況，及時以舊換新，以達到零傷害的安全目標；Chibuluma南礦場亦為受健康安全標準影響的僱員提供適當的個人防護服。

此外，安全防護亦將作為績效評估的一部分。若僱員被發現濫用或未佩戴個人防護設備，將依據相關政策予以處罰。個人防護設備包括且不限於安全帽、眼部及面部防護、聽力防護、手部防護、安全鞋、一體式及兩件式工作服、呼吸器、防墜落裝置、電擊保護器、焊接、打磨及切割防護以及醫學防護等。

To ensure the adequate protection of all employees during their work duties, we supply all employees with appropriate protective clothing and personal protective equipment (PPE) at no cost, and their correct usage is compulsory. Our policies explicitly define the requirements for PPE for specific work types and the replacement frequency for various PPE items. For example, Kinsenda Mine has established the PPE Procedure policy, which clearly outlines the mandatory basic personal protective equipment for employees, contractors, temporary workers, and visitors. After distributing the PPE, we will track its usage and promptly replace old equipment with new to achieve our safety goal of zero harm. Similarly, Chibuluma South Mine provides appropriate personal protective clothing to employees affected by health and safety standards.

Besides, we take safety protection as part of performance measurement. Employees found to be misusing or not wearing PPE may be subject to disciplinary action under our relevant policies. Our PPE includes hard hats, eye and face protection, hearing protection, hand protection, safety shoes, one-piece and two-piece overalls, respiratory equipment, fall protection, electrical shock protection, welding, grinding and cutting protection, medical protection, etc.



Kinsenda礦場井下PPE要求  
PPE Requirements for Underground Workers at Kinsenda Mine



礦場地表維修人員穿戴PPE  
PPE Worn by Surface Maintenance Personnel at the Mine

## 應急準備 Emergency Preparedness

我們致力於確保所有可能受到某個現場或附近緊急事件影響的人員的安全、健康及福祉。為此，我們已制定《消防安全管理政策》等應急管理政策，全體礦場皆有應急預案，以有效應對潛在的緊急事件或危機。應急預案涵蓋災難管理、應急撤離、應急預警系統、急救措施、洩漏管理、消防及救援，以及熟悉各種緊急警報及信號、疏散路線、緊急出口及集合區等。為確保應急程序得到有效執行，全體礦場每年均會進行正式的危機管理培訓及演練。

We are committed to ensuring, as far as practicable, the safety, health, and well-being of all people who could potentially be impacted by emergency events at or near one of our sites. For this purpose, we have formulated emergency management policies, such as the Fire Safety Management Policy, and all mining sites have emergency plans to effectively respond to potential emergencies or crises. Emergency plans include disaster management, emergency evacuation, emergency warning systems, first aid, management in case of spillage, firefighting and rescue, and familiarisation with various emergency alarms and signals, evacuation routes, emergency exits, and assembly areas. To ensure that the emergency programmes are effectively implemented, formal crisis management training and practices are conducted annually at all mine sites.

### Ruashi礦場

### Ruashi Mine

Ruashi礦場制定了《應急程序/應急準備及響應計劃》，在大多數建築物中安裝了緊急預警系統，並為僱員提供急救、洩漏情況處理及各工作場所滅火方面的培訓。全體僱員需每年進行一次消防演練，並每月進行消防疏散演練。

此外，為確保全體僱員能夠有效應對緊急情況，管理人員必須向他們介紹現場應急處理程序，並要求各部門每隔不超過十二個月進行一次意外事故模擬演練。

Ruashi Mine has established the Emergency Procedure/Emergency Preparedness and Response Plan, installed emergency alert systems in most buildings, and provided employees with training in first aid, spill response, and fire suppression at various workplaces. Annual fire demonstrations and monthly fire evacuation drills are required for all employees.

To ensure the efficiency of employee response to emergencies, managers should brief all employees on the site emergency procedures, and each department is required to conduct an accident/incident simulation at intervals not exceeding 12 months.



Kinsenda礦場

Kinsenda Mine

Kinsenda礦場的應急管理系統由急救行動規劃及綜合性急救消防系統組成。

- 前者包括《應急計劃》《礦井大範圍停電事故應急預案》《11KV柴油發電機組停機故障應急預案》《主排水系統事故專項應急預案》《井下火災事故應急預案》《礦井垮塌應急預案》等，要求對重大檢修項目進行安全管控，對層級危險源進行管控。
- 後者包括消防栓、滅火器、消防車及地下避難所等。各急救消防設備均會定期進行檢測或維護——滅火器於半年度由政府進行維護，消防栓及消防車每周進行一次檢測，急救設備則每三年更換一次，且避難所每周由安全主任進行一次檢測。Kinsenda礦場亦配備了一名專職負責應急工作的僱員。

報告期內，Kinsenda礦場開展了數場救援及消防演習。

The emergency management system at Kinsenda Mine includes first aid operational planning and an integrated first aid and fire protection system.

The former encompasses such documents as the Emergency Plan, Emergency Plan for Mine Large-scale Power Failure in KICC of Metorex, KICC Emergency Plan for Shutdown Failure of 11KV Diesel Generator Set, Special Emergency Plan for Main Drainage System Accidents in KICC of Metorex, Emergency Response Plan on Underground Fire Accidents in KICC of Metorex, and Emergency Response Plan on Underground Collapse Accidents in KICC of Metorex. It mandates the implementation of safety control measures for major maintenance projects and the management of hierarchical hazard sources.

The latter encompasses fire hydrants, fire extinguishers, fire trucks, and underground shelters. All first aid and firefighting equipment undergoes regular inspections and maintenance. Specifically, fire extinguishers are maintained semi-annually by the government, while fire hydrants and fire trucks are inspected on a weekly basis. Additionally, the first aid equipment is replaced every three years, and shelters are subjected to weekly inspections overseen by the Safety Officer. Kinsenda Mine also employs a dedicated emergency response staff member.

During the reporting period, Kinsenda mine has conducted several rescue and fire drills..

Musonoi項目

Musonoi Project

Musonoi項目制定了不同的管理指南以及現場發生緊急情況時應採取的緊急預案及政策，如《消防安全管理政策/Musonoi項目》《火災應急預案/Musonoi項目》等，其應急管理計劃涵蓋現場、周邊地區及Musonoi項目負有法律、道德或社區責任的所有緊急情況。

同時，Musonoi項目倡導全體僱員及承建商針對現場、露天及地下礦場的死亡及/或其他緊急情況做好充分準備，確保火災、爆炸、運輸事故等重大或輕微的緊急情況均能得到妥善處理，相關信息亦可得到有效管理，並最大程度降低未來緊急情況的發生概率。

報告期內，Musonoi項目開展了井下消防演習。

Musonoi Project has established various management guidelines and emergency plans and policies to be implemented in the event of an emergency on-site, such as the Fire Safety Management Policy/Musonoi Project and Emergency Fire Response Plan/Musonoi Project. Its emergency management plan covers all emergencies on-site, in the surrounding areas, and those for which Musonoi Project bears legal, moral, or community responsibilities.

Additionally, Musonoi Project promotes the preparedness of all employees and contractors for on-site emergencies, including fatalities or other incidents in both open-pit and underground mines so that various emergencies, including fires, explosions, transportation accidents, and more are appropriately managed, and relevant information is efficiently managed to minimise the likelihood of future emergencies.

During the reporting period, underground fire drills were conducted at Musonoi project.

## Chibuluma南礦場

## Chibuluma South Mine

Chibuluma南礦場成立了應急團隊，負責協助制定及實施應急回應及恢復程序，同時統籌安排應急演練。在防火措施方面，礦場為每個工作區制定了火災預防及防護策略，安裝了火災探測設備及消防設備，並定期進行檢測及維護。

Chibuluma South Mine has established an emergency response team to assist in the development and implementation of emergency response and recovery procedures, and to coordinate emergency drills and simulations. In terms of fire prevention, the mine has formulated a fire prevention and protection strategy for each workplace. It installs fire detection and firefighting equipment, and regularly inspects and maintains them.



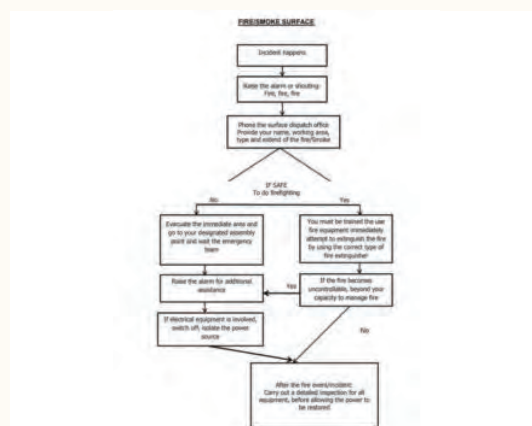
## 案例：Kinsenda礦場《應急計劃》

## Case: Kinsenda Mine Emergency Plan

Kinsenda礦場透過制定《應急計劃》，明確了事故發生時的應急方案，釐清了各方職責，規範了人員撤離流程，並設定了關鍵時間節點。事故包括：

- 事故/事件發生時的信息傳遞。  
Information channel in case of accident/incident.
- 緊急疏散。  
Emergency evacuation.
- 地下礦井氾濫。  
Underground mine-flooding.
- 嚴重事故。  
Serious accident.
- 地面火災/煙霧。  
Surface fires/smoke.
- 地下火災/煙霧。  
Underground fires/smoke.

Kinsenda Mine has established an Emergency Plan to clearly outline the response procedures during incidents, define the responsibilities of all parties, standardise the evacuation process, and set critical time milestones. Incidents covered include:



Kinsenda礦場地面火災/煙霧應急計劃  
Kinsenda Mine Fire/Smoke Surface Emergency Plan



Kinsenda礦場開展救援演習及消防演習  
Kinsenda Mine Conducts Rescue and Fire Drills

## 職業健康 Occupational Health

我們致力於提供安全健康的工作環境，降低與職業危害相關的風險，以預防僱員患病。我們的健康方案涵蓋了各礦場的安全管理政策，關注心理健康、現場工作環境、化學品、生物或物理因素，以及其他可能導致急性病或長期慢性職業疾病的問題。

We are committed to preventing illness among employees by providing a safe and healthy working environment and reducing risks associated with occupational hazards. Our health approach, as covered by each mine's safety management policy, focuses on mental health, the physical work environment, and chemical, biological, or physical agents. It also addresses other issues that can lead to acute illness or long-term chronic occupational disease.

全體礦場實施疫情預案，包括社交降級、礦區入口閃點溫度計測溫、洗手及公共區域消毒

Implement epidemic protocols at all mine sites, including social de-escalation, flash thermometer assessment at mine entrances, hand washing, and disinfection of public areas.

推行愛滋病病毒/愛滋病預防計劃，及鼓勵僱員進行愛滋病病毒自願諮詢檢測 (VCT)

Promote HIV/AIDS prevention programmes, and encourage employees to conduct voluntary counselling and testing (VCT) for HIV.

採取干擾措施 (如酒精檢測) 以減少如酗酒等不良習慣相關傷害

Apply interventions such as alcohol testing to reduce the harms associated with unhealthy habits such as alcohol abuse.

在礦場設立專業的醫務室

Establish professional infirmaries at mine sites.

監督及檢測工廠內噪音、粉塵、熱應力、氣體、有機蒸氣及輻射

Monitor and inspect noise, dust, thermal stress, gas, organic vapors, and radiation within the plant.

為僱員及其家屬提供免費醫療服務，例如外科、產科、牙科及醫藥產品

Provide employees and their families with free medical services such as surgical, obstetric, dental, and pharmaceutical products.

預防心理健康問題及幫助僱員避免睡眠障礙及壓力，開展疲勞管理

Prevent mental health problems and help employees avoid sleep disorders and stress, and initiate fatigue management.

提供定期醫療檢查

Provide periodic medical examinations.



## ◆ 危險化學品管理

### Hazardous Chemicals Management

我們始終嚴格遵循危險化學品相關的國際管理規範及法律法規，並依據實際業務營運情況與法規要求，持續更新管理措施。在危險化學品管理方面，我們明確各環節的職能，全面規範化學品的採購、運輸、儲存、使用及廢棄流程，不斷提升日常安全管理水準。Ruashi礦場及Kinsenda礦場分別制定了《化學品材料處理程序》及《化學品與試劑管理》，明確規定了化學品及試劑的安全處理、管理及廢棄方法，並要求所有相關人員深入了解化學品的特性，以有效降低化學風險，防止化學品對人員、設施或環境造成潛在危害。

We have been strictly complying with applicable international regulations and laws, as well as with relevant local regulations, related to hazardous chemicals. We continuously update our management measures in accordance with business operations and the requirements of these laws and regulations. In the management of hazardous chemicals, we clearly define the duties at each stage, comprehensively standardising the processes of procurement, transportation, storage, use, and disposal of chemicals, with the aim of continuously enhancing the level of daily safety management. Ruashi Mine and Kinsenda Mine have established the Handling Of Chemicals Materials Procedure and Chemicals and Reagents Management, respectively. These guidelines clearly stipulate the safe handling, management, and disposal methods of chemicals and reagents. They require all relevant personnel to have a thorough understanding of the characteristics of chemicals to effectively reduce chemical risks and prevent potential hazards to personnel, facilities, or the environment that could be caused by chemicals.

## ◆ 傳染病管理

### Infectious Disease Prevention

我們所有的礦場均處於瘧疾易發區域，這對全體僱員的健康構成了重大隱患。為預防瘧疾，各礦場採取了多項措施，包括且不限於為僱員提供驅蟲劑及蚊帳、定期在工作區噴灑驅蟲劑、開展瘧疾防治培訓等，以降低當地的瘧疾感染風險。此外，報告期內，Ruashi礦場針對霍亂採取了飲用水、氯化消毒劑及肥皂分配等措施，並與省級衛生部門合作應對其他潛在疫情；Kinsenda礦場定期在醫院噴灑滅蚊劑，清除雜草及積水，安裝紗門，分發蚊帳，提升瘧疾防治意識；Musonoi項目致力於實現零瘧疾病例，透過每周噴灑殺蟲劑、提供蚊帳、使用蚊香噴霧以及穿著長袖衣物等措施，有效減少瘧疾影響；Chibuluma南礦場則透過修剪建築周邊矮草來規避瘧疾風險。

All of our mines are located in malaria-prone areas, posing a significant health risk to all employees. To mitigate the threat of malaria, each mine adopts several preventive measures, which include, but are not limited to, providing employees with insect repellent and mosquito nets, conducting regular insect repellent spraying in the workplace, and launching training on malaria prevention, with the aim of reducing the local malaria infection risk. During the reporting period, Ruashi Mine implemented measures against cholera, including the distribution of drinking water, chlorine disinfectants, and soap, while collaborating with provincial health authorities to address other potential outbreaks. Kinsenda Mine regularly sprays mosquito repellents in hospitals, removes weeds and stagnant water, installs screen doors, distributes mosquito nets, and enhances awareness of malaria prevention. Musonoi Project is committed to achieving zero malaria cases, effectively reducing malaria impacts through weekly insecticide spraying, provision of mosquito nets, use of mosquito coil sprays, and promotion of long-sleeve clothing. Meanwhile, Chibuluma South Mine mitigates malaria risks by trimming low-growing grass around buildings.

## ◆ 健康及疲勞管理

### Health and Fatigue Management

我們重視僱員的健康福祉，確保僱員擁有足夠的休息時間，避免過度疲勞對工作安全及效率的不利影響。

We prioritise the health and well-being of our employees by providing adequate rest time to mitigate the negative impact of excessive fatigue on work safety and productivity.

#### Ruashi礦場

#### Ruashi Mine

Ruashi礦場積極開展健康及疲勞管理工作，包括：

- 宣傳健康信息，如良好營養、運動、充足睡眠及工作間隙休息。
- 定期為僱員安排全面體檢，涵蓋身體檢查、生物特徵檢測及壓力面談。
- 不鼓勵加班，制定加班標準，鼓勵合理休假。

報告期內，Ruashi礦場僱員健康檢查率100%。

Ruashi Mine actively engages in health and fatigue management, including:

Promoting health information, such as proper nutrition, exercise, adequate sleep, and breaks during work.

Regularly arranging comprehensive health check-ups for employees, covering physical examinations, biometric testing, and stress interviews.

Discouraging overtime and setting standards for overtime, encouraging reasonable leave.

During the reporting period, the rate of health check-ups for Ruashi Mine employees was 100%.

#### Kinsenda礦場

#### Kinsenda Mine

Kinsenda礦場與第三方保險公司合作，僱員每年可持Bupa卡到指定醫院體檢，現場生病可到公司診所或合作醫院就診；假期結束後返回現場需進行體檢。同時，礦場實行兩種工作制度，規範工作時長，保障僱員的正常休息。

Kinsenda Mine collaborates with third-party insurance companies, enabling employees to undergo annual health check-ups at designated hospitals using their Bupa cards. In case of illness, they can seek treatment at the Company's clinic or designated hospitals. Upon returning to the site after holidays, employees are required to undergo a health examination. Additionally, the mine implements two working systems to regulate working hours and ensure employees' proper rest periods.

## Musonoi項目

## Musonoi Project

Musonoi項目報告期內採取了以下措施：

- 為所有僱員及其直系親屬提供醫療保健服務，僱員憑人力資源部門發放的許可卡即可前往診所就診。
- 新僱員（本地及外籍）入職前需體檢，由醫生出具健康證明，證明其適合工作。體檢證明由現場人力資源部門存入個人檔案。
- 煤礦現場設有急救設施。
- 礦場正在制定疲勞管理程序，以安全健康的方式管理疲勞，保護僱員及設備，滿足法律及公司安全生產要求。
- 夜班工作時間為18:30至次日7:30，總時長不超過12小時。未來，礦場計劃實施三班倒制度，減少4小時的夜班時長，進一步優化疲勞管理。

The following measures have been taken for Musonoi Project during the reporting period:

Medical health services are provided to all employees and their immediate family members. Employees can visit the clinic with a permit card issued by the Human Resources department.

New employees (both local and foreign) must undergo a medical examination before starting work, with a health certificate issued by a doctor attesting to their fitness for work. The health certificates are stored in their personal files by the Human Resources department on-site.

First aid facilities are available on the coal mine site.

The mine is developing a fatigue management procedure to manage fatigue in a safe and healthy manner, to protect employees and equipment, and to meet legal and company safety production requirements.

The night shift work hours are from 18:30 to 07:30 the following day, with a total duration not exceeding 12 hours. In the future, the mine plans to implement a three-shift rotation system, reducing the night shift by 4 hours, to further optimise fatigue management.

## Chibuluma南礦場

## Chibuluma South Mine

Chibuluma南礦場鼓勵僱員充分休息，要求夜班前僱員必須在家休息。報告期內，Chibuluma南礦場僱員健康檢查率81%。

Chibuluma South Mine encourages employees to fully rest and mandates that employees must rest at home before night shifts. During the reporting period, the employee health check rate at Chibuluma South Mine was 81%.

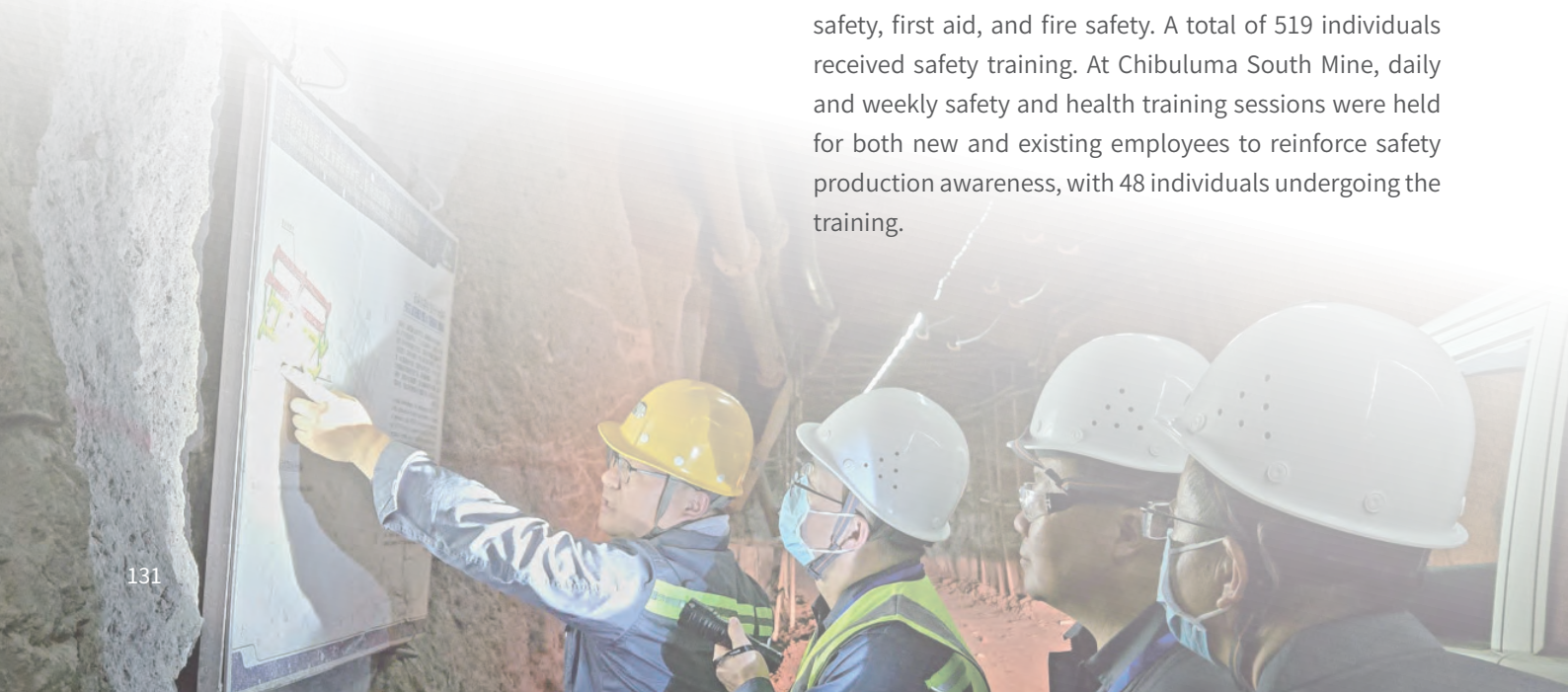
## 安全培訓 Safety Training

為滿足各礦場的培訓需求，我們的安全培訓責任部門將依據實際情況制定職業安全衛生培訓計劃，並通過定期評估與持續改進，確保培訓計劃的有效性。新入職僱員以及長期休假後返回崗位的僱員，在正式上崗前必須完成入職培訓、安全生產規章制度培訓以及班前危害識別與風險評估培訓。這些培訓內容包括安全流程、標準操作流程及應急流程等，旨在全面提升僱員的安全意識及操作技能。

報告期內，各礦場均根據實際情況開展了各類安全培訓活動，強化安全風險管控，提升安全生產及職業健康保障水平。Ruashi礦場應管理層之要求，對礦區維修團隊進行了密閉空間及上鎖、掛牌及試車相關培訓；Kinsenda礦場開展了包括危險識別(HIRA)、安全生產規則、急救、消防演習及爆破、機器操作培訓等相關安全培訓；Musonoi項目目標提升全體僱員（本地國籍及外籍，包括承建商）的安全意識水平，進行了包括採礦安全、工作場所安全、密閉空間、墜落防護、用電安全、急救、消防等多類安全培訓，共519人接受了安全培訓；Chibuluma南礦場每天及每周對新老僱員進行安全及健康培訓介紹，強化僱員安全生產意識，共48人接受了安全培訓。

Depending on the training requirements of each mine site, corresponding departments responsible for safety training will develop a Safety and Occupational Health Training Programme, review the effectiveness of the programme and follow up on continuous improvement. New hires and employees returning from long leave must complete Induction Training, SPR(Safety Production Rules), and Pre-work HIRA(Hazard Identification & Risk Assessment) training before officially starting work. The training covers safety procedures, standard operating procedures, and emergency procedures, aiming to comprehensively enhance employees' safety awareness and operational skills.

During the reporting period, each mine launched various safety training activities in accordance with actual circumstances, whilst also bolstering safety risk management and control to elevate production safety and occupational health protection. At the request of management, Ruashi Mine conducted training for the maintenance team on confined spaces, lockout, tagout, and test-run procedures. Kinsenda Mine organised safety training sessions covering Hazard Identification and Risk Assessment (HIRA), safety production regulations, first aid, fire drills, blasting, and machinery operation. Musonoi Project aimed to enhance the safety awareness levels of all employees (both local and expatriate, including contractors) through various safety training programmes, such as mining safety, workplace safety, confined spaces, fall protection, electrical safety, first aid, and fire safety. A total of 519 individuals received safety training. At Chibuluma South Mine, daily and weekly safety and health training sessions were held for both new and existing employees to reinforce safety production awareness, with 48 individuals undergoing the training.





Ruashi礦場健康與安全委員會培訓  
Ruashi Mine Health and Safety Committee Training



Ruashi礦場職業健康安全培訓  
Ruashi Mine Occupational Health and Safety Training



### 案例: Ruashi礦場安全培訓計劃 Case: Ruashi Mine Safety Training Programme

Ruashi礦場制定《2024安全管理計劃》以明晰培訓方案, 包括:

Ruashi Mine has established the 2024 Safety Management Programme to clearly define the training programme, which includes:

- 入職培訓、安全生產規則及工作前人力資源評估: 全體新僱員必須參加, 全體在職僱員必須每年接受上述所有課程之複習培訓。  
Induction training, safety production regulations, and pre-job human resources assessment: All new employees must participate, and all current employees must undergo refresher training for all these courses annually.
- 急救及基本滅火: 責任區域人員按計劃參加。  
First aid and basic firefighting: Personnel in responsible areas participate as planned.
- 事故調查課程 (ICAM): 全體高級管理人員均需參加。  
Incident Cause Analysis Method (ICAM) course: All senior managers are required to attend.
- 火災演示: 每年在所有區域進行一次消防演示, 全體僱員都必須參加。  
Fire drill: An annual fire drill is conducted in all areas, and all employees must participate.
- 風險評估: 確保全體安全員、主管、安全代表及中層管理人員參與其適用的風險評估培訓。  
Risk assessment: Ensure that all safety officers, supervisors, safety representatives, and middle management personnel participate in the respective and applicable risk assessment training.
- 公司/部門政策及程序: 各部門負責人為全體下屬提供相關培訓。  
Company/department policies and procedures: Department heads provide relevant training to all subordinates.

# 社區繁盛

## THRIVING COMMUNITY

---

金川國際高度關注並尊重社區文化、傳統、信仰及其與土地之深厚聯係，致力於將潛在的負面社會影響降至最低，並積極妥善解決社區的合理投訴。同時，我們充分尊重以符合當地文化的方式參與社區活動及與社區互動的權利。

JCI places a high level of importance on and respects the community's culture, traditions, beliefs, and their deep connections to the land. We are committed to minimising potential negative social impacts and actively addressing reasonable community complaints in a proper manner. We also fully respect the right of community members to participate in community activities and engage with the community in a manner that aligns with local culture.

我們嚴格遵循營運所在國家及地方有關社區之法律法規，積極回應《世界人權宣言》《聯合國工商業與人權指導原則》《聯合國土著人民權利宣言》及《聯合國全球契約》等國際準則。我們通過構建科學的社區管理體系，定期舉辦社區交流活動，支持當地基礎設施建設及社區居民生活技能提升，持續為社區繁榮貢獻力量。

We strictly adhere to the relevant national and local laws and regulations concerning communities in the countries where we operate. We actively respond to international guidelines, including the Universal Declaration of Human Rights, the UN Guiding Principles on Business and Human Rights, the UN Declaration on the Rights of Indigenous Peoples, and the UN Global Compact. We contribute to the prosperity of the community through establishing a scientific management system, organising regular community exchange activities, providing support for local infrastructure development, enhancing residents' living skills, and making sustained efforts in these areas.

## 社區參與 Community Participation

金川國際致力於不斷減少潛在的負面社會影響，並為當地社區創造更多機遇與福祉。我們高度重視社區管理，將其視為企業重點工作及「零傷害」價值觀之重要部分，制定了本公司社區政策與社區福祉可持續計劃，堅決履行以下承諾：

- 監測、管控社會經濟影響，持續優化社區發展與投資計劃；
- 制定保障社區可持續福利之方案；
- 維護僱員、承建商、供應商及所在社區人員之人權；
- 認可並尊重原住民文化、遺產與傳統權利，助力其文化遺產相關工作；
- 建立並維護與受影響方、營運關注者之持份者關係；
- 管理僱員、承建商、當地社區之公共衛生風險。

JCI is committed to continuously reduce potential negative social impacts and creating more opportunities and well-being for local communities. We place high importance on community management, viewing it as a key focus of our business and an integral part of our core value of "zero harm". We have established our community policy and sustainable community welfare plans, and are firmly committed to:

- Monitoring and managing socio-economic impacts, and continuously optimising community development and investment plans;
- Developing programmes to ensure sustainable community welfare;
- Maintaining the human rights of employees, contractors, suppliers, and community members;
- Recognising and respecting the culture, heritage, and traditional rights of indigenous peoples, and supporting their cultural heritage initiatives;
- Establishing and maintaining stakeholder relationships with affected parties and operational stakeholders;
- Managing public health risks for employees, contractors, and local communities.

## 社區交流 Community Communication

金川國際主動與受業務影響或在業務中享有權益之相關方建立並維繫良好關係。Ruashi礦場設立了社會事務辦公室，負責對接當地社區及非政府組織，與持份者開展公開透明的互動，助力業務拓展。我們通過與持份者攜手合作，實施減少業務負面影響、增加利益創造機會的社區參與戰略；藉由暢通的溝通平台，讓社區居民積極參與協商並充分表達意見，融入項目開發及營運的全過程，推動項目順利開展。報告期內，金川國際各礦區未收到任何周邊社區的重大投訴或社區問題，亦無重大未決社區投訴事項。

JCI actively establishes and maintains good relationships with stakeholders who are affected by or have interests in its business operations. Ruashi Mine has set up a social affairs office to liaise with local communities and non-governmental organisations, conducting open and transparent interactions with stakeholders to facilitate business expansion. We implement a community engagement strategy in collaboration with stakeholders to reduce the negative impacts of our operations and increase opportunities for benefit creation. Through a smooth communication platform, community members are actively involved in consultations, fully expressing their opinions throughout the process of project development and operation, to promote the smooth progress of projects. During the reporting period, no major complaints or community issues from surrounding communities were received by the various mining areas of JCI. Also, there were no significant unresolved community complaints.

## ◆ Ruashi礦場

### Ruashi Mine

Ruashi礦場已設立聯絡辦公室，積極與當地社區溝通，增進信任、相互學習。其主要溝通方式如下：

- 每周與社區舉行會議，與當地持份者開展正式對話；
- 與當地社區發展代表、合作小組及投資基金會互動溝通；
- 用社區投訴管理系統記錄、處理並回應社區關切；
- 每季度出版一期關於Ruashi採礦活動的通訊稿件，涵蓋生產、安全、健康、社區等內容，分發至當地政府及媒體。

Ruashi Mine has established a liaison office to communicate with the local community, fostering trust and mutual learning. Its primary communication methods include:

- Holding weekly meetings with the community to engage in formal dialogues with local stakeholders;
- Interacting with local community development representatives, cooperative groups, and investment foundations;
- Using a community complaint management system to record, address, and respond to community concerns;
- Publishing a quarterly newsletter on Ruashi's mining activities, covering production, safety, health, and community topics, and distributing it to local government and media.

## ◆ Kinsenda礦場

### Kinsenda Mine

Kinsenda礦場毗鄰Kinsenda村莊，我們通過多種方式與社區當地領導、居民及相關機關保持著密切聯繫，並收穫了良好的溝通成效。例如，我們定期根據需要與當地社區的各持份者及機構（如地方發展委員會、村長辦公室、部門總部、領土管理員等）舉行會議。我們成立了一個由Kitotwe村長領導的社區委員會，負責接收受Kinsenda礦場採礦活動影響的村莊居民的投訴，並通過Kinsenda礦場的社會辦公室進行轉達。此外，Kinsenda礦場作為剛果（金）中資礦業企業協會之成員，始終秉持著開放、共贏的理念積極投身於協會組織的各類交流活動。

At Kinsenda Mine, our proximity to Kinsenda village means that we are in close contact with local leaders, residents, and relevant authorities through various means, achieving effective communication. For instance, we regularly convene meetings with stakeholders and institutions from the local community as needed, including the Local Development Committee, the Village Chief's Office, departmental headquarters, and territorial administrators. We have established a Community Committee, led by the Kitotwe Village Chief, which is tasked with receiving complaints from residents of villages affected by Kinsenda Mine's mining activities and conveying them to us through the Social Office of Kinsenda Mine. Additionally, as a member of the Chinese Mining Enterprises Association in the DRC, Kinsenda Mine consistently adheres to an open and win-win philosophy, actively participating in various exchange activities organised by the association.

報告期內，我們與當地社區持份者舉行了多次會議，主要有：

- 與當地原住民青年組織及其承包公司於2024年7月26日在Balamba區長辦公室就優先考慮當地勞動力的招聘政策統一意見；
- 與負責道路及排水溝建設項目之企業家、當地青年委員會、Kinsenda-Kitotwe村長辦公室於2024年9月19日舉行會議，回答與該市正在實施的社區工程有關問題；
- 與the Farmer Entrepreneurs-Seed Multiplier於2024年10月舉行會議，啟動當地合作社Tibombebe-Imirimo活動。

During the reporting period, we held several meetings with local community stakeholders, including:

- A meeting with indigenous youth organisations and their contracting companies on 26 July 2024, at the Balamba District Office, to align on hiring policies prioritising local labour;
- A meeting with entrepreneurs responsible for road and drainage construction projects, the local youth council, and the Kinsenda-Kitotwe Village Office on 19 September 2024, to address queries related to community projects being implemented in the city;
- A meeting with the Farmer Entrepreneurs-Seed Multiplier in October 2024 to launch the activities of the local cooperative, Tibombebe-Imirimo.



Kinsenda礦場與社區代表、0.3%Dotation委員會之間的會議  
Meeting Between Kinsenda Mine, Community Representatives, and the 0.3%



Kinsenda礦場參加0.3%撥款項目的奠基儀式  
Kinsenda Mine Participates in the Groundbreaking Ceremony for the 0.3% Allocation Project



Kinsenda礦場在村長及Balamba區長陪同下與社區成員會面  
Kinsenda Mine Meets with Community Members in the Presence of the Village Chief and the Balamba District Administrator



## ◆ Musonoi項目

### Musonoi Project

Musonoi項目遵循透明性、參與性、尊重、包容及可持續的社區溝通原則。我們設立專門的社區聯絡部門及專員，建立熱線電話，定期開展居民座談會，聽取意見並及時解決問題，制定礦區及社區聯合應急預案並建立24小時應急回應機制，及時解決突發問題。我們注重對礦區政策法規宣傳，讓社區居民了解相關權益及義務。此外，Musonoi項目構建申訴監測及解決程序系統，該系統提供社區財產損壞管理與團隊監督報告機制，助社區及持份者表達擔憂、提前解決問題，強化基於溝通信任之關係。

Musonoi Project adheres to community communication principles that emphasise transparency, participation, respect, inclusiveness, and sustainability. We have established a dedicated community liaison department and staff positions, set up a hotline, and regularly have conducted resident forums, all to gather opinions and promptly address issues. We have also formulated joint emergency plans for the mining area and community, and established a 24-hour emergency response mechanism to swiftly resolve unexpected problems. We place significant emphasis on disseminating mining area policies and regulations to educate community residents about their rights and obligations. Additionally, Musonoi Project has developed a grievance monitoring and resolution system, which includes mechanisms for managing community property damage and team oversight reports. This system facilitates the expression of concerns by the community and stakeholders, preemptively addresses issues, and strengthens relationships based on communication and trust.



Musonoi項目組織社區交流會  
Musonoi Project Organises Community Exchange Meetings

## ◆ Chibuluma南礦場

### Chibuluma South Mine

Chibuluma南礦場於2010年設立了社區關係辦公室，持續與持份者持續溝通，並定期向地方當局披露礦山及項目情況、搬遷計劃、勘探進展、安全及環境問題等社區管理的進展及成效。我們制定了完善的社區管理及投訴政策，礦場管理層每年至少對持份者參與程序進行一次審查，確保社區全員的聲音得以傳達，特別是婦女及弱勢群體的參與，並鼓勵居民依規進行投訴及/或申訴。此外，作為贊比亞礦業協會之成員，Chibuluma南礦場與其他礦業公司及主要持份者保持著良好溝通。

報告期內，Chibuluma南礦場就電力負荷管理、礦業公司本地化等內容與礦業商會舉行了會議，就水資源分享相關問題與當地政府進行了會談、與礦山重新安置小組中的社區代表開展了溝通。

Chibuluma South Mine established its Community Relations Office in 2010, maintaining continuous communication with stakeholders and regularly disclosing updates to local authorities on the mine and projects, relocation plans, exploration progress, safety, and environmental issues. We have developed comprehensive community management and grievance policies. The mine management reviews stakeholder engagement procedures at least once a year to ensure that the voices of all community members are heard, particularly those of women and vulnerable groups. We also encourage residents to lodge complaints and/or grievances in accordance with regulations. Additionally, as a member of the Zambian Mining Association, Chibuluma South Mine maintains good communication with other mining companies and key stakeholders.

During the reporting period, Chibuluma South Mine held meetings with the Chamber of Mines on topics such as power load management and the localisation of mining companies, engaged in discussions with local government regarding water resource sharing, and communicated with community representatives in the Mine Resettlement Committee.

## 原住民權利保護及安置 Indigenous Rights Protection and Resettlement

金川國際極為重視原住民關係，尊重其文化、傳承及傳統權利，積極協助原住民文化遺產之鑒定、記錄、管理與保護。

Ruashi礦場聘請SRK團隊負責礦場周圍的所有重新安置計劃，報告期內，約有3戶居民因距離新的垃圾堆太近而搬遷。Musonoi項目嚴格遵循傳統生活方式保護相關政策，避免對傳統文化場所、宗教聖地及歷史遺跡的破壞。Chibuluma南礦場對尾礦庫附近社區居民完成了重新安置工作，且為確保尾礦儲存設施附近的區域不被侵佔，我們定期對該區域進行檢查，清除了對社區健康及安全之潛在風險。

JCI places great emphasis on indigenous relations, respecting their culture, heritage, and traditional rights, and actively assists in the identification, documentation, management, and protection of indigenous cultural heritage.

Ruashi Mine engages the SRK team to oversee all resettlement plans around the mine. During the reporting period, approximately three households were relocated due to their proximity to the new waste dump. Musonoi Project strictly adheres to policies protecting traditional ways of life, avoiding damage to cultural sites, sacred religious locations, and historical remains. The relocation of community residents near the tailing's storage facility at Chibuluma South Mine has been completed. To ensure the area surrounding the tailings storage facility remains unencroached upon, we conduct regular inspections and have eliminated potential risks to the health and safety of the community.

## 社區發展 Community Development

支援社區發展是踐行社會責任之關鍵，我們積極參與社區活動並與社區緊密合作。我們通過開展技能培訓幫助居民改善生計，招募當地勞工以提升就業率，同時協助改善交通、農業、教育、健康、環境、安全、醫療等基礎設施條件，全方位助力社區的可持續發展。報告期內，Ruashi礦場榮獲地方政府頒發的社區管理與發展相關之最佳實踐獎。

Supporting community development is crucial to fulfilling social responsibilities. We actively participate in community activities and maintain close collaboration with communities. We help residents improve their livelihoods through skill training programmes, recruit local labour to enhance employment rates, and assist in improving infrastructure related to transportation, agriculture, education, health, environment, safety, and medical services. In this way, we provide comprehensive support for the sustainable development of communities. During the reporting period, Ruashi Mine was awarded the Best Practice Prize in Community Management and Development by the local government.

## ◆ Ruashi礦場

### Ruashi Mine

Ruashi礦場廣泛參與社區活動，涵蓋教育、健康、農業、飲用水供應、電力等主要社區生活領域。報告期內，我們主要參與Ruashi社區之如下活動：

- **教育類**：修建學校並提供所需的桌椅、書籍等物資，為345名學生提供1個月的現場實習，為多名學生提供到場參觀學習，以扶持當地教育發展。
- **醫療健康類**：向社區普及愛滋病毒知識。
- **促進經濟發展及技能提升類**：為110名社區臨時僱員提供22天工作；為面積達300公頃的耕作活動提供玉米支援計劃；為礦區附近的婦女提供蔬菜農業技能支援，提升女性群體之就業能力。
- **完善基礎設施類**：鑽井並為社區增加了每小時300立方米之飲用水；定期為社區道路排水。
- **其他類**：與Hodari School的學生一起植樹；贊助4場社區籃球賽；向社區提供有關塑料瓶處理之知識培訓。

Ruashi Mine's involvement in the community is wide-ranging and covers key areas of community life, including education, health, agriculture, drinking water supply, electricity, etc. During the reporting period, we were primarily involved in the following activities in the Ruashi community:

- **Education**: Constructing schools and supplying necessary materials, such as desks, chairs, and books; providing 345 students with one month of on-site internships; offering multiple students opportunities for on-site visits and study to support local educational development.
- **Healthcare**: Raising awareness about HIV/AIDS within the community.
- **Economic Development and Skill Enhancement**: Employing 110 community temporary workers for 22 days; implementing a maize support programme for farming activities covering 300 hectares; offering vegetable farming skills support to women near the mining area, enhancing the employment capabilities of the female population.
- **Infrastructure Improvement**: Drilling wells and increasing the community drinking water supply by 300 cubic metres per hour; regularly draining community roads.
- **Other Activities**: Planting trees with students from Hodari School; sponsoring four community basketball games; providing community training on plastic bottle disposal.



Ruashi礦場支持社區發展會議  
Ruashi Mine Supports the  
Community Development Conference

## ◆ Kinsenda礦場

### Kinsenda Mine

Kinsenda礦場一直積極投身社區公益活動，有效幫助解決當地農業種植及發展、社區衛生防疫、教育支持、用水用電、道路修建等問題。報告期內，我們主要參與Kinsenda社區之如下活動：

- **教育類：**建造3所學校並配備廁所及行政辦公室、重建2所學校，並為這些學校提供1,300把長凳；為所建學校建造雞舍並購買辦公設備；為231名兒童（包括26名識字班兒童、49名裁剪及縫紉班兒童、156名幼稚園兒童）開辦社會職業培訓中心，配備8名教師，並支付教師及督導僱員資、兒童的校服及學習用品、培訓設備以及早中餐費用；為受採礦活動影響的4個村莊的學齡兒童舉辦夏令營，發放學習用品；舉辦兒童聖尼古拉斯日活動；更新縫紉機，便於兒童開展學習。
- **醫療健康類：**我們建設了自己的社區醫院，並對當地社區免費開放，並舉辦預防傳染病、季節性疾病（愛滋病毒、霍亂、瘧疾、傷寒等）之宣傳諮詢活動；為165名孕婦提供產前諮詢，為3,071名學齡前兒童提供疫苗接種，接收並治療了33例結核病患者，接收了15例正在接受治療的HIV護理病例，接收了1例正在接受治療的麻風病患者；為鐮狀細胞病兒童的疫苗接種活動提供資金支援；修建現代化停屍房、購買停屍房冰箱。

Kinsenda Mine has always been actively involved in community public welfare activities, effectively helping to address local issues such as agricultural planting and development, community epidemic prevention, educational support, water and electricity supply, and road construction. During the reporting period, we mainly participated in the following activities in the Kinsenda community:

- **Education:** We constructed three schools equipped with toilets and administrative offices, reconstructed two schools, and provided 1,300 benches for these schools. We also built chicken coops for the schools and purchased office equipment. A vocational training centre was established for 231 children, including 26 children in literacy classes, 49 children in tailoring and sewing classes, and 156 kindergarten children, equipped with eight teachers. We paid salaries for teachers and supervisors and covered expenses for school uniforms, learning materials, training equipment, and breakfast and lunch. Summer camps were organised for school-age children in four villages affected by mining activities, with learning materials provided. We also held children's St. Nicholas Day events and updated sewing machines to facilitate children's learning.
- **Healthcare:** We established our own community hospital, which is freely accessible to the local community. We also conduct promotional and advisory activities for the prevention of infectious and seasonal diseases, such as HIV, cholera, malaria, typhoid, etc. We provided prenatal consultations for 165 pregnant women and vaccinations for 3,071 pre-school children. We received and treated 33 tuberculosis patients, 15 HIV care cases currently under treatment, and one leprosy patient currently under treatment. We also provided funding support for vaccination programmes for children with sickle cell disease. Additionally, we constructed a modern morgue and purchased refrigerators for it.

- **促進經濟發展及技能提升類：**修建1個社區農業倉庫；成立當地農業合作社Twibombele-Imirimo，吸納410戶家庭加入，為合作社成員提供技能培訓，並啟動2公頃種子田活動，提供60公頃玉米種子，支持農業發展；支援非政府組織Dorcas旗下的社區婦女市場園丁開展種植蔬菜活動，並從其採購礦區食堂所需的菜品；在農村發展專家顧問CDEG的協助下，為社區成員組織多場關於農業支持及創業之技能培訓課程。
- **完善基礎設施類：**在Kinsenda-Kitotwe村繼續修建5條道路、5條排水溝及1座橋樑；鑽探一口水井；大型水庫的水源經氯化處理後供應給社區。
- **其他類：**贊助當地社區空手道俱樂部參加全國錦標賽；贊助Kinsenda-Kitotwe社區青年參加當地足球錦標賽；種植500棵香蕉樹。

- **Economic Development and Skill Enhancement:** We constructed one community agricultural warehouse and established the local agricultural cooperative, Twibombele-Imirimo, with 410 households enrolled. We provided skill training for cooperative members and initiated a 2-hectare seed field activity, supplying 60 hectares of corn seeds to support agricultural development. We supported the community women's market gardeners under the NGO Dorcas in their vegetable cultivation activities and procured vegetables needed for the mining camp cafeteria from them. With the assistance of the rural development expert consultant CDEG, we organised multiple training sessions on agricultural support and entrepreneurship for community members.
- **Infrastructure Improvement:** We continued the construction of five roads, five drainage ditches, and one bridge in the village of Kinsenda-Kitotwe. We drilled a well and supplied water, after chlorination treatment, from a large reservoir to the community.
- **Other Activities:** We sponsored the local community karate club to participate in the national championship and sponsored young people from the Kinsenda-Kitotwe community to participate in the local football championship. We also planted 500 banana trees.



Kinsenda礦場助力當地修建學校  
Kinsenda Mine Contributes to Local School Construction



Kinsenda礦場組織兒童夏令營活動  
Kinsenda Mine Organises Children's Summer Camp



Kinsenda礦場為當地提供醫療健康支持  
Kinsenda Mine Provides Medical Support to the Local Community



Kinsenda礦場協助修建道路  
Kinsenda Mine Assists in Road Construction

## ◆ Musonoi項目

### Musonoi Project

根據公司就致力於當地社區發展方面的策略，Musonoi項目制定了社區發展行動計劃。報告期內，Musonoi項目之主要社區公益活動實踐如下：

- **教育類：**安排5場技術學院學生到礦區一線進行參觀學習的活動，了解現代工業技術及職業規劃；組織社區參觀體驗活動，讓孩子們了解社區工作並樹立職業夢想。
- **醫療健康類：**建立流動診所服務，覆蓋交通不便的社區；舉辦普及健康安全知識的活動，開展瘧疾、愛滋病等常見疾病的預防及藥物贊助；與當地醫療機構合作，組織義診活動，為居民提供免費的檢查及諮詢；提供急救技能培訓。
- **促進經濟發展及技能提升類：**提供優質種子，化肥及可持續性種植技術，幫助農民提升農作物產量及質量；舉辦農業技術培訓，幫助社區居民掌握現代化種植，灌溉及病蟲害防治技能。
- **完善基礎設施類：**修建社區道路；在旱季時提供水車服務，為缺水社區運送飲用水。
- **其他類：**設立「社區綠化日」活動，鼓勵居民參與植樹造林；支持社區垃圾分類，推廣環保理念；定期資助社區足球比賽；組織礦區僱員及社區居民參加地震、洪水等極端災害的應急演練。

In line with the Company's strategy focused on local community development, Musonoi Project has established its Community Development Action Plan. During the reporting period, Musonoi Project's primary community welfare activities were as follows:

- **Education:** We arranged five field trips for technical college students to visit mining sites, enabling them to gain insights into modern industrial technology and career planning; organised community tour and experience activities to help children learn about community work and foster career aspirations.
- **Healthcare:** We established mobile clinic services to reach communities with limited access; organised health and safety awareness campaigns, promoting prevention and providing medication sponsorship for common diseases such as malaria and HIV/AIDS; collaborated with local medical institutions to hold free clinics, offering residents complimentary check-ups and consultations; provided first aid skill training sessions.
- **Economic Development and Skill Enhancement:** We provided high-quality seeds, fertilizers, and sustainable farming techniques to help farmers increase crop yields and quality; conducted agricultural technology training to enable community residents to master modern planting, irrigation, and pest control skills.
- **Infrastructure Improvement:** We constructed community roads; offered water truck services during dry seasons to deliver drinking water to water-scarce communities.
- **Other Activities:** We established "Community Greening Day" to encourage residents to participate in tree planting; supported community waste sorting and promoted environmental protection concepts; regularly sponsored community soccer matches; organised emergency drills for mine employees and community residents to prepare for extreme disasters such as earthquakes and floods.



Musonoi項目支持農業發展  
Musonoi Project Supports Agricultural Development



Musonoi項目幫助社區修路  
Musonoi Project Assists Communities in Road Construction

## ◆ Chibuluma南礦場

### Chibuluma South Mine

Chibuluma南礦場充份尊重社會、經濟、文化傳統習俗及人權，尊重當地社區之傳統習俗，重點關注健康、教育及技能發展項目，致力於構建可持續發展的零傷害社區。報告期內，Chibuluma南礦場的主要社區實踐活動如下：

- **教育類：**為1名大學生提供資助，金額為748美元。
- **其他類：**重點支持當地政府及其舉辦的相關活動，已累計撥款1,099美元，如贊助當地政府舉辦婦女節及青年節慶祝活動。

綜上行動，下表列明了我們於2024年社區項目的財政投資。剛果（金）《礦業法》第285條規定，採礦步入生產階段後，須撥出不少於年營業額的0.3%至社會及社區部門，用於支持當地社區的發展。

Chibuluma South Mine fully respects social, economic, cultural traditions, customs, and human rights. It acknowledges the traditional customs of the local community and focuses on health, education, and skill development projects, committed to building a sustainable, zero-injury community. During the reporting period, the primary community engagement activities of Chibuluma South Mine were as follows:

- **Education:** Provided financial support of US\$748 to one university student.
- **Other Activities:** Prioritised support for local government and related activities, with cumulative funding of US\$1,099. This included sponsoring local government events commemorating International Women's Day and Youth Day.

In summary, the table below highlights our financial investment in community projects in 2024. The Mining Code of the DRC, Article 285, stipulates that upon entering the production phase, mining operations must allocate no less than 0.3% of annual turnover to social and community sectors, for the purpose of supporting local community development.

我們的表現 - Ruashi礦場社區投資(單位:千美元)  
Our Performance - Ruashi Mine Community Investment (Unit: US\$' 000)

項目 Item	2024	2023	2022
社區供水 Community Water Provision	500	500	470
病房 (Ruashi鎮區) Wards (Ruashi Town Area)	-	390	390
農業項目 Agriculture Projects	800	250	200
植樹及應對氣候變化 Tree Planting and Response to Climate Change	-	250	-
健康 Health	150	200	247
教育 Education	200	200	-
社區糧食供給計劃(孤兒及遺孀) Community Feeding Schemes (Orphans and Widows)	100	10	10
其他社區關係 Other Community Relations	100	100	45
合計 Total	1,850	1,900	1,362

我們的表現 - Kinsenda礦場社區投資(單位:千美元)  
Our Performance - Kinsenda Mine Community Investment (Unit: US\$' 000)

項目 Item	2024	2023	2022
社區電力 Community Electricity	432	504	347
農業項目 Agriculture Projects	81	231	147
社區糧食供給計劃(孤兒及遺孀) Community Feeding Schemes (Orphans and Widows)	57	57	76
教育 Education	6	13	33
體育及休閒 Sport and Recreation	20	31	2
社區衛生 Community Sanitation	30	3	45
其他社區關係 Other Community Relations	10	94	93
合計 Total	636	933	743

我們的表現 - Musonoi項目社區投資 (單位: 千美元)  
Our Performance - Musonoi Project Community Investment (Unit: US\$' 000)

項目 Item	2024	2023	2022
社區道路維修及排水管道添置 Community Road Repair and Drainage Pipe Addition	750	80	3
教育 Education	-	0.2	-
健康 Health	-	0.4	-
經濟發展及技能提升 Economic Development and Skill Enhancement	-	0.15	-
農業項目 Agriculture Projects	95	-	-
向政府捐款 Donation to the Government	-	-	-
應急安全 Emergency Safety	10	0.1	-
支付予受電力線安裝影響的社區費用 Payments to Communities Impacted by the Installation of Power Lines	-	-	55
合計 Total	855	80.85	58

我們的表現 - Chibuluma南礦場社區投資 (單位: 千美元)  
Our Performance - Chibuluma South Mine Community Investment (Unit: US\$' 000)

項目 Item	2024	2023	2022
社區重置支出 Community Relocation Expenses	-	175	-
企業社會責任 Corporate Social Responsibility	1	0.43	9
健康 Health	-	0.13	-
教育 Education	0.75	0.10	0.61
合計 Total	1.75	175.66	9.61



# 05

## 穩健管治 Sound Governance

本章節所響應SDGs  
SDGs focus in this chapter



本章節所回應重要性議題  
Material topics addressed in this chapter

- 企業管治 Corporate Governance
- 僱員發展與培訓 Employee Development and Training
- 商業道德 Business Ethics
- 合規與風險管理 Compliance and Risk Management



JINCHUAN 金川



# 亮點2024

## 2024 HIGHLIGHTS

金川國際企業管治的架構及常規實踐均奉行香港聯交所上市規則之各項原則。我們堅持良好的企業管治攸關我們為股東及其他持份者創造可持續價值，並將致力持續完善風險管理體系，矢志維持高標準的商業道德操守。報告期內，我們繼續奉行高水平的企業管治標準，優化內部監控及全面風險管理，進一步鞏固商業道德建設，並取得如下成績：

JCI's corporate governance structure and practices align with the principles outlined in the listing rules of the Hong Kong Stock Exchange. We firmly believe that good corporate governance is vital in generating sustainable value for shareholders and other stakeholders. We are dedicated to continually enhancing our risk management system and upholding high standards of business ethics. During the reporting period, we maintained stringent standards of corporate governance, optimised our internal controls and comprehensive risk management, further enhancing our business ethics, and achieved the following results:



71%

非執行董事及獨立董事佔董事會成員總數的71%

Non-executive directors and independent non-executive directors account for 71% of the total board members



0

0起重大訴訟、仲裁事項或受到重大行政處罰

No significant litigation, arbitration matters, or administrative penalties were filed



0

0起與賄賂及腐敗有關的案件

No instances of bribery or corruption were reported



12

12次定期或不定期廉潔從業檢查

12 integrity checked were conducted on a regular or irregular basis



762

762名礦場僱員參與商業道德培訓

A total of 762 mine employees participated in business ethics training

# 企業管治

## CORPORATE GOVERNANCE

---

金川國際始終認為，良好的企業管治是公司穩健發展的核心保障。我們致力建立良好的企業管治常規及程序，並於各層面強化監督與風險管理。透過完善的董事會結構、獨立性保障及專業發展，我們不斷提升管治水平，確保各項決策充分考慮本公司及持份者的長期利益，從而實現可持續增長與價值創造。

JCI believes that sound corporate governance is the core safeguard for a company's steady development. We are committed to establishing good corporate governance practices and procedures, and to enhancing oversight and risk management at all levels. Through a well-structured board, assurance of independence, and professional development, we continuously elevate our governance standards. This ensures that all decisions fully consider the long-term interests of the Company and its stakeholders, thereby achieving sustainable growth and value creation.



## 董事會及董事委員會 The Board and the Committee

金川國際董事會負責本公司業務事項、策略及管理，且致力於高水平企業管治慣例，此乃提升可持續股東價值及履行本公司對股東及其他持份者的責任及義務的關鍵，並確保本公司具備足夠且恰當的管治體系來監管其發展及不斷改善環境、經濟及社會表現。截至報告期末，本公司董事會由七名董事組成，包括兩名執行董事、一名非執行董事及四名獨立非執行董事。我們將持續評估董事會結構，以確保健全的企業管治。

The Board is responsible for JCI's business affairs, strategy, and management, and is committed to high standards of corporate governance practices, which are considered to be pivotal in enhancing sustainable shareholder value and meeting the Company's accountability and responsibilities to shareholders and other stakeholders, and to ensure that the Company has adequate governance systems in place to monitor its development and continuously improve its environmental, economic, and social performance. As of the end of the reporting period, our Company's Board of Directors is composed of seven directors, including two executive directors, one non-executive director, and four independent non-executive directors. We will continue to assess the Board's structure to ensure sound corporate governance.



於董事會管轄下，我們設立了四個董事委員會，分別為審核委員會、薪酬及提名委員會、風險管理委員會、戰略及投資委員會。各董事委員會均有特定之書面職權範圍，監管本公司事務的若干特定範疇，並已登載於本公司網站及香港聯交所網站。所有董事委員會均須向董事會報告彼等之決策或推薦意見。

Under the Board, we have established four Board committees, namely, the Audit Committee, the Remuneration and Nomination Committee, the Risk Management Committee, and the Strategy and Investment Committee. Each Board committee oversees certain particular aspects of the Company's affairs in accordance with clearly defined written terms of reference. These terms of reference have been posted on the Company's website and the HKEX website. All Board committees are required to report their decisions or recommendations to the Board.

#### 審核委員會 Audit Committee



- 審核委員會由四名獨立非執行董事組成，彼等均具備相關之會計及財務管理專業知識、行業知識以及法律及業務經驗，以履行彼等職責。

The Audit Committee is composed of four independent non-executive directors, who all have the relevant accounting and financial management expertise, industrial knowledge, legal and business experience to discharge their duties.

- 審核委員會之主要職責包括審閱本集團之財務申報過程、內部監控及風險管理系統的效用、監察審核程序及履行董事會可能不時指派之其他職責。

The primary duties include reviewing the Group's financial reporting, ensuring the effectiveness of internal control and risk management systems, overseeing the audit process, and performing other duties assigned by the Board of Directors from time to time.

#### 薪酬及提名委員會 Remuneration and Nomination Committee



- 薪酬及提名委員會由一名執行董事及三名獨立非執行董事組成。

Remuneration and Nomination Committee comprises one executive director and three independent non-executive directors.

- 薪酬及提名委員會之職責包括薪酬及提名。薪酬職能旨在檢討及制定有關全體董事及本集團高級管理層薪酬架構之政策，並向董事會提出建議以供其考慮。提名職能旨在帶領董事會的委任程序以及就此物色及提名人選以作委任。

It is responsible for the management of remuneration and nomination. It aims to review and make policies regarding the remuneration structures for all directors and the Group's senior management, and to give advice to the Board of Directors for its consideration. It also plays a leading role in the appointment of the Board by identifying and nominating candidates for appointment.

#### 風險管理委員會 Risk Management Committee



- 風險管理委員會由兩名執行董事以及三名獨立非執行董事組成。

Risk Management Committee comprises two executive directors and three independent non-executive directors.

- 風險管理委員會之職能為監督本集團之風險管理活動及向董事會提供有關風險策略及監控措施之建議，以減低因市場波動及其他外在因素而產生之整體風險。

The function of Risk Management Committee is to oversee the Group's risk management activities and provide recommendations to the Board on risk strategy and control measures to mitigate the overall risk that arises from market fluctuation and other external factors.

#### 戰略及投資委員會 Strategy and Investment Committee



- 戰略及投資委員會由兩名執行董事組成。

Strategy and Investment Committee comprises two executive directors.

- 戰略及投資委員會之職能為制定本集團之長遠策略發展及向董事會提供有關收購及出售投資項目之推薦建議，以及監督本公司之海外資產並就可持續性地管理海外資產及提高回報向董事會提供意見及推薦建議。

The function of Strategy and Investment Committee is to formulate the long-term strategic development strategy of the Group and provide recommendations to the Board on the acquisition and disposal of investments, as well as to oversee the Company's overseas assets and provide advice and recommendations to the Board on managing overseas assets in a sustainable manner and yielding better returns.

姓名 Name	職位 Position	性別 Gender	審核委員會 Audit Committee	薪酬及提名委員會 Remuneration and Nomination Committee	風險管理委員會 Risk Management Committee	戰略及投資委員會 Strategy and Investment Committee
程永紅(董事會主席) CHENG Yonghong (Chairman of the Board)	執行董事 Executive Director	男 Male		●	●	●
郜天鵬(行政總裁) GAO Tianpeng (Chief Executive Officer)	執行董事 Executive Director	男 Male			●	●
王檣忠 WANG Qiangzhong	非執行董事 Non-Executive Director	男 Male				
嚴元浩 YEN Yuen Ho, Tony	獨立非執行董事 Independent Non-Executive Director	男 Male	●	●	●	
潘昭國 POON Chiu Kwok	獨立非執行董事 Independent Non-Executive Director	男 Male	●	●	●	
余志傑 YU Chi Kit	獨立非執行董事 Independent Non-Executive Director	男 Male	●	●	●	
韓瑞霞 HAN Ruixia	獨立非執行董事 Independent Non-Executive Director	女 Female	●			

● 委員會主席  
Chairman of the Committee

● 委員會成員  
Committee Member

金川國際董事會成員角色與分工  
Roles and Division of Labour Among JCI Board

報告期內，本公司董事會及各董事委員會按照其職權範圍、權力及責任開展各項工作，確保公司業務之監管及策略執行符合最佳治理標準。董事會及各董事委員會根據既定職責範圍，不定期召開會議，審議並監督相關業務及營運情況，促進本公司長期可持續發展及持份者利益之實現。報告期內，本公司共舉行6次董事會會議、5次審核委員會會議、1次薪酬及提名委員會會議、1次風險管理委員會會議、1次戰略及投資委員會會議及1次股東周年大會。

During the reporting period, the Board of Directors and the respective board committees of the Company conducted their work within the scope of their authority, powers, and responsibilities, ensuring that the oversight and implementation of the Company's business operations adhere to the highest standards of governance. The Board and committees convened meetings periodically to review and oversee relevant business and operational matters in accordance with their defined duties. This promoted the long-term sustainable development of the Company and the realisation of stakeholder interests. A total of six Board meetings, five Audit Committee meetings, one Remuneration and Nomination Committee meeting, one Risk Management Committee meeting, one Strategy and Investment Committee meeting, and one Annual General Meeting were held during the reporting period.

## 董事會獨立性 Board Independence

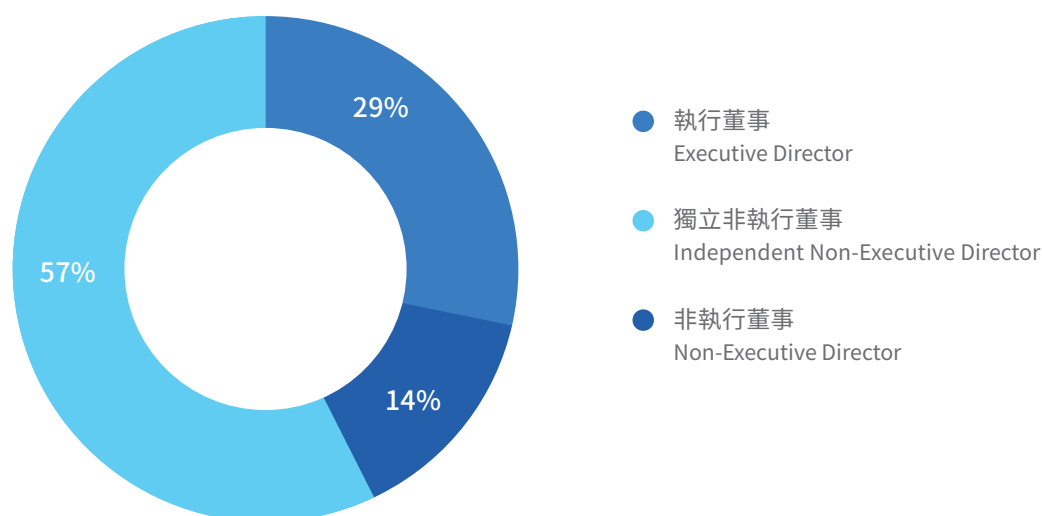
董事會獨立性對企業決策透明度及有效性至關重要。一位獨立的董事會能夠更客觀地監督管理層，從而有效減少利益衝突，並提升決策質量與透明度。截至報告期末，本公司董事會中非執行董事及獨立非執行董事佔董事會成員總數的71%。

此外，獨立非執行董事在本公司治理結構中亦扮演著關鍵角色。我們認為全體獨立非執行董事均為獨立人士，彼等獨立於管理層，概無擁有本公司任何業務或財務權益，亦與其他董事無任何關係。我們認為彼等不受可潛在干擾彼等行使其獨立判斷能力之任何關係影響，這確保了彼等能夠在決策過程中保持客觀及公正。

The board independence is crucial for the transparency and effectiveness of corporate decision-making. An independent director board can objectively supervise management, thus effectively avoiding conflicts of interest and enhancing the quality and transparency of decisions. As of the end of the reporting period, non-executive directors and independent non-executive directors constitute 71% of the total Board members.

Additionally, independent non-executive directors play a crucial role in the Company's governance structure. We consider all independent non-executive directors to be independent individuals, free from management influence, with no ownership of any business or financial interests in the Company, and no relationships with other directors. We believe that they are not influenced by any relationships that could potentially interfere with their ability to exercise independent judgment, which ensures that they can maintain objectivity and impartiality in the decision-making process.

### ▼ 金川國際董事會成員構成情況 Board Composition of JCI



為進一步強化董事會之獨立性及其功能，提升決策透明度及效率，我們亦採取了以下措施，確保監督機制之高效運作，推動公司治理結構的完善及持續改進。

To further strengthen the independence of the Board and its functions, and to enhance the transparency and efficiency of decision-making, we have also implemented the following measures to ensure the efficient operation of the supervisory mechanism and promote the ongoing improvement and continuous refinement of the Company's governance structure.

#### 董事選舉及評估 Election and Evaluation of Directors

在選擇和推薦董事候選人時，薪酬及提名委員會將嚴格評估候選人是否符合上市規則對獨立性的要求

In selecting and recommending candidates for directorships, the Remuneration and Nomination Committee will strictly consider whether the candidates meet the independence requirements of the Listing Rules.



#### 定期召開獨立會議 Regular Independent Meetings

主席至少每年召開一次只有獨立非執行董事參加的會議，以確保彼等能夠在沒有其他董事參與的情況下自由討論並表達意見

The chairman convenes a meeting at least once a year with independent non-executive directors, ensuring they have the opportunity to freely discuss and express their views without the presence of other directors.



#### 專業意見取得 Access to Professional Advice

董事會被授權尋求獨立的專業意見，以確保董事在履行職責時能夠獲得準確及相關的專業建議，增強其決策質量

The Board is authorised to seek independent professional advice to ensure that directors receive accurate and relevant professional advice in carrying out their duties and to enhance the quality of their decisions.



#### 董事會獨立性強化措施 Board Independence Enhancement Measures

## 董事會多元化 Board Diversity

我們明白並深信董事會成員多元化對提升公司表現及素質裨益良多。多元化的董事會成員構成可為董事會帶來廣泛的業務及專業經驗，同時確保決策過程中考慮到不同觀點，從而支持本公司實現策略目標。因此，為達致可持續及均衡的發展，董事會已根據企業管治守則及董事會提名政策落實了董事會成員多元化政策。我們在設定董事會成員組合及甄選董事人選時，會從多角度考慮董事會成員之多元化，包括但不限於性別、年齡、文化及教育背景、種族、專業經驗、技能、知識及服務任期等。

We recognise and embraces the benefits of having a diverse Board to enhance the quality of its performance. Diverse board composition ensures a wide range of business and professional experiences on the Board, which allows the decision-making process to include different perspectives and supports the achievement of the Company's strategic objectives. Therefore, to achieve sustainable and balanced development, the Board has implemented a board diversity policy in accordance with the CG Code and the Board's nomination policy. In designing the Board's composition and selecting Directors, we will consider the Board diversity in elements including but not limited to, gender, age, cultural and educational background, ethnicity, professional experience, skills, knowledge, and length of service.



### 性別多元化

Gender Diversity

- 截至報告期末，女性董事在本公司董事會中的比例為14%。我們將繼續促進女性領導力的發展，以此增強董事會的靈活性，並為企業決策過程注入更多元化的思考視角。此外，我們亦在制定《勞動力多元化政策》，以推動實現提名委員會的性別多元化。

As of the end of the reporting period, the proportion of female directors on the Board was 14%. We will continue to promote women's leadership, which will enhance the flexibility of the Board and bring more diversified thinking to corporate decision-making. In addition, we are also formulating the Workforce Diversity Policy to promote gender diversity in the Nomination Committee.



### 專業背景多元化

Diversity of  
Professional  
Background

- 我們的執行董事及非執行董事來自不同背景，並具備相關經驗及專業知識的深度以監管公司的業務。現有董事會成員包括來自商界、學術界及專業界別的代表，具備履行職責所需的合理專業構架、知識、技能及素質，擁有採礦、金融、法律、會計、工程等多元化的專業背景。這樣的均衡組合確保了本公司能夠締造可持續增值，有效保障股東權益。

Our executive and non-executive directors have diverse backgrounds, each possessing the depth of relevant experience and expertise needed to oversee the Company's businesses. Currently, the Board comprises representatives from the business, academic, and professional sectors, with an appropriate professional structure, knowledge, skills, and qualities required for the performance of their duties, and with diversified professional backgrounds in mining, finance, law, accounting, and engineering. Such a balanced portfolio ensures that the Company can create sustainable value growth and effectively safeguard shareholders' interests.



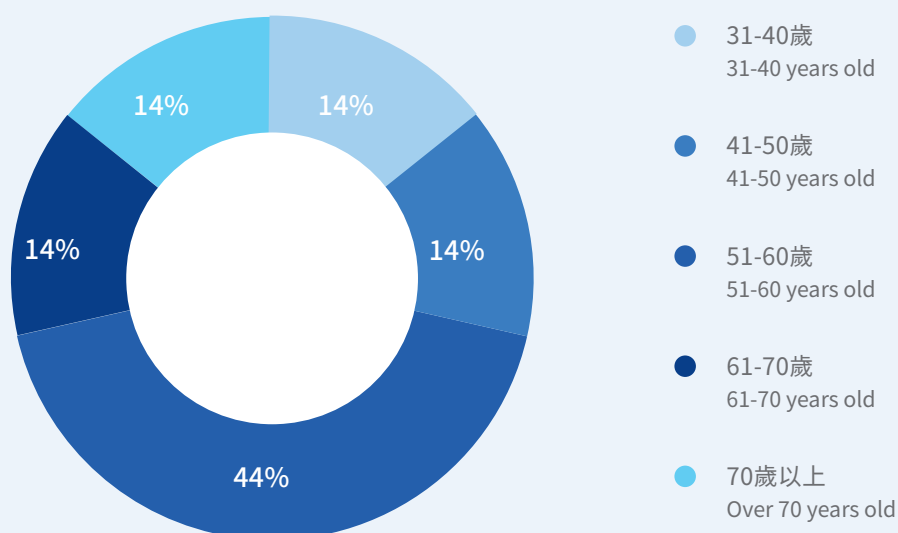
### 年齡結構多元化

Diversity of Age  
Structure

- 我們高度重視董事會年齡結構的多元化，認為不同年齡層的董事能夠為公司帶來豐富的經驗及多元的視角。年齡的多元化有助於平衡資深智慧與創新思維，從而提升決策質量及應對未來挑戰的能力。於選任董事時，我們將年齡結構的多樣性納入考慮範圍，確保董事會能夠綜合各方經驗與視野，以推動本公司的可持續發展。

We place great emphasis on the diversification of the Board's age structure, believing that directors from different age groups can bring rich experiences and diverse perspectives to the Company. The diversity in age helps balance seasoned wisdom with innovative thinking, thereby enhancing decision-making quality and the ability to address future challenges. In appointing directors, we consider the diversity of age structure, ensuring that the Board can synthesize various experiences and viewpoints to promote the sustainable development of the Company.

#### ▼ 董事會年齡結構 Age Structure of Board Members



## 專業培訓及發展 Professional Training and Development

為確保董事能夠有效履行其職責，並充分了解本公司之策略方向、業務營運及發展事宜，我們積極提供持續專業發展機會。報告期內，我們為董事安排了多項專業發展活動，包括內部簡報會、提供專門守則資料及鼓勵董事參與相關培訓課程等，旨在加強董事對本公司行為守則、業務運作及相關上市規則與其他適用監管規定的理解。我們特別關注向董事傳遞最新監管發展與良好企業治理實踐（包括ESG相關訊息）的知識，以確保本公司之治理架構及運作符合最高標準。所有董事均已參與上述專業發展活動，並向公司提交了截至報告期末之培訓記錄。

上述行動展示了我們對提升董事會整體效能及專業知識之持續承諾，並確保了每位董事能夠在深入理解當前業務營運及監管環境的基礎上，對董事會及公司作出具洞察力之貢獻。

We provide continuous professional development opportunities for our Directors to ensure that they can perform their duties effectively and fully understand the Company's strategic direction, business operations, and development matters. During the reporting period, we have arranged a series of professional development activities for the Directors, including internal briefings, the provision of specialised compliance information, and encouragement to participate in relevant training courses. These activities were aimed at enhancing Directors' understanding of the Company's Code of Conduct and business activities, as well as relevant Listing Rules and other regulatory requirements. We place particular emphasis on conveying the latest regulatory developments and good corporate governance practices, including ESG-related information, to the Directors. This ensures that the Company's governance framework and operations meet the highest standards. All directors have participated in the aforementioned professional development activities and submitted their training records to the Company by the end of the reporting period.

The above efforts exemplify our ongoing commitment to improving the overall effectiveness and expertise of the Board. This commitment ensure that each Director can contribute insightfully to the Board and the Company with a deep understanding of current business operations and the regulatory environments.

# 商業道德

## BUSINESS ETHICS

---

金川國際堅守高標準的商業道德，始終致力於促進誠信、公平與責任感的業務營運，承諾在進行任何商業交易及/或建立商業關係時，都將保持專業、誠實及正直的態度，並堅決禁止任何可能損害公司誠信及聲譽的行為。我們自2016年起實施《道德行為準則和人權政策》（「道德守則」），該守則是我們文化的核心部分，亦是我們商業決策及內外部互動的指導原則。道德守則適用於全球各地的金川國際僱員（無論其地點或角色如何），要求彼等遵守道德規範，保持高尚的職業操守，遵守及實施我們的標準及價值觀，以確保本公司的業務活動符合社會、法律及監管要求，增強本公司與持份者之間的信任。此外，我們致力於向股東及公眾及時提供全面、公正、準確且易於理解的信息，持續提高信息披露透明度，保護持份者權益。

JCI adheres to the highest standards of business ethics, consistently striving to promote honest, fair, and responsible business operations. We are committed to professionalism, honesty, and integrity in all business dealing and relationships, and we strive to prohibit any behaviour that could tarnish the Company's integrity and reputation. Since 2016, we have introduced the Group Code of Ethics and Human Rights Policy (the "Code of Ethics"), which underpins our culture and guides our business decisions and internal and external interactions. The Code of Ethics applies to all JCI employees worldwide, regardless of their location or role, requiring them to abide by ethical standards, maintain high professional integrity, comply with and implement our norms and values. This ensures that our business activities meet societal, legal, and regulatory requirements, thereby enhancing trust between the Company and its stakeholders. In addition, we are committed to providing shareholders and the public with full, fair, accurate, and understandable information in a timely manner, continuously enhancing the transparency of information disclosure, and safeguarding the rights of stakeholders.



於踐行該等價值觀中，金川國際要求其董事、經理及僱員遵守商業守則並受其約束，堅持以下標準及原則：

In pursuing these values, JCI requires its Directors, manager and employees to adhere to the Code of Ethics and be bound by it to uphold the following standards:



金川國際對道德規範保持嚴格要求，任何違反道德準則的行為都將面臨紀律處分甚至終止僱傭關係，對於犯罪行為我們將依法追究。

JCI maintains strict adherence to ethical standards; any violation of the ethical code will result in disciplinary action, up to and including termination of employment. Legal action will be pursued against criminal acts in accordance with the law.

## | 反腐敗及反賄賂 Anti-Corruption and Anti-Bribery

我們致力於營造廉潔、透明的企業文化，要求所有董事、僱員、供應商及承建商嚴格遵守本公司政策及標準，堅決抵制任何形式的賄賂與腐敗行為，並要求僱員在面對此類行為時採取積極措施。我們密切監督全公司反賄賂及反腐敗政策的執行情況，並依據《聯合國全球契約原則》《聯合國反腐敗公約》等國際標準，制定反賄賂及反腐敗政策，對標最高商業道德要求，規範全體僱員的誠信與道德行為。2024年，本公司內部未有收到經證實的任何賄賂或貪污案件報告。

We foster a clean and transparent corporate culture by mandating strict compliance with the Company's policies and standards for all Directors, employees, suppliers, and contractors. We strictly prohibit any form of bribery and corruption, and we expect our employees to take proactive measures when encountering such behaviour. We closely monitor the company-wide policies regarding anti-bribery and anti-corruption. These policies are developed in accordance with international standards, such as the UNGC Principles and the United Nations Convention against Corruption, benchmarking against the most stringent ethical business standards and regulating the integrity and ethical conduct of all our employees. In 2024, there were no reported and confirmed cases of bribery or corruption within JCI.

僱員不得直接或間接給予、接受任何形式的賄賂或回扣，無論是在商業交易中還是與第三方的往來中。若發現相關行為必須立即向直線經理報告並終止交易。

Employees are prohibited from engaging in any form of bribery or kickbacks, either directly or indirectly, whether in commercial transactions or dealings with third parties. Employees who become aware of such behaviour must report it immediately to their line manager and such transaction should be terminated immediately.

僱員必須避免個人利益與公司利益發生衝突。不得利用公司資源或信息為個人謀利，亦不得從事可能損害公司利益的活動。

Employees must avoid conflicts between personal and the Company's interests. They must refrain from using the Company's resources or information to gain personal benefits or engage in activities that may harm the Company's interests.



未經允許，僱員不得向供應商、顧問、客戶、競爭對手或其他業務夥伴透露公司機密信息。

Without permission, employees are prohibited from disclosing the Company's confidential information to suppliers, consultants, customers, competitors, or other business partners.

僱員不得基於內幕信息進行股票交易，亦不得鼓勵或勸阻他人進行此類交易。

Employees should not engage in stock trading based on insider information, nor encourage or discourage others from doing so.

公司不會容忍對舉報者的任何形式的打擊報復，並鼓勵僱員積極報告任何不道德行為。

The Company will not tolerate any form of retaliation against whistleblowers and encourages employees to report any unethical behaviour.

「道德守則」中反腐敗及反賄賂的主要內容

The Main Elements of Anti-Corruption and Anti-Bribery in the Code of Ethics

我們亦為旗下所有礦場制定了專門的反腐敗及反賄賂相關規定，通過不斷加強內控自查，建立評價機制，以杜絕違規行為。我們對所有營運點均進行了反腐敗風險評估，並於報告期內指導並督促開展了12次針對各礦場的廉潔從業檢查；同時積極開展培訓行動，本年度參與商業道德培訓的僱員總數達762人。

We have established specific anti-corruption and anti-bribery regulations for all our mining sites, continuously strengthening internal controls and self-inspections, and establishing evaluation mechanisms to prevent any rule violations. Anti-corruption risk assessments have been conducted for all operational sites, and during the reporting period, we guided and urged the conduct of 12 integrity inspection across various mining sites. Additionally, we have carried out training initiatives, with a total of 762 employees participating in commercial ethics training this year.

#### Ruashi礦場 Ruashi Mine

礦場制定了一套全面的反腐敗合規計劃，包括對所有對外付款的授權及記錄保存的詳細政策及程序。強化對疏通費用的監督管理，堅決不鼓勵任何形式的疏通費。要求對所有此類支付都必須經過嚴格的內部審查及/或當地法律程序的批准，並在公司賬簿中妥善記錄。

Ruashi Mine has put in place a comprehensive anti-corruption compliance programme, which contains detailed policies and procedures for the authorisation and record keeping of all the payments made to external parties. It aims to strengthen the oversight and management of facilitation payments and strongly discourages facilitation payments of any kind. It also requires that all facilitation payments must be reviewed and approved in accordance with Company policies and/or local procedures and must be properly recorded in the Company's books.

#### Kinsenda礦場 Kinsenda Mine

礦場要求僱員實現礦山與供應商之間的公平交易，不帶偏見地平等對待所有供應商。

要求僱員認真、誠實地履行職責，並以公司的最大利益為重，不得以職務之便謀取私利。

嚴禁任何僱員接受供應商的金錢或禮品以換取任何信息或好處，違者將立即受到紀律處分。

It requires employees to ensure fair dealings between the mine and suppliers and treat all suppliers equally without any bias. Employees should carry out their duties diligently and honestly, prioritise the Company's best interests, and refrain from using their position to gain personal benefits.

Employees are strictly prohibited to accept money or gifts from suppliers in exchange for information or benefits. If so, the employees will face immediate disciplinary action.

#### Musonoi項目 Musonoi Project

項目要求避免任何形式的腐敗和賄賂行為。

建立了透明的財務報告機制，確保資金和資源的正當使用。要求供應商開展業務時必須遵守最高的道德行為標準，全面遵守適用的法律、法規和行業標準。要求供應商遵循誠信和透明原則，不得提供虛假或誤導性信息，亦不得隱瞞相關重要事實。

The project prohibits any form of corruption and bribery. It has established a transparent financial reporting mechanism to ensure the proper use of funds and resources. Suppliers are required to comply with the highest ethical standards in their business as well as applicable laws, regulations, and industry standards. Suppliers should follow the principle of integrity and transparency. They should not provide false or misleading information or conceal relevant important facts.

#### Chibuluma南礦場 Chibuluma South Mine

礦場明確要求多個供應商參與詢價，必要時公開開標，通過透明的流程減少腐敗和賄賂的空間。

要求採購決策經過多級審批，防止個人濫用職權進行不正當交易。

對緊急採購和非工作時間採購進行了嚴格限制，防止濫用緊急採購名義進行的不正當交易

The mine explicitly requires that there should be multiple suppliers participating in price inquiries and, if necessary, an opening bid should be made to reduce opportunities for corruption and bribery through transparent processes. Procurement decisions must be made after multi-level approvals to prevent individuals from abusing their power for unfair transactions.

There are strict limits to urgent and after-hours procurement to prevent unfair transactions under the guise of these needs.

## 反不當競爭 Anti-Unfair Competition

我們堅持嚴格遵循《中華人民共和國合同法》《中華人民共和國反壟斷法》《中華人民共和國反不正當競爭法》等營運所在地適用的法律法規，致力於以公平誠信的方式開展競爭。我們堅決禁止任何形式的壟斷行為、價格操縱或市場操縱，所有商業交易均基於質量、服務、價格及可用性進行，確保交易的透明性及合法性。

為維護公平誠信的競爭環境，我們對潛在的不正當競爭行為進行專項調查並採取相應措施，且定期對子公司的項目進行審查，並根據項目的重要程度設定了不同的檢查頻率。近三年，我們未收到任何關於不正當競爭的訴訟，這反映了我們在促進公平競爭方面的堅定立場及有效行動。

We are committed to engaging in fair and honest competition in strict compliance with the Contract Law of the People's Republic of China, the Anti-Monopoly Law of the People's Republic of China, the Anti-Unfair Competition Law of the People's Republic of China, and other applicable laws and regulations. We firmly prohibit any form of monopolistic behaviour, price manipulation, or market manipulation. All commercial transactions are based on quality, service, price, and availability, ensuring transparency and legality in our dealings.

In order to ensure the establishment of a fair and honest competitive environment, we conduct special investigations into potential unfair competition practices and take corresponding measures. Moreover, we regularly review the projects of our subsidiaries and adjust inspection frequencies based on project significance. Over the last three years, we have not been subject to any lawsuits related to unfair competition, which underscores our firm stance and effective actions in promoting fair competition.

## 申訴舉報及舉報人保護 Complaint Reporting and Whistleblower Protection

我們鼓勵內外部相關人員對任何可能發生的違反商業道德原則的實踐予以舉報，以便我們及時發現並處理問題，從而優化我們的業務方式。我們建立了完善的申訴與舉報機制，並配備了舉報人保護制度，確保任何不當行為能夠及時得到妥善處理。

We encourage both internal and external personnel to report any practices that may violate commercial ethical principles, so that we can promptly identify and address issues, thereby optimising our business practices. We have established comprehensive grievance and reporting mechanisms, together with a whistleblower protection system, to ensure that any improper conduct can be properly addressed.

## ► 申訴與舉報機制

### Grievance and Reporting Mechanisms

下圖揭示了我們完善的申訴與舉報機制，旨在確保所有申訴與舉報信息皆能得到及時、公正的處理，並依法保護舉報人的權益。申訴與舉報的處理由專門的跟進小組負責，該小組由三位成員組成，包括審核委員會代表(由董事會審核委員會委員輪值出任)、本公司風控總監以及本公司法務總監。

The diagram illustrates our comprehensive grievance and reporting mechanisms, which are designed to ensure that all grievances and reports are handled promptly and fairly, and to legally protect the rights of whistleblowers. The handling of grievances and reports is overseen by a dedicated follow-up team, comprising three members: a representative from the Audit Committee (rotating among the Board's Audit Committee members), the Company's Chief Risk Officer, and General Legal Counsel Director.

#### 舉報渠道

##### Reporting Channels

01

向直屬上司或當地人力資源部代表進行初步舉報。  
直接向舉報個案跟進小組提交舉報。  
通過電子郵件發送至舉報郵箱：  
whistleblowing@jinchuan-intl.com  
Initial reports can be made to the immediate supervisor or a local HR representative.  
Reports can be directly submitted to the follow-up group for cases of reports.  
Reports can also be sent to email:  
whistleblowing@jinchuan-intl.com

#### 舉報接收與確認

##### Receipt and Confirmation

03

跟進小組在收到實名舉報者的書面舉報後，將以書面形式回覆確認。  
若舉報內容不詳，跟進小組將與舉報者面談或通過其他方式獲取補充材料。  
Upon receiving a written report from a whistleblower, the follow-up group will respond in the written form for confirmation.  
If the report lacks detail, the group will arrange an interview with the whistleblower or through other methods to obtain additional information.

#### 調查過程

##### Investigation Process

05

跟進小組將根據舉報事項的性質、嚴重性和被舉報人的職務級別，決定自行調查或聘請外部獨立專業人員進行調查。  
調查結果將由跟進小組上報集團最高管理層或審計委員會。  
Based on the nature, severity, and the position of the individuals involved, the group will determine whether to conduct the investigation independently or consign external independent professionals.  
Investigation results will be reported by the group to the Group's senior management or the Audit Committee.

#### 舉報內容要求

##### Requirements for the Content of Reports

02

舉報者應提供關於所舉報行為的關注點和詳細信息，包括任何相關的證明檔。  
即使舉報者無法提供確鑿證據，公司仍會重視舉報並進行評估。  
The whistleblower should provide concerns and detailed information of the conduct that is reported, including any supporting documents.  
Even if the whistleblower cannot provide conclusive evidence, the Company will still take the report seriously and assess it.

#### 調查決定

##### Decision on Investigation

04

跟進小組將在收到舉報後7個工作日內審議是否受理舉報，並通知舉報者是否進行全面調查。  
若舉報事實不清或證據不足，跟進小組可要求舉報者補充信息。  
The follow-up group will decide whether to accept the report within 7 working days after receiving it, and will notify the whistleblower whether a full investigation will be conducted.  
If the facts are unclear or the report lacks evidence, the group may require the whistleblower to provide more information.

#### 結果反饋

##### Results and Feedback

06

調查完成後，跟進小組將向實名舉報者回饋處理結果。  
每季度向集團審計委員會提交定期工作報告。  
After the investigation is completed, the group will provide feedback on the results for the whistleblower.  
Submit regular work reports to the Audit Committee on a quarterly basis.

## ► 舉報人保護

### Whistleblower Protection

我們建立健全舉報者保護制度，支持內外部人員對不合規營運事件進行監督舉報，以進一步強化風險管理。我們的《反欺詐、不當行為及舉報政策》闡明了本公司在保護舉報人合法權益方面的立場，明確規定所有作出如實恰當投訴之人士將獲得保護及公平對待。我們鼓勵實名舉報，並將盡力確保舉報者的身份保密，同時亦接受匿名舉報。對於所有的舉報，我們都會秉持著認真負責的態度進行處理。

此外，即使舉報人指出的疑慮最終無法得到證實，本公司亦將確保僱員不會遭受不公平解僱、傷害或不當的紀律處分，並對舉報者的關注表示重視及感激。若其他僱員或第三方對根據該政策提出舉報的人士進行報復或威脅報復，或有人因別有用心或為謀私利而惡意作出失實舉報，本公司保留向任何人（包括僱員或第三方）採取適當行動的權利，僱員更可能面對包括被解僱在內的紀律處分。

We have developed a comprehensive whistleblower protection policy that encourages both internal and external individuals to supervise and report operational irregularities to further strengthen our risk management. Our Anti-Fraud, Misconduct, and Whistleblowing Policy sets out the Company's stance on safeguarding the legitimate rights of whistleblowers. It clearly stipulates that persons making genuine and appropriate complaints under this policy are assured of protection and fair treatment. We encourage real-name reporting and will make every effort to ensure the confidentiality of the reporter's identity. We also accept anonymous reports. All reports will be handled with a serious and responsible attitude.

Moreover, even if the concerns raised by the reporter turned out to be unsubstantiated, our Company will ensure that employees are not unfairly dismissed, victimized or unwarranted disciplined. We express our appreciation for the reporter's concerns. The Company reserves the right to take appropriate actions against anyone (employees or third parties) who initiates or threatens to initiate retaliation against those who have raised concerns under this policy, or who makes a false report maliciously with an ulterior motive or for personal gain. In particular, employees may face disciplinary action, including dismissal where appropriate.

# 風險評估及管理

## RISK ASSESSMENT & MANAGEMENT

金川國際深明建立並維護一個有效而健全的內部監控及風險管理系統的重要性。為此，本公司董事會積極履行評估、監督及定期檢討該系統的責任，確保其能夠應對不斷變化的商業環境及潛在風險。管理層則負責自上而下確立公司的業務基調，確保全體僱員理解並積極參與風險管理工作。此外，我們的管理團隊專注於設計、運作及實施適宜的內部監控及風險管理體系，並在項目建設及日常業務運作的每一環節中，綜合考量ESG風險，以確保全面的風險應對策略。

JCI recognises the significance of establishing and maintaining an effective and robust internal control and risk management system. Accordingly, our Board actively evaluates, oversees, and regularly reviews the system to ensure it responds to the evolving business environment and potential risks. Moreover, the management assumes responsibility for setting the Company's "tone at the top", ensuring all employees comprehend and are engaged in risk management. Furthermore, our management team concentrates on developing, operating, and implementing suitable internal control and risk management systems. ESG risks are comprehensively considered at every stage of project construction and daily business operations to ensure a holistic risk response strategy.

### 風險管理框架 Risk Management

我們致力於以價值最大化為導向，有效識別、管理及緩解風險，並將風險考量納入決策過程。通過企業風險管理計劃，我們致力於確保管理層充分掌握本公司面臨的風險狀況，並促進不同職能間就主要風險進行討論及信息共享，從而推動明智的戰略決策制定，以及強化有效風險緩解措施的落實。基於此，我們建立了一個自上而下、全面且完整的風險管理架構，確保各層級之間的協調與責任清晰。

We adhere to a value-maximizing approach to effectively identify, manage and mitigate risks and incorporate risk considerations into the decision-making process. Through our Enterprise Risk Management (ERM) programme, we are committed to ensuring that management maintains full visibility of the Company's risk exposure, while fostering cross-functional discussions and information sharing on key risks. This enables informed strategic decision-making and strengthens the implementation of effective risk mitigation measures. Based on this, we have established a top-down, comprehensive, and holistic risk management framework to ensure clear coordination and accountability across all levels.



### 董事會 Board of Directors

承擔建立、維持及檢討本集團風險管理及內部監控系統有效健全之責任，制定持續反饋風險管理及內部監控的系統及程序。

The Board takes its responsibility to establish, maintain and review the effectiveness of the Group's risk management and internal control systems, and establish systems and procedures for continuous feedback on risk management and internal control.



### 行政總裁 Chief Executive Officer

就本公司表現及所實施之董事會策略及政策（包括有關風險管理及內部監控之政策），向董事會負責。

The CEO is accountable to the Board for the Company's performance and the implementation of the Board's strategies and policies, including policies on risk management and internal control.



### 風控總監 Chief Risk Officer

評估上期風險管理工作表現並就此召開會議，與風險責任人檢討內部監控之充分性及成效，包括但不限於檢討是否有任何跡象顯示有關監控正逐漸失效或存在重大缺陷。風控總監向行政總裁負責。

The Chief Risk Officer assesses and liaises with the risk owners at each scheduled meeting, the results of their activities during the preceding period pertaining to the adequacy and effectiveness of internal control, including but not limited to, any indication of failings or material weaknesses in those controls. The Chief Risk Officer is accountable to the CEO.



### 風險管理委員會 Risk Management Committee

透過風控總監執行，監察本集團各個主要業務層面之日常風險。

Through the works of the Chief Risk Officer, the Committee oversees the day-to-day risks of the major activities across the Group.



### 各業務單位 Business Units

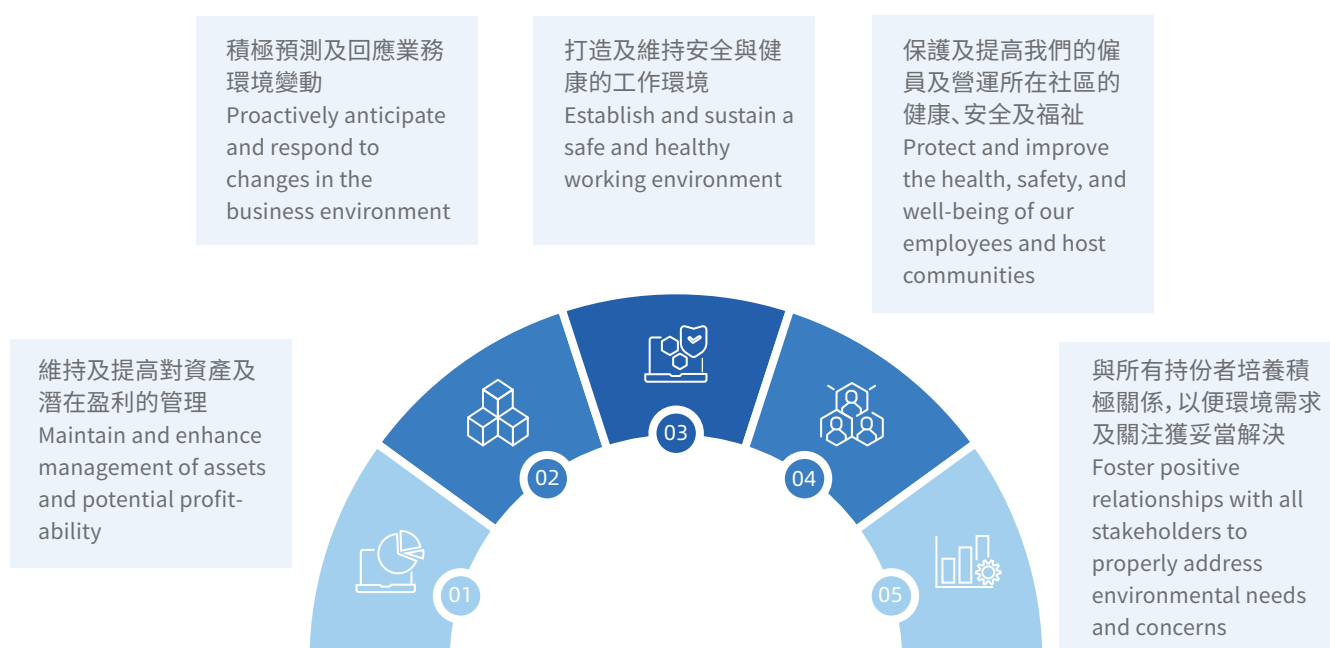
作為風險責任人，負責識別、評價、監察及減輕自身面對之風險並每月向風控總監匯報。

As the risk owners, the business units identify, evaluate, monitor and mitigate their own risks and report to Chief Risk Officer on a monthly basis.



在日常營運過程中，我們的僱員及承建商在識別及管理風險中發揮了基础性作用，他們參與風險管理計劃及措施的主導及實施，對於控制、減少及消除風險十分重要。透過深入理解整體風險管理流程及框架，每位僱員能夠將深刻的風險文化融入本公司各個層面，超越傳統的安全、健康及環境文化，從而形成全面的風險意識文化。透過完整的風險管理架構，我們致力於：

Our employees and contractors play a fundamental role in the identification and management of risks during daily operations. Their active participation in the ownership and implementation of risk management programmes and initiatives is indispensable for controlling, reducing, and eliminating risks. By comprehending the overall risk management process and framework, all employees are able to embed a strong risk culture into every facet of the Company, extending beyond the conventional realms of safety, health, and environmental considerations to cultivate a comprehensive risk-aware culture. Through a comprehensive risk management frame work, we are dedicated to:



## 內部監控 Internal Control

我們高度重視內部監控及風險管理體系的建設及完善，深明此乃保障公司健康穩定發展、提升企業價值之關鍵。為此，我們於報告期內持續加強並優化我們的內部監控及風險管理機制，確保其既符合行業最佳實踐，又貼合我們的營運特點及戰略需求。

目前，我們已將內部審計職能外判予獨立外部顧問，該顧問負責運用風險為本的方法，對位於非洲及香港的主要營運實體及業務單位進行營運、財務及合規監控的內部監控檢討。年內，該獨立外部顧問按照審核委員會批准的年度內部審核計劃，開展了內部監控檢討工作。在檢討過程中，發現了一些內部監控缺陷及不足，並向管理層及流程負責人提出改進及補救建議。管理層已經採取相應的補救措施，並將檢討結果及補救措施向審核委員會報告。

為確保本公司的內部監控及風險管理系統始終符合不斷變化的商業及監管需求，我們每年均會對該系統的成效進行全面檢討。截至報告期末，董事會已通過審核委員會完成了對內部監控及風險管理系統的年度檢討，並認為該系統有效且完善。檢討範圍涵蓋所有重大監控領域，包括財務、營運及合規監控，同時涉及多項風險管理職能，並根據需要進行必要的系統更新。我們已評估該系統持續監察的範圍及質量，確保其適應不斷變化的商業環境。

We attach great importance to the establishment and improvement of our internal control and risk management system, and are fully aware that it is key to safeguarding the healthy and stable development of the Company and enhancing its corporate value. Therefore, we have continuously fortified and optimised our internal control and risk management mechanisms throughout the reporting period, aligning them with industry best practices as well as the unique operational characteristics and strategic requirements of the Company.

Currently, our internal audit function has been outsourced to an independent external consultant who employs a risk-based approach to conduct internal control reviews on operations, finances, and compliance monitoring of our primary operating entities and business units located in Africa and Hong Kong SAR. During the year, the independent external consultant conducted internal control reviews in accordance with the annual internal audit plan approved by the Audit Committee. Throughout the review process, certain deficiencies and shortcomings in internal controls were identified, and recommendations for improvement and remediation were presented to management and process owners. Management has implemented the corresponding remedial measures and has reported the findings and corrective actions to the Audit Committee.

To ensure that our internal control and risk management systems consistently meet evolving business and regulatory requirements, a comprehensive review of the system's effectiveness is conducted annually. As of the end of the reporting period, the Board has completed the annual review of the internal control and risk management system through the Audit Committee and considers the system to be effective and robust. The review covered all material monitoring areas, including financial, operational, and compliance control, as well as various risk management functions, with any necessary system updates to be implemented. We have assessed the scope and quality of the system's ongoing surveillance to ensure its adaptability to the evolving business environment.

此外，董事會亦對資源配置進行了審查，確認了本公司會計及財務申報部門僱員的資歷、經驗及其培訓計劃與預算的充足性。這些措施確保了本公司在各層面上的風險管理及內部監控系統能夠高效運作，從而保障我們的長期穩健發展。

The Board has also reviewed resource allocation, confirming the adequacy of the qualifications, experience, training programmes, and budgets of our accounting and financial reporting staff. These measures ensure the efficient operation of our risk management and internal control systems at all levels, safeguarding our long-term sustainable development.

## ■ 內幕消息管理 Inside Information Management

我們的行為守則對所有僱員均有約束力，明確規定在內幕消息獲得妥當批准並可披露之前，必須嚴格保密相關信息。此外，我們堅決禁止任何僱員利用職務之便謀取個人利益。為確保內部程序的有效性，我們持續檢討內幕消息的處理及發放流程，並定期評估內部監控系統的運行效果。同時，我們將根據需要對行為守則及相關內部程序進行更新，確保其始終符合最新的監管要求及業務發展需求。

Our Code of Conduct binds all employees and outlines the obligation for preserving the confidentiality of inside information until its lawful disclosure, as well as prohibiting the use of inside information for personal benefit. To ensure the effectiveness of internal procedures, we continuously review the handling and dissemination processes of insider information and regularly assess the performance of our internal control systems. Additionally, we will update the Code of Conduct and related internal procedures as necessary to ensure they consistently align with the latest regulatory requirements and business development needs.



# 06

## 經濟韌性

### Economic Resilience

本章節所響應SDGs  
SDGs focus in this chapter



本章節所回應重要性議題  
Material topics addressed in this chapter

- 產品責任 Product Responsibility
- 負責任供應鏈 Responsible Supply Chain



JINCHUAN 金川

# 亮點2024

## 2024 HIGHLIGHTS

金川國際將負責任原則貫穿於礦場營運活動的全生命周期，在確保合法合規的基礎上，通過科技賦能提升生產效率，提供安全且高質產品。同時，本公司積極構建可持續供應鏈，增強高質量發展能力，從而有效提升公司經濟發展之韌性。我們堅持以可持續方式經營業務，並取得如下成績：

JCI integrates the principle of responsibility throughout the entire lifecycle of its mining operations. This ensures legal compliance and enhances production efficiency through technological empowerment, thereby providing safe and high-quality products. Additionally, the Company actively builds a sustainable supply chain to enhance its capacity for high-quality development, effectively increasing the resilience of the Company's economic development. We adhere to operating our business in a sustainable manner and have achieved the following results:

0 起關於已售或已運送產品因安全與健康的理由而須召回之事件

No instances of recall of sold or shipped products due to safety or health concerns

0 起關於洩露或侵犯消費者/客戶個人情況及私隱之投訴

No complaints regarding the leakage or infringement of consumers' s personal information and privacy



0 起關於廣告與實際不符相關情況之投訴

No complaints regarding false or misleading advertisements

0 起關於負責任採購相關之輿情事件

No public opinion events associated with responsible purchasing

# 經濟表現

## ECONOMIC PERFORMANCE

---

為助力全球能源轉型，金川國際將加快資源優勢向經濟社會貢獻轉化，加大銅、鈷等優勢礦種的研發投入與技術突破，以先進生產工藝助力降本減排增效。我們依法向營運所在地政府繳納足額稅款、採礦權使用費等費用，提高當地政府收入，造福當地民生福祉。

To support the global energy transformation, JCI is committed to leveraging its resource strengths to make positive economic and social impacts. The Company will increase R&D investment and expedite technological breakthroughs for advantageous mineral species such as copper and cobalt, using advanced production processes to help reduce costs, cut emissions, and enhance efficiency. Additionally, we adhere to all legal regulations by paying taxes, royalties on mining rights, and other relevant fees to the governments of the areas in which we operate. By doing so, we increase local government revenue and enhance the welfare of the local population.



# 產品責任

## PRODUCT RESPONSIBILITY

金川國際產品主要售予全球貿易商及/或冶煉廠。我們致力於提供可持續產品、技術保障、營銷支持以及可靠且準時的交付，成為客戶優先選擇及負責任的供應商。我們的礦石產品銷售結算嚴格遵循行業模式，其質量由雙方選定的第三方化驗室判定，不存在誇大產品質量或不道德採購等行爲。我們的礦權經當地礦業部官方認證，不存在衝突礦產產品。報告期內，金川國際概無因安全、健康、質量問題導致的產品召回事件。

JCI's products are sold primarily to a variety of global traders and/or smelters. We are dedicated to providing sustainable products, technical assurance, marketing support, and reliable on-time delivery, aiming to be the preferred and responsible supplier for our clients. Our mineral product sales settlements strictly adhere to industry norms. Quality is determined by third-party laboratories mutually agreed by both parties, free from any practices of overstating product quality or unethical procurement. Our mining rights are officially certified by the local mining department and do not involve conflict minerals. During the reporting period, there were no product recall incidents at JCI due to safety, health, or quality issues.

### 產品質量管理 Product Quality Management

金川國際各在產礦場貫徹ISO 9001:2016質量管理體系之要求，嚴格遵循「以客戶為關注焦點、領導作用、全員積極參與、過程方法、改進、詢證決策、關係管理」的質量管理原則，持續高度重視產品質量管控及質量管理技術提升，確保將優質產品供予全球客戶。

JCI's operational mines adhere to the requirements of the ISO 9001:2016 Quality Management System, strictly following the principles of quality management. These principles include focusing on customer concerns, leadership roles, full participation of employees, process-oriented methods, continuous improvement, evidence-based decision-making, and relationship management. Continuous emphasis is placed on controlling product quality and enhancing quality management techniques to ensure the supply of high-quality products to global customers.



常態化管理  
Routine Management

各部門各工序做好不合格品的處理和跟蹤，隨時分析發生質量波動或質量事故之原因，做好各工序間的質量檢查和監督。

All departments and processes must handle and track non-conforming products, continuously analyse the causes of quality fluctuations or incidents, implement quality checks and ensure supervision between these processes.



建立關鍵質量控制點  
Set Key Quality Control Points

各部門針對對產品質量有直接影響的關鍵部位建立關鍵質量控制點並實行動態管理，部門主管抽查執行情況，發現問題及時督促改進。

Each department should set key quality control points at critical parts that exert a direct impact on product quality and implement dynamic management. Department heads should conduct spot checks to ensure the implementation of these measures and promptly urge employees to improve when identifying issues.



成立工作組  
Establish Working Groups

收到客戶產品質量異議後，各部門針對產品異常質量信息組織召開質量分析會，分析原因，並採取措施，及時進行整改，生產管理部對整改情況進行監督檢查並驗證整改效果。

When receiving complaints about product quality, relevant departments should organise quality analysis meetings to investigate the causes and take corrective actions to rectify the issues. The Production Management Department will supervise, inspect, and verify the effectiveness of the rectifications.



協商解決  
Negotiated Solution

根據複查結果，與客戶協商解決，必要時外派人員赴現場；若不願協商或協商無果，按合同或標準約定，與用戶確定採樣方案和仲裁機構，進行質量鑒定。

Based on the results, we negotiate with the customer for a solution, and if necessary, we will dispatch personnel to the site. If the customer is unwilling to negotiate or no agreement is reached, we will discuss with the customer in accordance with the contract or standards to determine a sampling plan and arbitration institution for quality assessment.

各在產礦場的產品質量管理與反饋程序  
Quality Management and Feedback Procedures for Each Operational Mine

## ◆ Ruashi礦場產品質量管理

### Product Quality Management at Ruashi Mine

Ruashi礦場嚴格把控產品質量，產品經內部實驗室、國際認可的第三方公司及政府控制的服務機構共同檢驗測試，確保產品達標且優質，同時採取以下措施保障本公司及客戶權益：

- 制定生石灰、氧化鎂、硫等試劑質量管理標準，嚴控質量，降低廢品率及拒收率。
- 建立國外礦石管理政策，設立規範的取樣、樣品製備及化驗程序等系統，嚴控出口產品質量。
- 制定電解銅等產品之存放標準，由第三方檢測機構進行隨機抽取檢查，確保產品無表面污染或實物問題。

Ruashi礦場已制定電解銅生產流程，並向客戶披露所有信息，尤其向通過美國海關運輸產品的客戶披露CF28文件要求。應客戶要求，我們已多次進行負責任採購審核，接受梅賽德斯、寶馬、奧迪、三星根據經濟合作與發展組織（OECD）之要求，聘請第三方專業機構進行多次審核並已出具符合規定的審計報告。

此外，我們每年參加全球最大的礦業投資盛會之一的非洲礦業投資大會，以展示安全可靠的產品質量管控體系，分享礦業生產安全新技術、新工藝，探討行業在產品質量與安全領域之前沿趨勢，促進礦業領域產品質量提升與安全生產水平進步。

Ruashi Mine strictly controls product quality, with products jointly tested and verified by the Company's internal laboratory, internationally recognised third-party organisations, and government-controlled service institutions to ensure compliance and superior quality. Additionally, the following measures are implemented to safeguard the interests of both the Company and its clients:

- Establishing quality management standards for reagents such as quicklime, magnesium oxide, and sulfur, rigorously controlling quality to reduce defect rates and rejection rates.
- Formulating foreign ore management policies, setting up standardised systems for sampling, sample preparation, and assaying procedures to strictly control the quality of exported products.
- Formulating storage standards for electrolytic copper and other products, conducting random inspections by third-party testing institutions to ensure absence of surface contamination or physical issues.

Ruashi Mine has established a production process for electrolytic copper and disclosed all information to clients, particularly the requirements of CF28 documents for customers shipping products through U.S. customs. At the request of clients, we have conducted various responsible sourcing audits and obtained multiple compliance audit reports from third-party professional organisations. These audits are mandated by the Organisation for Economic Co-operation and Development (OECD) and have been carried out for clients such as Mercedes-Benz, BMW, Audi, and Samsung.

We participate annually in the African Mining Indaba to showcase our secure and reliable quality control systems. We also share new technologies and processes in mining production safety, explore cutting-edge trends in product quality and safety within the industry, and promote advancements in product quality and safe production in the mining sector.

## ◆ Kinsenda礦場產品質量管理

### Product Quality Management at Kinsenda Mine

為提升產品競爭力並贏得客戶認可，Kinsenda礦場構建了嚴格的質量技術標準體系，全面把控銅精礦質量，涵蓋品位、水分、鬆散度等關鍵指標。我們聘請AHK、SGS等第三方檢測機構對精礦銅品位及氧化率進行化驗與監測，並通過以下舉措持續優化產品管理，提升質量。

- 根據原礦品位即時調整浮選藥劑及產出率，以確保產品質量高於客戶要求。
- 通過加速精礦周轉率、提升壓濾效率等方式管控產品質量，2024年，我們的精礦水分穩定在11%左右且無結塊現象。
- 按產品類別、狀態、包裝制定抽樣方法，制定包裝標準（2噸）並優化裝袋流程、提升噸袋質量，加快服務速度、提高服務質量。

Kinsenda礦場主要通過郵件、現場交流等方式與客戶溝通產品質量及服務情況。報告期內，我們未收到任何與產品質量及安全相關之投訴。

To enhance the competitiveness of its products and gain customer recognition, Kinsenda Mine has established a rigorous system of quality and technical standards to comprehensively control the quality of copper concentrate. This includes key indicators such as grade, moisture content, and particle size. We have engaged third-party testing institutions, including AHK and SGS, to analyse and monitor the grade of copper concentrate and the oxidation rate. Through the following measures, we continuously optimise product management and improve quality:

- We adjusted the flotation reagents and output rates in real time based on the ore grade to ensure that the product quality exceeds customer requirements.
- Furthermore, in 2024, we effectively maintained concentrate moisture levels at around 11% by accelerating the turnover rate of concentrates and improving the efficiency of filter pressing, with no caking observed.
- Sampling methods were established according to product categories, status, and packaging. We also set packaging standards (2 tonnes) and optimised the bagging process to improve the quality of ton bags, accelerate service speed, and enhance service quality.

At Kinsenda Mine, we primarily communicate with customers about product quality and service conditions through email and on-site exchanges. During the reporting period, we did not receive any complaints related to product quality and safety.

## ◆ Musonoi項目產品質量管理

### Product Quality Management at Musonoi Project

報告期內，Musonoi項目已進入穩定試生產階段。全系統工藝流程銜接順暢，設備運行穩定，自動化程序運行準確，已順利產出銅鈷精礦，實現了從工程建設到生產運行之無縫轉移，為保障後續產品質量奠定基礎。試生產期間，我們對關鍵工序及質量控制點進行了每班次的採樣檢測，監控工藝紀律的執行情況，並根據分析結果及時優化工藝參數，以確保銅鈷精礦質量。報告期內，我們首次編製並下發了《Musonoi項目生產經營管理制度》《Musonoi項目質量化驗室管理制度》，對產品質量保障措施、質量檢定過程與規範，以及質量異議產品的處理流程進行了詳細規定。

Musonoi Project entered a stable trial production phase during the reporting period. The entire system's process flow is seamlessly connected, equipment operation is stable, and automated procedures run accurately. High-quality copper and cobalt concentration have been successfully produced, achieving a seamless transition from engineering construction to production operations. This lays the foundation for ensuring the quality of subsequent products. During the trial production period, we conducted sampling inspections for each shift at key processes and quality control points, monitored the enforcement of process discipline, and optimised process parameters in a timely manner based on analysis results, to ensure the quality of copper and cobalt concentrates. During the reporting period, we compiled and disseminated the Musonoi Project Production and Operation Management System and the Musonoi Project Quality Control Laboratory Management System. These documents provide detailed regulations on product quality assurance measures, the quality inspection process and standards, as well as the handling procedures for disputed quality products.

## ■ 產品安全管理 Product Safety Management

安全管理是企業實現可持續發展之關鍵要素。金川國際始終致力於確保我們的產品及包裝合乎僱員、承建商、客戶及環境營運的安全性要求，保障產品安全管理落實落地。

Safety management plays a crucial role in the sustainable development of businesses. At JCI, we are consistently committed to ensuring that our products and packaging meet the safety requirements of employees, contractors, customers, and environmental operations, securing the implementation of product safety management.

## ◆ Ruashi礦場化學品成分管理

### Chemical Composition Management at Ruashi Mine

Ruashi礦場生產電解銅(目標是LME A級)及氫氧化鈷(目標是鈷含量達到28%至30%)，主要出售予國際貿易商。我們嚴格遵循歐盟《關於化學品註冊、評估、許可和限制法案》(REACH)，規範化學物質的生產及使用。因《全球化學品統一分類和標籤製度》(GHS)標準將氫氧化鈷列為「分解後對健康有害」物質，我們按規定編製材料安全數據表(MSDS)，涵蓋安全處理、運輸、儲存、使用說明、終端處置、應急措施、健康與環境影響等內容，保障僱員、承建商、客戶等正確接觸使用產品，確保健康安全與環境友好。

Ruashi Mine produces copper cathode (targeting LME A grade) and cobalt hydroxide (targeting a cobalt content of 28% to 30%), which are primarily sold to international traders. We strictly follow the European Union's Registration, Evaluation, Authorisation and Restriction of Chemicals Act (REACH), which regulate the production and use of chemicals. In accordance with the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), cobalt hydroxide is classified as a "health-harmful substance upon decomposition". In compliance with these regulations, we have prepared a Material Safety Data Sheets (MSDS), which covers aspects including safe handling, transportation, storage, usage instructions, end-of-life disposal, emergency measures, and health and environmental impacts. This ensures that employees, contractors, customers, and other stakeholders are correctly informed about the proper handling and use of the product, thereby safeguarding health, safety, and environmental friendliness.

## ◆ Kinsenda礦場放射性安全管理

### Radioactive Safety Management at Kinsenda Mine

Kinsenda礦場產品之放射性安全管理符合國際要求。我們委託具有國際認證資質的第三方檢測機構對產品開展輻射檢測，2024年全年平均產品放射性低於0.3 micro Sv/hr，且未收到任何關於產品放射性安全問題的反饋。

Radiological safety management at Kinsenda Mine complies with international standards. We commission third-party testing institutions with international certification qualifications to conduct radiation testing on our products. The annual average product radioactivity for the year 2024 was below 0.3 micro Sv/hr, and we have not received any feedback regarding product radioactivity safety issues.

## ◆ Musonoi項目產品安全管理

### Product Safety Management at Musonoi Project

Musonoi項目試化驗室按照要求編製各化學品的MSDS，規範標識、貯存與使用，並建立試劑材料領用台賬及動態管理電子台賬，即時掌握庫存情況。針對潛在放射性安全問題的設備，我們及時進行申報並採取相應安全舉措，確保安全生產。

Testing and assay facilities at Musonoi Project are required to compile MSDS for each chemical, regulate labeling, storage, and usage, establish a ledger for reagent material requisitions, and maintain an electronic ledger for dynamic management to monitor stock levels in real-time. For equipment with potential radioactive safety issues, we promptly report and implement corresponding safety measures to ensure safe production.

## 客戶反饋及投訴 Customer Feedback and Complaints

金川國際以專業、及時、尊重、公平公正之態度接收並回覆客戶的所有反饋與投訴。客戶的寶貴意見及正當訴求被我們視作持續改進戰略及實踐之核心。

Ruashi礦場搭建了第三方礦石申訴機制。報告期內，我們未收到任何與產品及服務質量相關的投訴，亦無廣告與實際不符相關情況的投訴。

Kinsenda礦場藉助客服人員郵件、現場交流等方式了解並提升產品及服務質量。2024年，客戶對我們的產品及服務滿意度為100%。同時，報告期內，我們未收到任何與產品及服務質量相關的投訴，亦無廣告與實際不符相關情況的投訴。

Musonoi項目編製並下發了內部產品或服務投訴的管理制度。報告期內，我們未收到關於產品及服務的投訴。

JCI receives and responds to all customer feedback and complaints with professionalism, respect, and fairness in a timely manner. We regard the valuable opinions and legitimate requests of our customers as the core of our continuous improvement strategy and practices.

Ruashi Mine has established a third-party ore grievance mechanism. During the reporting period, no complaints related to the quality of products and services were received, and there were no complaints regarding inconsistencies between advertisements and reality.

At Kinsenda Mine, we enhance product and service quality through customer service staff emails and on-site communication. In 2024, Kinsenda Mine achieved a 100% customer satisfaction rate for our products and services. Additionally, during the reporting period, no complaints related to the quality of products and services were received, and there were no complaints regarding inconsistencies between advertisements and reality.

Musonoi Project has developed and issued an internal management system for handling complaints about products or services. Throughout the reporting period, we have not received any complaints concerning our products or services.

## 科技創新發展 Technology Innovation and Development

金川國際持續秉持創新驅動、科技引領之戰略，憑藉技術及管理創新贏得競爭及低成本優勢。在礦區層面，我們依據各礦區實際特點，針對性開展產品開發及技術創新。同時，我們積極開展知識產權保護行動，為創新成果保駕護航。

JCI consistently adheres to a strategy driven by innovation and led by technology, leveraging technical and management innovations to secure competitive and low-cost advantages. At the mine level, we tailor product development and technological innovation to the specific characteristics of each mining area. Simultaneously, we actively engage in intellectual property protection efforts to safeguard our innovative achievements.

依據《集團管理成果及爭取優惠政策評審獎勵辦法》，我們開展管理創新項目成果及爭取優惠政策評審獎勵，以提升本公司整體管理水平及企業競爭力。通過大膽改革創新，運用新的管理工具及方法解決企業當前管理中的關鍵難題，降低生產經營成本，提高管理效率的項目均可參與評審。

In accordance with the Group Incentive Measures for Management Innovations and Obtaining Preferential Policies, we conduct evaluations and rewards for management innovation projects and the acquisition of preferential policies to enhance the overall management level and competitiveness of the Company. Projects that, through bold reform and innovation, employ new management tools and methods to address critical challenges in current enterprise management, reduce production and operation costs, and enhance management efficiency are eligible for evaluation.

## ◆ Ruashi礦場技術創新及工藝改進

### Technical Innovation and Process Improvement at Ruashi Mine

Ruashi礦場積極開展專業設備及系統的研究、分析、設計、製作、整改及升級工作，在選材、原料替代、結構優化時充分考量資源利用、能耗、化學品使用、職業健康與安全、產品質量、損失率及回收率、環境負面影響等因素，全面優化採礦工藝流程，努力提高產品產量與質量，同時降低採礦活動對環境之不良影響。

Ruashi Mine is committed to the research, analysis, design, fabrication, modification, and upgrading of specialised equipment and systems. During material selection, raw material substitution, and structural optimisation, factors such as resource utilisation, energy consumption, chemical usage, occupational health and safety, product quality, loss rates, recovery rates, and environmental impact are thoroughly considered. This comprehensive optimisation of the mining process aims to enhance both product yield and quality, while simultaneously mitigating the adverse environmental effects of mining activities.



#### 案例：Ruashi礦場優化尾礦幹排及浸前壓濾工藝

Case: Optimisation of Tailings Dry Stacking and Pre-Soaking Press Filtration Process at Ruashi Mine

Ruashi團隊走訪周邊工藝不同且營運良好的企業，深入了解設備與工藝情況，掌握國內相關發展應用現狀。在此基礎上，團隊於實驗室開展測試研究，開發新工藝，助力實現環境與經濟效益的雙贏。

The Ruashi team visited nearby enterprises operating successful processes with different methodologies. This allowed them to gain a deep understanding of the equipment and processes, as well as insights into the current state of domestic development and applications in this field. Building on this knowledge, the team conducted testing and research in the laboratory and developed innovative processes aimed at achieving a win-win scenario, balancing environmental sustainability and economic benefits.

- 設計並建設尾礦幹排生產系統

Design and Construction of a Tailings Dry Stacking Production System

Ruashi礦場自2023年7月起對尾礦採樣進行細微性分析，並與第三方專業公司就尾礦幹排方案設計進行深入交流討論，於報告期內成功設計並建設了尾礦幹排系統。此設計有效減少了尾礦輸送系統的負荷，提高脫水篩運行效率，增加有價值的溶液回收，減少餵料罐溢流到尾礦罐的礦漿量，同時延長了尾礦系統及回水壩的使用壽命。該系統投入生產運行後，日均回收溶液950m<sup>3</sup>、幹排尾礦965噸，幹排產率34%，促進了資源循環利用。

Since July 2023, Ruashi Mine has been performing particle size analysis on tailings samples. The team engaged in in-depth discussions with a third-party professional company regarding the design of the tailings dry stacking solution. During the reporting period, the tailing's dry stacking system was successfully designed and constructed. This design significantly reduces the load on the tailings conveyance system, improves the operational efficiency of the dewatering screen, and increases the recovery of valuable solutions. It also minimises the amount of pulp overflowing from the feed tank to the tailings tank, while extending the service life of both the tailings system and the return water dam. Since its implementation, the system has achieved an average daily recovery of 950m<sup>3</sup> of solution and dry-discharged 965 tons of tailings, with a dry-discharge yield rate of 34%, greatly promoting the recycling and utilisation of resources.

- 設計並建設浸出前液脫水工序

Design and Construction of the Dewatering Process Before Leaching

為減少濕法冶煉生產過程體積膨脹的影響，我們在浸出前增設兩台250m<sup>2</sup>自動壓濾機，通過壓濾作業去除水分，用低品位萃餘液調節礦漿密度以達到浸出作業工藝要求，同時可減少LG萃餘液體積、增加酸回收量並減少石灰消耗。該工序增加了浸出反應時間，提高了Ruashi礦場濕法冶金系統的原料適用能力。此外，系統體積減少有效改善了洗水調控，提高了鈷生產的溶液濃度，改善鈷產品質量。

To address the impact of volume expansion in the hydrometallurgical production process, two 250m<sup>2</sup> automatic filter presses were installed before the leaching stage. By removing water through filtration, the pulp density can be adjusted using low-grade extractant solutions to meet the leaching process requirements. This process has reduced the volume of LG extractant solution, increased acid recovery, and lowered lime consumption. It has also extended the leaching reaction time, enhancing the raw material adaptability of Ruashi Mine's hydrometallurgical system. Furthermore, the reduction in system volume has improved wash water control, increased the solution concentration for cobalt production, and enhanced the quality of cobalt products.



Ruashi礦場尾礦幹排生產系統&浸出前液脫水工序  
Ruashi Mine's Tailings Dry-Discharge Production System & Dewatering Process Before Leaching

## ◆ Kinsenda礦場技術創新及工藝改進

### Technical Innovation and Process Improvement at Kinsenda Mine

報告期內，Kinsenda礦場持續推進技術創新與工藝改進，並取得如下績效：

- 半自磨機襯板改造與應用項目：通過合理優化襯板更換方式以及改造部分襯板結構，大幅提高了設備有效運行率，每年可為公司節約襯板備件成本超10萬美元，並創造經濟利潤超400萬美元。
- 排水供電系統升級優化的探索與實施項目：對井下東部、西部排水系統進行優化改造，節約能耗約1MW；採用井下裂隙水提供生產用水，減少地表向井下供水，減輕排水壓力及能源負荷；機械化清泥的探索與實施，徹底解決了車輛清泥故障率高、運距長、道路泥漿多的問題，消除了人員涉水作業之安全隱患。

During the reporting period, Kinsenda Mine continuously advanced technological innovation and process improvements, achieving the following results:

- Semi-autogenous grinding mill liner retrofit and application project: By optimising the liner replacement method and modifying part of the liner structure, the effective operating rate of the equipment was significantly increased. This has saved the Company over US\$100,000 annually in liner spare part costs and generated economic profits exceeding US\$4 million.
- Exploration and implementation of upgrades and optimisations for the drainage and power supply systems: The optimisation and retrofit of the underground eastern and western mine drainage systems saved approximately 1MW in energy consumption. Utilising underground fissure water for production reduced the need for surface-to-underground water supply, alleviating drainage pressure and energy load. The exploration and implementation of mechanised mud cleaning completely resolved issues such as high failure rates of vehicle mud cleaning, long transport distances, and numerous mud roads, thus eliminating safety hazards associated with personnel wading through water for work.

- 《金森達銅業公司東部礦體335ml水平以上生產探礦研究與實踐》課題，被評為梅特瑞斯公司科學技術創新三等獎。
- The research project titled “Studies and Practice of Productive Prospecting above 335ml Echelon at Kinsenda Copper Company” was rewarded the Third Prize of innovation of science and technology by Metorex Limited.

## ◆ Musonoi項目設計優化及技術創新

### Design Optimisation and Technological Innovation for Musonoi Project

Musonoi項目處於試生產階段，整體系統運行良好，且已穩定產出銅鈷精礦。項目建設過程中，我們不斷進行設計優化及技術創新，本年度共有1項成果獲梅特瑞斯公司2024年度科技進步三等獎，4項成果獲梅特瑞斯公司2024年度技術改進獎。

Musonoi Project is currently in the trial production phase, with the overall system operating well and steadily producing copper and cobalt concentrates. During the project's construction, we continuously carried out design optimisation and technological innovation. This year, one achievement was awarded the Third Prize for Scientific and Technological Progress by Metorex Limited in 2024, and four achievements received the Technical Improvement Award from Metorex Limited in 2024.



#### 案例：Musonoi項目優化採礦方法

Case: Optimisation of Mining Methods in Musonoi Project

Musonoi項目通過建模分析論證採場穩定性，並利用工程類比法優化採礦方法，最終選定分段空場嗣後充填採礦法；結合現場優化充填設計，提出預留礦柱方案，並確定充填濃度與灰砂比。結果表明，400ml分段採切比降低21%，爆破及回採效率分別提升13%及52%，噸礦成本降低約24美元，且顯著提高了施工安全性及資源利用效率。

Musonoi Project demonstrated the stability of the mining field through modelling analysis and optimised mining methods using engineering simulation. Ultimately, the sublevel open-stopping with subsequent backfilling method was selected. Combined with on-site optimisation of the backfill design, a plan for reserving pillars was proposed, and the backfill concentration and ash-to-sand ratio were determined. The results show that the cut-to-stope ratio for 400ml segments decreased by 21%. Blast efficiency and mining efficiency improved by 13% and 52%, respectively. The cost per ton of ore decreased by approximately US\$24. These improvements significantly enhanced construction safety and resource utilisation efficiency.

## 數據私隱及網絡安全 Data Privacy and Cybersecurity

金川國際著力依託強大的信息系統，營造安全的工作環境。我們的採礦活動由負責任的、接受內外部審計的信息及通信技術 (ICT) 系統以及符合世界級標準的基礎設施提供支援。認知並遵守本公司的信息保密與安全有關政策是全體僱員之責任。

在網絡安全層面，我們主動出擊降低風險，積極落實業務連續性與災難恢復計劃，保護信息與私隱安全，確保業務平穩運行。我們制定了《集團信息通信》，引導僱員正確使用ICT設施，杜絕濫用及誤用；制定了《集團信息系統政策手冊》，抵禦網絡威脅，嚴守營運地數據保護法規。此外，我們鼓勵僱員或其他持份者在獲悉任何濫用設施或違反本政策的情況時，及時通知ICT經理。

在技術防護方面，我們通過定期升級計算機系統安全功能、加密互聯網線路、定時更換密碼、於防火牆及活動目錄中設置安全規則、伺服器安裝殺毒軟件、實施防病毒及補丁管理、活動目錄實施集中採購，以及強制執行、監控並驗證賬戶雙因素身份驗證 (2FA)，全方位防止客戶數據被濫用或洩露。我們在與客戶簽訂的所有合同中均設有保密條款。報告期內，我們升級了Fortinet防火牆，在現場安裝了下一代伺服器，進一步提高了計算能力及安全控制水平。

JCI is committed to creating a safe working environment by leveraging a robust information system. Our mining operations are supported by responsible Information and Communication Technology (ICT) systems, which undergo both internal and external audits, and are backed by infrastructure that meets world-class standards. It is the responsibility of all employees to recognise and comply with the Company's policies on information confidentiality and security.

In terms of cybersecurity, we proactively mitigate risks, actively implement business continuity and disaster recovery plans, protect information and privacy security, and ensure the smooth operation of our business. We have established the Group Information Communications guideline to instruct employees on the proper use of ICT facilities, preventing abuse and misuse, and the Group Information Systems Policy Manual to combat cyber threats and strictly adhere to data protection regulations in all operating locations. Furthermore, we encourage employees and other stakeholders to promptly notify the ICT manager upon discovering any misuse of facilities or violations of this policy.

To comprehensively prevent the abuse or leakage of customer data, we implement a range of technical protection measures, including regular upgrades of computer system security features, encryption of internet lines, periodic password changes, setting up security rules in the firewall and active directory, installing antivirus software on servers, implementing anti-virus and patch management, centralised procurement in active directory, and enforcing, monitoring, and validating two-factor authentication (2FA) for accounts. Confidentiality clauses are included in all contracts signed with our customers. During the reporting period, we upgraded our Fortinet firewall and installed next-generation servers on-site, further enhancing our computing capabilities and security controls.

為防範數據丟失、降低物理損壞或未經授權訪問的風險，我們僅將非關鍵數據保留於現場，並為郵件服務及文件服務存儲等大多數伺服器實施了安全的Microsoft雲服務。我們通過使用三個不同的互聯網提供商，保證持續的互聯網可用性及雲訪問。

此外，我們定期對僱員進行保密教育，如開展Delta系統應用培訓、定期發送安全公告或電子郵件、要求僱員簽署有關系統使用最佳做法之書面說明文件等，以增強其保密意識。我們還要求供應商應實施合適的技術及管理措施，防止信息洩露。報告期內，我們並未發生重大數據丟失或其他重大數據洩露事件。

To prevent data loss, reduce the risk of physical damage, and protect against unauthorised access, we only retain non-critical data on-site and have implemented secure Microsoft cloud services for most servers, including email and file storage services. We ensure continuous internet availability and cloud access by using three different internet service providers.

In addition, we regularly educate our employees on confidentiality through training sessions on the Delta system application, periodic distribution of security announcements or emails, and requiring employees to sign written guidelines on best practices for system usage, thereby enhancing their awareness of confidentiality. We also require suppliers to implement appropriate technical and managerial measures to prevent information leaks. During the reporting period, we did not experience any significant data losses or material data breaches.



# 可持續供應鏈

## SUPPLY CHAIN SUSTAINABILITY

建立負責任、高效、綠色、廉潔的供應鏈是金川國際可持續發展之重要保障。我們秉持合規、公允、可持續的負責任採購原則，完善供應鏈管理全流程並融入可持續發展理念，積極攜手供應鏈合作夥伴，共同承擔社會責任，努力實現多方共贏。

Establishing a responsible, efficient, green, and corruption-free supply chain is an important guarantee for the sustainable development of JCI. We uphold the principles of compliance, fairness, and sustainable procurement, and improve the entire process of supply chain management. By integrating the concept of sustainable development, we actively work with our supply chain partners to jointly assume social responsibilities and strive to achieve a win-win situation for all parties.

### | 供應商管理體系 Supplier Management System

為規範本公司供應鏈管理，確保供應鏈交易的公平公眾、合法合規及道德性，提升供應鏈韌性及安全水平，我們根據礦區營運地及公司上市地相關法律法規制定並貫徹執行《集團供應鏈管理製度》《集團道德準則及人權政策》《集團審批框架》《集團供應鏈主要數據標準程序》《集團招標委員會職權範圍指南》等。該等政策及管理方針適用於我們所有的供應商，以確保：

To standardise the management of our Company's supply chain, ensure the fairness, legality, compliance, and ethical nature of supply chain transactions, and enhance the resilience and security level of the supply chain, we have formulated and implemented several key policies and management guidelines in accordance with relevant laws and regulations of the mining operation sites and the Company's listing locations. These include the Group Supply Chain Management Policy, the Group Code of Ethics and Human Rights Policy, the Group Approval Framework, the Group Supply Chain Master Data Standard Procedure, and the Group Tender Committee Terms of Reference. These policies and management guidelines apply to all of our suppliers to ensure:

01

我們與所有供應商交易均以公平、道德及商業化的方式開展，持續、及時地供應商品及/或服務，確保營運可達到目標。

Our transactions with all suppliers are conducted in a fair, ethical, and commercial manner, ensuring the continuous and timely supply of goods and/or services to meet operational targets.



02

依據法律法規及我們的內部政策開展業務，確保交易合法合理，有效管理供應鏈風險。

We conduct business in accordance with laws and regulations as well as our internal policies, ensuring lawful and reasonable transactions and effectively managing supply chain risks.



此外，承建商必須嚴格遵守我們的社區政策、環境政策、健康安全計劃、零傷害政策及商業行為準則等規章制度。在入職及遵守礦山規則程序上，我們對承建商與全體僱員標準一致。承建商應充份了解與彼等將執行的工作相關之礦山規則及程序，並接受相關培訓。

報告期內，並未發現我們的供應商及承建商對環境及社會造成實際及潛在重大負面影響。

### ◆ 供應商准入

#### Supplier Admission

我們要求供應商秉持「誠信及質量第一」原則提供產品及服務。在選擇供應商時，我們會優先考慮獲得第三方質量管理體系合規證書、信用評級高，且不危害僱員安全、不嚴重破壞環境、不對公眾或社區造成重大負面影響之供應商。在篩選供應商時，我們會要求供應商填寫對環境危害程度的調查表，將環境危害程度納入供應商綜合評價體系，優先選擇環境危害程度較低的供應商。

Additionally, contractors must strictly adhere to our community policies, environmental policies, health and safety plans, zero-harm policies, and business conduct standards. We maintain consistent standards for contractors and all employees in onboarding and compliance with mine rules and procedures. Contractors should fully understand the mining regulations and procedures relevant to the work they will perform and undergo relevant training.

During the reporting period, no actual or potentially significant adverse environmental and social impacts caused by our suppliers and contractors were identified.

We require suppliers to provide products and services in line with the principle of "integrity and quality first". When selecting suppliers, we prioritise those who have obtained third-party quality management system compliance certificates, maintained high credit ratings, and demonstrate a commitment to avoiding practices that endanger employee safety, cause severe environmental damage, or have significant negative impacts on the public or community. During the supplier screening process, we request suppliers to complete a survey assessing the extent of environmental harm caused by their operations. This assessment is integrated into our comprehensive supplier evaluation system, with priority given to suppliers demonstrating lower levels of environmental harm.

## ◆ 供應商管理及覆核

### Supplier Management and Review

我們建立並持續完善供應商評估體系，依據供應商管理辦法對供應商信用進行評級，並定期或不定期評估供應商的產品質量、勞工權益（包括但不限於平等就業機會、非歧視、公正薪酬、合法權益、人身安全及福利保障）、環境與社區影響等。我們亦注重與重要供應商保持持續溝通，建立長期合作並簽訂合約。同時，我們實行黑名單制度，將存在欺詐、違規、嚴重質量事故等不良記錄的供應商、服務商列入其中，不再合作。

為精準洞察供應商的綜合實力與潛在可持續發展風險，報告期內，我們從貨物質量、交貨能力、履約情況、售後服務、財務狀況、爭議解決能力、僱員及社區安全風險、環境危害等級、節能減排情況及公眾形象等維度，對採購額排名靠前的材料與配件供應商進行了評估與審核。

We have established and continuously refined our supplier evaluation system, rating supplier credit based on our supplier management procedures. Suppliers are regularly or irregularly assessed on product quality, labour rights (including but not limited to equal employment opportunities, non-discrimination, fair wages, legal rights, personal safety, and welfare protection), as well as environmental and community impacts. We also emphasise maintaining continuous communication with key suppliers, establishing long-term collaborations, and signing contracts. Additionally, we implement a blacklist system, disqualifying suppliers and service providers with records of fraud, violations, or serious quality incidents from future cooperation.

During the reporting period, to accurately gauge the comprehensive strength of suppliers and identify potential sustainability risks, we assessed and audited the top material and component suppliers (based on procurement volume) from various perspectives. These included product quality, delivery capability, performance compliance, after-sales service, financial status, dispute resolution ability, employee and community safety risks, environmental hazard levels, energy conservation and emission reduction efforts, and public image.

## ◆ 供應商溝通

### Supplier Communication

我們與供應商保持透明溝通，建立雙向、開放、多樣、直接的溝通渠道。根據業務需求，我們通過參加展會、郵件、電話、微信、實地考察、線上線下會議等多種方式，與供應商保持雙向不定期交流，及時共享信息與需求，並明確申訴渠道。雙方按需開展溝通協商，並以公正、平等、尊重的態度妥善解決潛在或已發生之分歧與衝突事件。

We maintain transparent communication with our suppliers, establishing open, diverse, and direct two-way communication channels. In line with business needs, we engage in irregular, bidirectional exchanges with suppliers through various methods, such as attending exhibitions, emails, phone calls, WeChat, on-site visits, and online or offline meetings, ensuring prompt sharing of information and requirements, while clearly outlining grievance procedures. Both parties conduct communication and consultation as needed, addressing potential or existing disputes and conflicts with fairness, equality, and respect.

## 衝突礦產及爭議採購 Conflict Minerals and Controversial Procurement

為維持礦石品位及產量之可持續性，Ruashi礦場從第三方礦石供應商採購部分原料，並著重推進負責任的原料採購管理，尤其針對來自衝突或高風險地區的礦石供應鏈。依據《經合組織負責任的礦產供應鏈盡職調查指南》以及剛果（金）政府頒布的最新礦業法律法規，Ruashi礦場制定並有效執行《第三方礦石管理政策》，識別及評估礦產供應鏈風險，完善管理體系，加強供應鏈優化能力建設，確保供應鏈合規且安全。我們承諾第三方礦石不來自以下不合規之供應商：

To sustain ore grade and production, Ruashi Mine procures part of its raw materials from third-party suppliers, emphasising responsible sourcing management—particularly for supply chains originating from conflict or high-risk regions. In adherence to the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals and the latest mining regulations enacted by the government of the DRC, Ruashi Mine has established and effectively implemented its Third Party Ore Management Policy. This policy identifies and assesses risks within the mineral supply chain, enhances the management system, strengthens supply chain optimisation capabilities, and ensures compliance and security across the supply chain. We pledge that third-party minerals do not originate from the following non-compliant suppliers:



## ◀ 風險識別、管理及平衡

### Risk Identification, Management, and Balancing

因詐騙、盜竊、腐敗或賄賂，向供應商支付與日常營運結算無關的款項是Ruashi礦場識別出的負責任原料採購之最高風險。對此，礦場採取了極為強硬的管理手段及嚴格的控制措施，以有效平衡從第三方採購礦石所涉及的風險。同時，我們堅定奉行尊重人權、合法用工、不助長衝突的負責任採購政策，並將其納入與供應商簽訂的合同及/或協議中，以降低並控制從受衝突影響及/或高風險地區提取、交易、處理及出口礦物相關之潛在重大風險。

Ruashi Mine has identified the payment of funds to suppliers unrelated to routine operational settlements—due to fraud, theft, corruption, or bribery—as the highest risk in the responsible sourcing of raw materials. To effectively balance the risks associated with purchasing ore from third parties, the mine has implemented highly stringent management practices and rigorous control measures. At the same time, we remain steadfast in adhering to a responsible sourcing policy that upholds human rights, ensures the legal employment of workers, and avoids contributing to conflicts. This policy is integrated into contracts and/or agreements with suppliers to mitigate and control potential significant risks linked to the extraction, trade, processing, and export of minerals from conflict-affected and/or high-risk areas.

## ◀ 尋找及確定供應商

### Searching for and Identifying Suppliers

Ruashi礦場副總經理及財務負責人負責與各個潛在供應商進行首次接觸及確定供應商，並檢查與礦石供應相關的文件以確保負責任採購的100%可追溯性。

The Deputy General Manager and Financial Officer of Ruashi Mine are responsible for initiating contact with potential suppliers, selecting suppliers, and reviewing documents related to ore supply to ensure 100% traceability for responsible sourcing.



初次接觸第三方礦石供應商時應獲取並審閱的資料

Relevant Information Should be Obtained and Reviewed During Initial Contact with Third-Party Ore Suppliers

## ◆ 開展盡職調查與持續評估

### Conducting Due Diligence and Ongoing Assessments

為確保供應商尊重人權、不助長衝突、合規經營且未被聯合國安理會制裁，Ruashi礦場在與潛在供應商正式簽約前，會委派項目評估小組實地盡職調查並進行綜合評估。

此外，為防控風險、消除不利影響，礦場每年實地評估合作廠商，確定並監測受衝突影響和高風險地區（CAHRAs）名單。根據考察情況，我們為供應商提供培訓或合作以解決礦石質量等問題。同時，我們要求礦石供應商遵守礦場零傷害政策，違反該政策超過六個月的供應商將被終止供應合同。我們依據年度審查結果，採取簽訂、延長、暫停、取消合同或強制執行等措施，保障供應商管理機制有效運行。

報告期內，我們沒有發生有爭議的採購與情事件，亦未使用有爭議礦石原料生產礦石產品。

To ensure that suppliers respect human rights, do not contribute to conflicts, operate compliantly, and are not subject to sanctions by the United Nations Security Council, Ruashi Mine assigns a project evaluation team to conduct on-site due diligence and comprehensive assessments before formally entering into contracts with potential suppliers.

Additionally, to control risks and eliminate adverse impacts, the mine conducts annual on-site evaluations of its partner suppliers. It also identifies and monitors a list of Conflict-Affected and High-Risk Areas (CAHRAs). Based on the findings from these assessments, we provide suppliers with training or collaborate with them to address issues such as ore quality. Furthermore, we require ore suppliers to comply with the mine's zero-harm policy. Suppliers found in violation of this policy for more than six months will have their supply contracts terminated. Based on the results of annual reviews, we take measures such as signing, renewing, suspending, or terminating contracts, or enforcing compliance to ensure the effective operation of the supplier management mechanism.

During the reporting period, there were no incidents of controversial procurement that sparked public concern, and no disputed ore materials were used in the production of ore products.

## 綠色供應鏈 Green Supply Chain

我們致力於構建一個綠色、低碳、可持續之供應鏈生態體系，要求供應商遵守相關國家及地區之環境法規，積極採取措施減少對環境的影響，促進資源的可持續利用及循環經濟發展，減少廢棄物排放及污染。我們優先與環保型柴油等燃料供應商合作，減少硫氧化物、顆粒物等廢氣物排放，減輕環境負面影響。同時，我們要求供應鏈物資包裝、倉儲運輸環節需遵循當地及國際環保標準，並於營運中持續評估供應商產品及包裝質量、化學品毒性，以及環境危害等因素。

報告期內，我們進一步深化綠色供應鏈管理舉措，致力於從源頭降低碳排放，推動全產業鏈之綠色轉型。

- 在篩選供應商時，我們會考慮供應商是否為「零碳工廠」，會優先考慮通過安裝大量太陽能板、風力發電設備等利用清潔能源來滿足生產所需能源的供應商。
- 我們推行綠色物流，優先海運並整合多供應商貨運，最大限度減少碳排放。
- 積極與供應商溝通，助力其低碳轉型，協助多家合作供應商制定科學碳目標，落實減排措施。

We are committed to building a green, low-carbon, and sustainable supply chain ecosystem. We require our suppliers to comply with relevant national and regional environmental regulations and actively take measures to reduce their environmental impact. We encourage the sustainable use of resources and the development of a circular economy, as well as the reduction of waste discharge and pollution. We prioritise collaborating with suppliers of environmentally friendly diesel and other fuels to reduce emissions of sulfur oxides, particulate matter, and other air pollutants, thereby mitigating negative environmental impacts. Additionally, we require that the packaging, warehousing, and transportation processes in the supply chain adhere to local and international environmental standards. We continuously evaluate the environmental impact of supplier products and packaging quality, chemical toxicity, and other environmental hazards during operations.

During the reporting period, we further strengthened our green supply chain management measures, committed to reducing carbon emissions from the source and promoting green transformation across the entire supply chain:

- When screening suppliers, we consider whether they are "zero-carbon factories", prioritising those that meet their energy needs through the installation of a large number of solar panels, wind power equipment, and other clean energy sources.
- We promote green logistics, prioritising sea transport and consolidating shipments from multiple suppliers to minimise carbon emissions.
- We actively communicate with suppliers to facilitate their low-carbon transition, assisting multiple collaborating suppliers in setting science-based carbon targets and implementing emission reduction measures.

## 廉潔供應鏈 Integrity in the Supply Chain

我們的各礦區持續強化供應鏈合規、誠信與透明化管理，嚴格落實廉潔供應鏈政策、商業行為與商業道德準則，要求合作供應商具備良好信譽與誠信，並遵守反貪腐及反賄賂、反洗錢等規定，防範經營及法律風險。我們要求供應商堅守公平競爭原則，遵循相關反壟斷法律法規，不得從事壟斷行為或操縱市場價位，杜絕價格歧視、串通投標等違法行為。

同時，我們要求相關僱員每年提交利益衝突書面聲明，嚴禁僱員收受供應商金錢、禮品以換取信息或好處，違者將立即受到相應的紀律處分。

Our various mining areas consistently enhance supply chain compliance, integrity, and transparency management. We strictly enforce anti-corruption policies, business conduct standards, and ethical guidelines across the supply chain. We require our partner suppliers to maintain a strong reputation and uphold integrity, adhering to anti-corruption, anti-bribery, and anti-money laundering regulations. This helps to mitigate operational and legal risks effectively. We mandate that suppliers adhere to the principle of fair competition, comply with relevant anti-monopoly laws and regulations, and avoid engaging in monopolistic practices or market price manipulation. Any illegal activities, such as price discrimination or bid rigging, are strictly prohibited.

Additionally, we require relevant employees to submit annual written declarations of any potential conflicts of interest. They are strictly prohibited from accepting money, gifts, or any other benefits from suppliers in exchange for information or preferential treatment. Any violations of these policies will result in immediate disciplinary action.

## 供應鏈賦能 Empowerment to Supply Chain

為契合金川國際客戶審計要求、增強供應鏈韌性，Ruashi礦場對現場所有供應商及管理人員開展企業管理培訓。同時，我們規定在礦區現場工作超7天的供應商須參加上崗培訓，目標供應商需進行技術培訓，以此確保服務合規、安全、優質。

報告期內，Kinsenda礦場安排僱員參加南非Indaba礦業大會、贊比亞礦業展、剛果（金）礦業周等活動，與供應商就採礦、選礦、冶煉之最新技術及研發設備進行面對面深度交流，助力供應商發展。

To align with the audit requirements of JCI's clients and enhance supply chain resilience, Ruashi Mine has conducted corporate management training for all on-site suppliers and managers. Furthermore, suppliers working on-site for more than seven days are required to attend orientation training, while targeted suppliers receive technical training to ensure compliance, safety, and the delivery of high-quality services.

During the reporting period, Kinsenda Mine arranged for employees to participate in events such as the African Mining Indaba, the Zambia International Mining & Energy Conference and Exhibition (ZIMEC), and the DRC Mining Week. These engagements facilitated in-depth, face-to-face exchanges with suppliers on the latest technologies and R&D equipment in mining, mineral processing, and smelting, thereby contributing to the development of suppliers.



Kinsenda礦場通過礦業大會及展會與供應商深度交流

Kinsenda Mine Engages in In-Depth Discussions with Suppliers at Mining Conferences and Exhibitions

### 我們的表現 - 2024年各礦場供應商培訓績效 Our Performance - Supplier Training Performance Across All Mine Sites for 2024

指標 Indicators	單位 Unit	Ruashi礦場 Ruashi Mine	Kinsenda礦場 Kinsenda Mine	Musonoi項目 Musonoi Project
供應商培訓總時長 Total duration of supplier training	小時 Hours	3,833	-	46
• 安全上崗及參訪基礎培訓 Basic training for safety on-the-job and visits	小時 Hours	1,209	-	15
• 技術支持培訓 Technical support training	小時 Hours	141	-	23
• 環境、社會、安全、分權、監管 合規等ESG相關議題培訓 Training on ESG-related issues including environment, society, safety, decentralization, regulatory compliance, etc.	小時 Hours	2,483	-	8

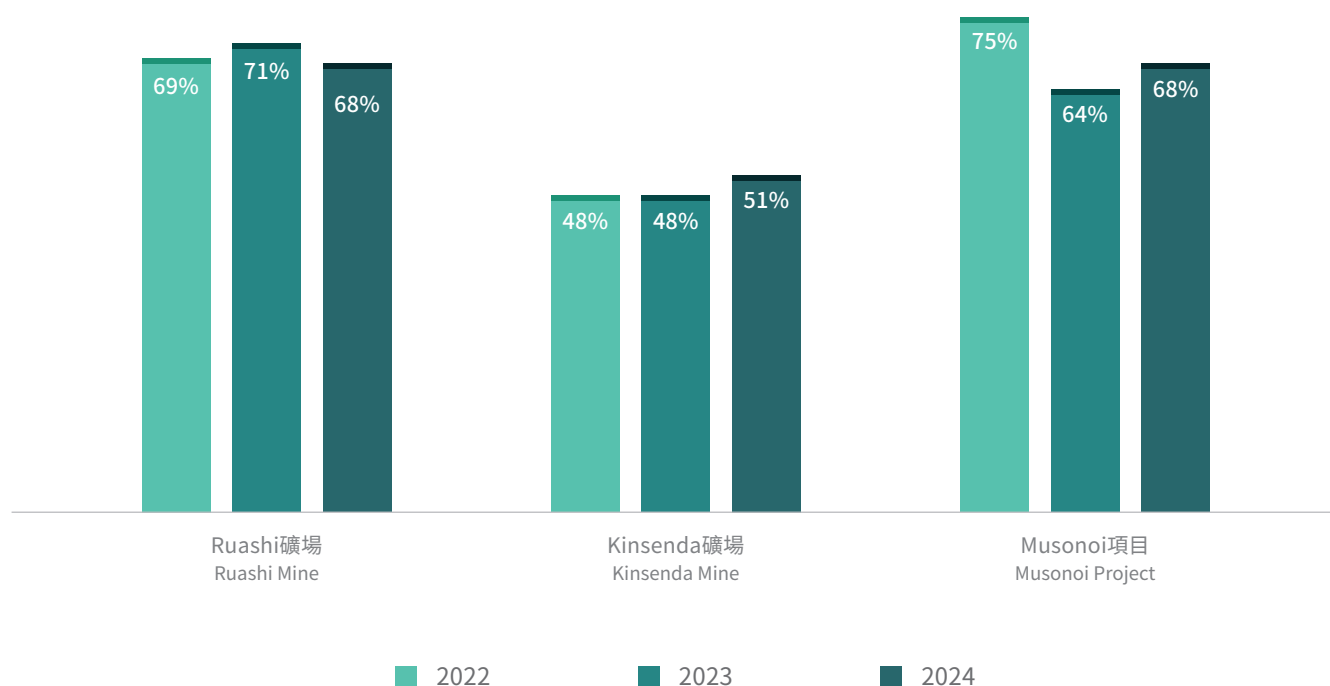
## 本地採購 Local Procurement

我們嚴格遵循剛果(金)《分包法》，構建並不斷優化科學合理的本地採購決策與流程體系，力求為營運區域的商業活動創造正向價值。在選擇供應商時，我們優先考慮本地採購，在助力當地經濟發展的同時可減少長途運輸需求，降低能源消耗及溫室氣體排放量。

We strictly adhere to the Subcontracting Law of the DRC, and continuously optimise our local procurement decision-making and process system to ensure it remains scientific and rational. This is aimed at creating positive value for commercial activities in our operational regions. When selecting suppliers, we prioritise local procurement, which not only supports local economic development but also reduces the need for long-distance transportation, thereby lowering energy consumption and greenhouse gas (GHG) emissions.

### ▼ Ruashi礦場、Kinsenda礦場、Musonoi項目東道國本地採購率<sup>11</sup>

Local Procurement Rates in the Host Countries of Ruashi Mine, Kinsenda Mine, and Musonoi Project<sup>11</sup>



11. 東道國本地採購率意指本公司在東道國(即公司或項目所在國)進行採購時，選擇該國本地供應商的比例。

Local procurement rate in the host country refers to the proportion of local suppliers chosen by the Company when making purchases in the host country, i.e., the country where the Company or project is located.

○ 我們的表現 - 2024年與供應商管理有關的其他數據  
Our Performance - Other Data Related To Supplier Management In 2024

指標 Indicators	單位 Unit	Ruashi礦場 Ruashi Mine	Kinsenda礦場 Kinsenda Mine	Musonoi項目 Musonoi Project
於2024年簽署供應商行為準則的供應商比例 Percentage of suppliers that signed the supplier code of conduct in 2024	%	88	100	80
簽署包含環境及勞工要求條款的供應商佔供應商總數百分比 Percentage of total suppliers signing clauses that include environmental and labour requirements	%	80	100	50
已開展社會影響評估的供應商數量 Number of suppliers that have conducted social impact assessments	個 Number	0	1	128
已開展環境影響評估的供應商數量 Number of suppliers that have conducted environmental impact assessments	個 Number	4	1	163
經確定為具有實際及/或潛在重大負面社會影響的供應商數量 Number of suppliers identified as having actual and/or potential significant adverse social impacts	個 Number	0	0	0
經確定為具有實際及/或潛在重大負面環境影響的供應商數量 Number of suppliers identified as having actual and/or potential significant adverse environmental impacts	個 Number	0	0	0
新供應商總數 Total new suppliers	個 Number	30	53	127
使用環境標準評估新供應商的百分比 Percentage of new suppliers using environmental evaluation criteria	%	40	100	85
使用社會標準評估新供應商的百分比 Percentage of new suppliers using social evaluation criteria	%	15	100	33
公司內部通過可持續採購培訓的採購員比例 Percentage of in-house purchasing specialists who have passed sustainable procurement training	%	100	100	75

# 附錄 - 可持續發展績效數據

## Appendices - Sustainability Performance Data

### 環境 ENVIRONMENT

▼ 溫室氣體排放 GHG Emissions <sup>12</sup>							
披露事項 Disclosure Item	單位 Unit	2024	2023	2022	2021	2020	
• 企業營運邊界內的排放 Emissions within JCI's Operational Boundary							
溫室氣體排放總量 (範圍1及範圍2) Total GHG Emissions (Scope 1 and Scope 2)	噸二氧化碳當量 Tonne CO <sub>2</sub> -e	32,454	49,728	23,850	22,751	16,890	
溫室氣體排放密度 GHG Emissions Intensity	噸二氧化碳當量/噸銅產量 Tonne CO <sub>2</sub> -e/ Tonne Cu Produced	0.51	0.80	0.40	0.37	0.23	
直接溫室氣體排放 (範圍1) Direct GHG Emissions (Scope 1)	噸二氧化碳當量 Tonne CO <sub>2</sub> -e	31,373	48,740	22,770	21,725	15,859	
電力產生的間接溫室氣體排放 (範圍2) Electricity indirect GHG emissions (Scope 2)	噸二氧化碳當量 Tonne CO <sub>2</sub> -e	1,081	988	1,080	1,026	1,031	
• 企業價值鏈的排放 Emissions from the JCI Value Chain							
溫室氣體排放總量 (範圍1、範圍2及範圍3) Total GHG Emissions (Scope 1, Scope 2 and Scope 3)	噸二氧化碳當量 Tonne CO <sub>2</sub> -e	33,861	N/A	N/A	N/A	N/A	
其他間接溫室氣體排放 (範圍3) Other indirect GHG emissions (Scope 3)	噸二氧化碳當量 Tonne CO <sub>2</sub> -e	1,407	N/A	N/A	N/A	N/A	
• 按營運地劃分的溫室氣體排放量 Total GHG Emissions by Operation							
公司辦事處 Corporate Offices	範圍1 Scope 1	噸二氧化碳當量 Tonne CO <sub>2</sub> -e	0	0	4	2	2
	範圍2 Scope 2	噸二氧化碳當量 Tonne CO <sub>2</sub> -e	50	43	124	121	109

12. 為與金川國際之企業碳足跡報告保持一致 (該報告披露金川國際連續幾年的碳足跡), 溫室氣體排放係數主要基於已發布國家數據及參考制定企業碳足跡報告之專業第三方機構提供的來源, 包括以下層次來源:

- (1). 歐洲生命週期數據系統 (ELCD) 報告的排放係數;
- (2). 符合ELCD標準數據庫中報告的排放係數;
- (3). 國際或國家 (政府制定) 出版刊物中報告的排放係數;
- (4). 已刊發的國家及國際行業準則中的排放係數。

In order to be consistent with JCI's Corporate Carbon Footprint Report, which discloses JCI's carbon footprint for consecutive years, GHG emission factors are based primarily on published country-specific data and referenced to sources provided by professional third-party organizations that produce the Corporate Carbon Footprint Report, including the following hierarchy of sources:

- (1). Emission factors reported in the European Life Cycle Data System (ELCD);
- (2). Emission factors reported in ELCD-compliant databases;
- (3). Emission factors reported in international or national (government-produced) publications;
- (4). Emission factors reported in published national and international industry guidelines.

Ruashi	範圍1 Scope 1	噸二氧化碳當量 Tonne CO <sub>2</sub> -e	11,609	32,572	15,836	10,214	3,903
	範圍2 Scope 2	噸二氧化碳當量 Tonne CO <sub>2</sub> -e	551	523	580	562	593
Kinsenda	範圍1 Scope 1	噸二氧化碳當量 Tonne CO <sub>2</sub> -e	10,918	10,018	6,745	9,418	7,216
	範圍2 Scope 2	噸二氧化碳當量 Tonne CO <sub>2</sub> -e	387	370	340	327	289
Musonoi	範圍1 Scope 1	噸二氧化碳當量 Tonne CO <sub>2</sub> -e	8,846	6,150	145	2,091	2,643
	範圍2 Scope 2	噸二氧化碳當量 Tonne CO <sub>2</sub> -e	93	52	22	16	8
Chibuluma	範圍1 Scope 1	噸二氧化碳當量 Tonne CO <sub>2</sub> -e	N/A	N/A	N/A	N/A	2,095
	範圍2 Scope 2	噸二氧化碳當量 Tonne CO <sub>2</sub> -e	N/A	N/A	N/A	N/A	32

## ▼ 能源消耗 Energy Consumption

披露事項 Disclosure Item	單位 Unit	2024	2023	2022	2021	2020
電力消耗總量 Total Electricity Consumption	千瓦時 kWh	264,377,500	242,544,120	259,742,223	233,112,051	237,733,951
蒸汽消耗總量 Total Steam Consumption	噸 Tonne	121,290	158,168	145,626	163,753	162,733
液化石油氣消耗總量 Total LPG Consumption	噸 Tonne	600	0	10	10	N/A
柴油消耗總量 Total Diesel Consumption	噸 Tonne	8,701	13,715	9,048	5,118	2,577
汽油消耗總量 Total Petrol Consumption	噸 Tonne	189	62	23	15	12

## • 按營運地劃分的能源消耗 Energy Consumption by Operation

公司辦事處 Corporate Offices	電力 Electricity	千瓦時 kWh	76,272	63,451	60,513	59,931	27,326
Ruashi	電力 Electricity	千瓦時 kWh	141,252,780	134,092,000	159,381,000	151,756,000	152,959,000
	蒸汽 Steam	噸 Tonne	121,290	158,168	145,626	163,753	162,733
	柴油 Diesel	噸 Tonne	3,279	9,201	4,606	2,277	763

Kinsenda	電力 Electricity	千瓦時 kWh	99,156,504	94,955,900	86,748,550	77,144,000	74,396,900
	柴油 Diesel	噸 Tonne	3,035	2,786	2,977	2,358	1,799
	汽油 Petrol	噸 Tonne	57	52	16	13	12
Musonoi	電力 Electricity	千瓦時 kWh	23,891,944	13,432,769	13,552,160	4,152,120	2,097,953
	液化石油氣 LPG	噸 Tonne	600	0	10	10	N/A
	柴油 Diesel	噸 Tonne	2,387	1,728	1,466	483	N/A
	汽油 Petrol	噸 Tonne	132	11	7	3	N/A
Chibuluma	電力 Electricity	千瓦時 kWh	N/A	N/A	N/A	N/A	8,252,772
	柴油 Diesel	噸 Tonne	N/A	N/A	N/A	N/A	15

#### 水消耗 Water Consumption

披露事項 Disclosure Item	單位 Unit	2024	2023	2022	2021	2020
淡水消耗總量 Total Freshwater Consumption	立方米 m <sup>3</sup>	2,393,519	2,513,030	2,877,876	2,214,754	2,461,055
金川國際耗水密度 Water Intensity of JCI	立方米/噸銅產量 m <sup>3</sup> / Tonne Cu Produced	38	41	48	36	34

#### • 按營運地劃分的水消耗 Water Consumption by Operation

Ruashi	淡水耗量 Freshwater Consumption	立方米 m <sup>3</sup>	2,086,459	2,205,030	2,571,276	1,925,674	2,048,254
	耗水密度 Water Intensity	立方米/噸銅產量 m <sup>3</sup> / Tonne Cu Produced	63	69	145	132	125
	循環水耗量 Recycled Water Consumption	立方米 m <sup>3</sup>	1,036,017	1,839,938	1,830,634	2,436,066	2,190,122
	循環用水佔淡水耗量比例 Recycled Water as percentage of Total Freshwater Consumed	%	50	83	71	127	107
Kinsenda	淡水耗量 Freshwater Consumption	立方米 m <sup>3</sup>	298,560	300,000	306,600	289,080	262,800
	耗水密度 Water Intensity	立方米/噸銅產量 m <sup>3</sup> / Tonne Cu Produced	10	10	11	10	9
	循環水耗量 Recycled Water Consumption	立方米 m <sup>3</sup>	149,280	150,000	N/A	N/A	N/A

	循環用水佔淡水耗量比例 Recycled Water as percentage of Total Freshwater Consumed	%	50	50	N/A	N/A	N/A
Musonoi	淡水取量 Freshwater Withdrawal	立方米 m <sup>3</sup>	4,098,900	N/A	N/A	N/A	N/A
	淡水耗量 Freshwater Consumption	立方米 m <sup>3</sup>	8,500	8,000	N/A	N/A	N/A
	耗水密度 Water Intensity	立方米/噸銅產量 m <sup>3</sup> / Tonne Cu Produced	N/A	N/A	N/A	N/A	N/A
Chibuluma	淡水耗量 Freshwater Consumption	立方米 m <sup>3</sup>	N/A	N/A	N/A	N/A	150,001
	耗水密度 Water Intensity	立方米/噸銅產量 m <sup>3</sup> / Tonne Cu Produced	N/A	N/A	N/A	N/A	19

▼ 無害廢物處置及回收 Non-hazardous Waste Disposal and Recycling

披露事項 Disclosure Item	單位 Unit	2024	2023	2022	2021	2020
無害廢物處置總量 Total Non-hazardous Waste Disposal	噸 Tonne	157	156	137	121	114
無害廢物回收總量 Total Non-hazardous Waste Recycling	噸 Tonne	849	361	638	601	419

• 按營運地劃分的無害廢物處置及回收 Non-hazardous Waste Disposal and Recycling by Operation

Ruashi	處置 Disposal	噸 Tonne	66	70	50	43	38
	回收 Recycling	噸 Tonne	119	106	58	68	71
Kinsenda	處置 Disposal	噸 Tonne	71	67	70	66	61
	回收 Recycling	噸 Tonne	730	255	580	533	307
Musonoi	處置 Disposal	噸 Tonne	21	20	18	12	0
	回收 Recycling	噸 Tonne	0	0	0	0	0
Chibuluma	處置 Disposal	噸 Tonne	N/A	N/A	N/A	N/A	16
	回收 Recycling	噸 Tonne	N/A	N/A	N/A	N/A	41

▼ 有害廢物 Hazardous Waste							
披露事項 Disclosure Item	單位 Unit	2024	2023	2022	2021	2020	
廢油總量 Total Waste Oil	升 Litre	111,540	78,800	43,360	41,440	77,630	
醫療廢物總量 Total Medical Waste	噸 Tonne	2	2	2	0.37	0.35	
廢棄催化劑總量 Total Spent Catalyst	噸 Tonne	8	0	37	66	6	
硫渣總量 Total Sulphur Ash	噸 Tonne	30	48	52	53	67	
IT廢物(墨盒) 總量 Total IT Waste (Cartridges)	噸 Tonne	0.63	0.45	0.26	0.22	4	
廢棄電池總量 Total Waste Batteries	噸 Tonne	0.10	0.00832	N/A	N/A	1	
• 按營運地劃分的有害廢物量 Hazardous Waste Quantity by Operation							
Ruashi	廢油 Waste Oil	升 Litre	88,440	52,400	21,360	21,180	43,520
	醫療廢物 Medical Waste	噸 Tonne	0.30	0.24	0.31	0.37	0.28
	廢棄催化劑 Spent Catalyst	噸 Tonne	8	0	37	66	6
	硫渣 Sulphur Ash	噸 Tonne	30	48	52	53	67
	IT廢物(墨盒) IT Waste (Cartridges)	噸 Tonne	0.13	0.18	0.26	0.22	4
	廢棄電池 Waste Batteries	噸 Tonne	0	0.00832	0	0	0
Kinsenda	廢油 Waste Oil	升 Litre	21,000	22,000	22,000	20,220	18,540
	醫療廢物 Medical Waste	噸 Tonne	2	2	2	0	0
Musonoi	廢油 Waste Oil	升 Litre	2,100	4,400	N/A	N/A	N/A
	IT廢物(墨盒) IT Waste (Cartridges)	噸 Tonne	0.5	0.27	N/A	N/A	N/A

Chibuluma	廢油 Waste Oil	升 Litre	N/A	N/A	N/A	N/A	15,570
	醫療廢物 Medical Waste	噸 Tonne	N/A	N/A	N/A	N/A	0.07
	廢棄電池 Waste Batteries	噸 Tonne	N/A	N/A	N/A	N/A	1

## ▼ 氣體排放 Air Emissions

披露事項 Disclosure Item	單位 Unit	2024	2023	2022	2021	2020
二氧化硫排放總量 Total Sulfur Dioxide (SO <sub>2</sub> ) Emissions	噸 Tonne	122	137	134	144	126

## ▼ 尾礦設施 Tailings Storage Facilities

披露事項 Disclosure Item	單位 Unit	2024	2023	2022	2021	2020
尾礦總重量 Total Weight of Tailings	噸 Tonne	1,754,695	1,768,843	N/A	N/A	N/A
尾礦庫總數 Total Number of Tailings Storage Facilities	個 Number	4	3	N/A	N/A	N/A
活躍的尾礦庫數量 Total Number of Active Tailings Storage Facilities	個 Number	3	2	N/A	N/A	N/A
高風險尾礦庫數量 Total Number of Tailings Storage Facilities at Risks	個 Number	0	0	N/A	N/A	N/A

## • 按營運地劃分的尾礦設施 Tailings Storage Facilities by Operation

Ruashi	尾礦重量 Weight of Tailings	噸 Tonne	1,029,000	1,114,148	N/A	N/A	N/A
	尾礦庫數量 Number of Tailings Storage Facilities	個 Number	1	1	N/A	N/A	N/A
	活躍的尾礦庫數量 Number of Active Tailings Storage Facilities	個 Number	1	1	N/A	N/A	N/A
	高風險尾礦庫數量 Number of Tailings Storage Facilities at Risks	個 Number	0	0	N/A	N/A	N/A
Kinsenda	尾礦重量 Weight of Tailings	噸 Tonne	639,921	654,695	N/A	N/A	N/A
	尾礦庫數量 Number of Tailings Storage Facilities	個 Number	1	1	N/A	N/A	N/A
	活躍的尾礦庫數量 Number of Active Tailings Storage Facilities	個 Number	1	1	N/A	N/A	N/A
	高風險尾礦庫數量 Number of Tailings Storage Facilities at Risks	個 Number	0	0	N/A	N/A	N/A

Musonoi	尾礦重量 Weight of Tailings	噸 Tonne	85,774	0	N/A	N/A	N/A
	尾礦庫數量 <sup>13</sup> Number of Tailings Storage Facilities	個 Number	2	1	N/A	N/A	N/A
	活躍的尾礦庫數量 Number of Active Tailings Storage Facilities	個 Number	1	0	N/A	N/A	N/A
	高風險尾礦庫數量 Number of Tailings Storage Facilities at Risks	個 Number	0	0	N/A	N/A	N/A

▼ 包裝袋消耗 Packaging Bag Consumption

披露事項 Disclosure Item	單位 Unit	2024	2023	2022	2021	2020
一立方米的包裝袋總耗量 Total Consumption of 1m <sup>3</sup> Packaging Bags	個 Number	54,547	82,360	151,300	64,439	27,872

• 按營運地劃分的包裝袋消耗量 Packaging Bag Consumption by Operation

Ruashi	個 Number	22,727	15,990	45,620	31,600	27,872
Kinsenda	個 Number	31,780	66,370	105,680	32,839	N/A
Musonoi	個 Number	40	N/A	N/A	N/A	N/A

▼ 環保開支 Environment Expenditure

披露事項 Disclosure Item	單位 Unit	2024	2023	2022	2021	2020
環保開支總額 Total Environment Expenditure	美元 US\$	1,120,913	1,443,260	1,123,116	620,010	615,274

• 按營運地劃分的環保開支 Environment Expenditure by Operation

Ruashi	美元 US\$	562,020	961,196	1,123,116	620,010	615,274
Kinsenda	美元 US\$	N/A	N/A	N/A	N/A	N/A
Musonoi	美元 US\$	558,893	482,064	N/A	N/A	N/A

13. Musonoi項目的其中一個尾礦設施目前正處於建設收尾階段，尚未投入使用。

One of the tailings facilities at the Musonoi Project is currently in the final stages of construction and is not yet operational.

## 社會 SOCIAL

▼ 勞工 Workforce						
披露事項 Disclosure Item	單位 Unit	2024	2023	2022	2021	2020
• 勞工總數 Total Workforce						
公司辦事處 Corporate Offices	/	28	35	36	28	45
Ruashi	/	937	963	993	1,005	1,016
Kinsenda	/	416	447	419	449	426
Musonoi	/	274	287	138	80	53
Chibuluma	/	13	12	12	13	24
僱員總數 Total Number of Employees	/	1,668	1,744	1,598	1,575	1,564
• 按性別劃分的勞工總數 Total Workforce by Gender						
公司辦事處 Corporate Offices	男性 Male	/	13	20	21	23
	女性 Female	/	15	15	15	22
Ruashi	男性 Male	/	887	911	939	964
	女性 Female	/	50	52	54	52
Kinsenda	男性 Male	/	373	405	380	409
	女性 Female	/	43	42	39	34
Musonoi	男性 Male	/	247	253	121	71
	女性 Female	/	27	34	17	9
Chibuluma	男性 Male	/	10	10	10	11
	女性 Female	/	3	2	2	4

• 按僱傭類型劃分的勞工總數 Total Workforce by Employment Type

公司辦事處 Corporate Offices	全職 Full Time	/	28	35	36	28	45
	承建商 Contractor	/	0	0	0	1	0
Ruashi	全職 Full Time	/	937	963	993	1,005	1,016
	承建商 Contractor	/	667	1,184	1,408	1,336	1,371
Kinsenda	全職 Full Time	/	416	447	419	449	426
	承建商 Contractor	/	1,188	1,197	1,271	1,068	926
Musonoi	全職 Full Time	/	274	287	138	80	53
	承建商 Contractor	/	1,340	1,357	1,371	336	336
Chibuluma	全職 Full Time	/	13	12	12	13	24
	承建商 Contractor	/	0	0	0	0	125

• 按年齡組別劃分的勞工總數 Total Workforce by Age Group

公司辦事處 Corporate Offices	25歲以下 Under 25	/	0	0	1	0	0
	25-35歲 25-35	/	6	8	8	9	10
	36-40歲 36-40	/	6	5	7	3	5
	41-45歲 41-45	/	8	8	8	9	11
	46-50歲 46-50	/	1	4	4	5	11
	51-54歲 51-54	/	4	6	6	1	5
	55歲及以上 55 and above	/	3	4	2	1	3

Ruashi	25歲以下 Under 25	/	1	0	1	2	0
	25-35歲 25-35	/	24	37	64	97	118
	36-40歲 36-40	/	143	176	201	222	244
	41-45歲 41-45	/	235	259	260	258	251
	46-50歲 46-50	/	226	215	214	198	185
	51-54歲 51-54	/	134	120	102	100	101
	55歲及以上 55 and above	/	174	156	151	128	117
Kinsenda	25歲以下 Under 25	/	1	3	2	5	3
	25-35歲 25-35	/	78	86	82	72	68
	36-40歲 36-40	/	48	50	49	52	46
	41-45歲 41-45	/	48	43	33	34	33
	46-50歲 46-50	/	35	47	38	39	45
	51-54歲 51-54	/	46	44	53	56	51
	55歲及以上 55 and above	/	160	174	162	191	180
Musonoi	25歲以下 Under 25	/	25	25	12	8	4
	25-35歲 25-35	/	109	109	52	23	14
	36-40歲 36-40	/	45	46	19	14	6
	41-45歲 41-45	/	35	39	16	12	7
	46-50歲 46-50	/	27	30	19	8	11
	51-54歲 51-54	/	26	26	16	10	8
	55歲及以上 55 and above	/	7	12	4	5	3

Chibuluma	25歲以下 Under 25	/	0	0	0	0	0
	25-35歲 25-35	/	2	2	2	2	3
	36-40歲 36-40	/	2	1	2	2	9
	41-45歲 41-45	/	7	7	7	7	5
	46-50歲 46-50	/	1	1	1	1	2
	51-54歲 51-54	/	1	1	0	1	3
	55歲及以上 55 and above	/	0	0	0	0	2
• 按僱員類別劃分的勞工總數 Total Workforce by Employee Category							
公司辦事處 Corporate Offices	高級管理人員 Senior Level	/	9	12	12	-	-
	中層管理人員 Middle Level	/	10	13	14	-	-
	一般僱員 General Level	/	9	10	10	-	-
Ruashi	高級管理人員 Senior Level	/	77	85	74	-	-
	中層管理人員 Middle Level	/	306	202	335	-	-
	一般僱員 General Level	/	554	676	584	-	-
Kinsenda	高級管理人員 Senior Level	/	101	106	100	-	-
	中層管理人員 Middle Level	/	97	99	104	-	-
	一般僱員 General Level	/	218	242	215	-	-
Musonoi	高級管理人員 Senior Level	/	28	13	8	-	-
	中層管理人員 Middle Level	/	50	60	15	-	-
	一般僱員 General Level	/	196	214	115	-	-

Chibuluma	高級管理人員 Senior Level	/	3	3	3	-	-
	中層管理人員 Middle Level	/	8	7	6	-	-
	一般僱員 General Level	/	2	2	3	-	-
• 按國籍劃分的勞工總數 Total Workforce by Nationality							
公司辦事處 Corporate Offices	當地僱員 Local Employee	/	15	16	20	-	-
	中國僱員 Chinese	/	13	16	13	-	-
	其他國籍僱員 Other Nationality	/	0	3	3	-	-
	當地就業率 Local Employment Rate	%	54	46	56	-	-
Ruashi	當地僱員 Local Employee	/	888	911	942	-	-
	中國僱員 Chinese	/	39	40	39	-	-
	其他國籍僱員 Other Nationality	/	10	12	12	-	-
	當地就業率 Local Employment Rate	%	95	95	95	-	-
Kinsenda	當地僱員 Local Employee	/	368	400	374	-	-
	中國僱員 Chinese	/	45	45	42	-	-
	其他國籍僱員 Other Nationality	/	3	2	3	-	-
	當地就業率 Local Employment Rate	%	88	89	89	-	-
Musonoi	當地僱員 Local Employee	/	168	165	57	-	-
	中國僱員 Chinese	/	105	119	81	-	-
	其他國籍僱員 Other Nationality	/	1	3	0	-	-
	當地就業率 Local Employment Rate	%	61	57	41	-	-

Chibuluma	當地僱員 Local Employee	/	8	7	8	-	-
	中國僱員 Chinese	/	5	5	4	-	-
	其他國籍僱員 Other Nationality	/	0	0	0	-	-
	當地就業率 Local Employment Rate	%	62	58	67	-	-

▼ 僱員流失 Employee Turnover

披露事項 Disclosure Item	單位 Unit	2024	2023	2022	2021	2020
-------------------------	------------	------	------	------	------	------

• 總僱員流失率 Total Employee Turnover

公司辦事處 Corporate Offices	%	10	8	8	32	-
Ruashi	%	4	3	1	2	-
Kinsenda	%	10	5	8	7	-
Musonoi	%	16	3	15	4	-
Chibuluma	%	19	88	8	54	-

• 按性別劃分的總僱員流失率 Total Employee Turnover by Gender

公司辦事處 Corporate Offices	男性 Male	%	13	13	12	16	-
	女性 Female	%	6	0	0	45	-
Ruashi	男性 Male	%	4	3	1	2	-
	女性 Female	%	4	6	0	0	-
Kinsenda	男性 Male	%	11	5	9	8	-
	女性 Female	%	5	0	5	2	-
Musonoi	男性 Male	%	16	3	1	4	-
	女性 Female	%	21	9	59	0	-

Chibuluma	男性 Male	%	23	9	9	52	-
	女性 Female	%	0	0	0	60	-
• 按年齡組別劃分的總僱員流失率 Total Employee Turnover by Age Group							
公司辦事處 Corporate Offices	25歲以下 Under 25	%	0	0	0	0	-
	25-35歲 25-35	%	0	13	11	18	-
	36-40歲 36-40	%	13	0	0	0	-
	41-45歲 41-45	%	0	17	0	25	-
	46-50歲 46-50	%	67	0	20	29	-
	51-54歲 51-54	%	0	0	14	83	-
	55歲及以上 55 and above	%	0	0	0	50	-
Ruashi	25歲以下 Under 25	%	0	0	0	0	-
	25-35歲 25-35	%	5	6	0	2	-
	36-40歲 36-40	%	3	1	1	1	-
	41-45歲 41-45	%	3	3	1	2	-
	46-50歲 46-50	%	1	1	1	0	-
	51-54歲 51-54	%	4	2	2	2	-
	55歲及以上 55 and above	%	8	11	3	5	-
Kinsenda	25歲以下 Under 25	%	0	0	0	0	-
	25-35歲 25-35	%	5	3	8	8	-
	36-40歲 36-40	%	8	0	6	9	-

	41-45歲 41-45	%	2	5	8	8	-
	46-50歲 46-50	%	5	2	3	5	-
	51-54歲 51-54	%	4	2	4	5	-
	55歲及以上 55 and above	%	17	8	12	8	-
Musonoi	25歲以下 Under 25	%	4	4	8	0	-
	25-35歲 25-35	%	20	2	17	8	-
	36-40歲 36-40	%	12	2	0	0	-
	41-45歲 41-45	%	17	5	16	8	-
	46-50歲 46-50	%	6	3	10	0	-
	51-54歲 51-54	%	14	4	27	0	-
	55歲及以上 55 and above	%	67	17	33	0	-
Chibuluma	25歲以下 Under 25	%	0	0	0	0	-
	25-35歲 25-35	%	0	0	0	33	-
	36-40歲 36-40	%	50	50	0	75	-
	41-45歲 41-45	%	20	0	0	13	-
	46-50歲 46-50	%	0	0	0	75	-
	51-54歲 51-54	%	0	0	100	67	-
	55歲及以上 55 and above	%	0	0	0	100	-

## ▼ 按僱員類別及性別劃分的培訓情況 Training by Employee Category and Gender

披露事項 Disclosure Item		單位 Unit	2024	2023	2022	2021	2020
受訓僱員總數 Total Number of Employee Trained		/	1,238	1,371	1,047	-	-
受訓僱員百分比 % of Employee Trained		%	74	79	66	-	-
• 按僱員類別劃分的受訓僱員百分比 Percentage of Trained Employees by Employee Category							
公司辦事處 Corporate Offices	高級管理人員 Senior Level	%	33	0	50	-	-
	中層管理人員 Middle Level	%	0	0	7	-	-
	一般僱員 General Level	%	0	20	80	-	-
Ruashi	高級管理人員 Senior Level	%	87	55	92	-	-
	中層管理人員 Middle Level	%	61	76	79	-	-
	一般僱員 General Level	%	100	86	69	-	-
Kinsenda	高級管理人員 Senior Level	%	44	23	39	-	-
	中層管理人員 Middle Level	%	80	51	72	-	-
	一般僱員 General Level	%	63	93	68	-	-
Musonoi	高級管理人員 Senior Level	%	100	100	100	-	-
	中層管理人員 Middle Level	%	100	100	100	-	-
	一般僱員 General Level	%	100	100	11	-	-
Chibuluma	高級管理人員 Senior Level	%	33	0	33	-	-
	中層管理人員 Middle Level	%	25	29	33	-	-
	一般僱員 General Level	%	0	0	0	-	-

• 按性別劃分的受訓僱員百分比 Percentage of Trained Employees by Gender

公司辦事處 Corporate Offices	男性 Male	%	15	10	48	-	-
	女性 Female	%	7	0	33	-	-
Ruashi	男性 Male	%	94	81	74	-	-
	女性 Female	%	86	79	65	-	-
Kinsenda	男性 Male	%	61	69	60	-	-
	女性 Female	%	77	48	79	-	-
Musonoi	男性 Male	%	100	100	20	-	-
	女性 Female	%	100	100	71	-	-
Chibuluma	男性 Male	%	20	20	20	-	-
	女性 Female	%	33	0	50	-	-

▼ 按僱員類別及性別劃分的培訓時數 Training Hours by Employee Category and Gender

披露事項 Disclosure Item	單位 Unit	2024	2023	2022	2021	2020
培訓總時數 <sup>14</sup> Total Training Hours	小時 Hours	10,322	2,378,739	17,006	-	-
每名僱員平均培訓時數 Average Training Hours per Employee	小時 Hours	6	1,364	16	-	-

• 按僱員類別劃分的平均培訓時數 AVERAGE TRAINING HOURS BY EMPLOYEE CATEGORY

公司辦事處 Corporate Offices	高級管理人員 Senior Level	小時 Hours	5	0	39	-	-
	中層管理人員 Middle Level	小時 Hours	0	0	40	-	-
	一般僱員 General Level	小時 Hours	0	2	28	-	-

14. 2023年數據包含了礦場開展的每日健康與安全培訓，故與往年數據差異較大。

Data for 2023 includes daily health and safety training carried out at the mine and therefore differs significantly from previous years' data.

Ruashi	高級管理人員 Senior Level	小時 Hours	9	7	29	-	-
	中層管理人員 Middle Level	小時 Hours	7	5	15	-	-
	一般僱員 General Level	小時 Hours	12	7	15	-	-
Kinsenda	高級管理人員 Senior Level	小時 Hours	1	1	10	-	-
	中層管理人員 Middle Level	小時 Hours	2	3	11	-	-
	一般僱員 General Level	小時 Hours	1	2	11	-	-
Musonoi	高級管理人員 Senior Level	小時 Hours	0	66	44	-	-
	中層管理人員 Middle Level	小時 Hours	0	56	40	-	-
	一般僱員 General Level	小時 Hours	1	11,062	40	-	-
Chibuluma	高級管理人員 Senior Level	小時 Hours	5	0	12	-	-
	中層管理人員 Middle Level	小時 Hours	4	7	12	-	-
	一般僱員 General Level	小時 Hours	0	0	0	-	-
• 按性別劃分的平均培訓時數 Average Training Hours by Gender							
公司辦事處 Corporate Offices	男性 Male	小時 Hours	2	1	32	-	-
	女性 Female	小時 Hours	1	0	34	-	-
Ruashi	男性 Male	小時 Hours	10	7	17	-	-
	女性 Female	小時 Hours	8	5	18	-	-
Kinsenda	男性 Male	小時 Hours	1	2	11	-	-
	女性 Female	小時 Hours	2	3	12	-	-

Musonoi	男性 Male	小時 Hours	1	8,248	58	-	-
	女性 Female	小時 Hours	1	8,372	6	-	-
Chibuluma	男性 Male	小時 Hours	0	5	12	-	-
	女性 Female	小時 Hours	1	0	12	-	-

▼ 健康與安全 Health and Safety

披露事項 Disclosure Item	單位 Unit	2024	2023	2022	2021	2020
• 死亡事故數目 Number of Fatalities						
Ruashi	宗 Number	0	0	0	0	0
Kinsenda	宗 Number	0	0	0	2	0
Musonoi	宗 Number	0	0	0	0	0
Chibuluma	宗 Number	0	0	0	0	0
• 每百萬工時死亡頻率 Fatality Frequency Rate per Million-man Hours Worked						
Ruashi	/	0	0	0	0	0
Kinsenda	/	0	0	0	0.83	0
Musonoi	/	0	0	0	0	0
Chibuluma	/	0	0	0	0	0
• 因工傷損失工作日數 Number of Lost Days Due to Work Injury						
Ruashi	天數 Days	20	0	79	1	62
Kinsenda	天數 Days	0	0	0	0	299
Musonoi	天數 Days	0	0	0	2	29
Chibuluma	天數 Days	0	4	3	5	0

## ▼ 按地理區域劃分的供應商數量 Number of Suppliers by Geographical Region

披露事項 Disclosure Item	單位 Unit	2024	2023	2022	2021	2020
• Ruashi						
剛果(金) The DRC	/	209	161	187	173	272
南非 South Africa	/	56	38	48	49	74
中國 The PRC	/	17	7	6	8	11
贊比亞 Zambia	/	11	10	15	11	22
毛里求斯 Mauritius	/	3	2	2	2	3
阿拉伯聯合酋長國 United Arab Emirates	/	2	2	2	2	2
德國 Germany	/	2	1	2	2	2
英國 United Kingdom	/	2	1	1	1	2
莫桑比克 Mozambique	/	1	1	1	-	-
澳大利亞 Australia	/	1	1	-	1	2
坦桑尼亞 Tanzania	/	1	-	2	-	-
葡萄牙 Portugal	/	1	-	1	-	-
新加坡 Singapore	/	1	-	1	-	-
瑞士 Switzerland	/	1	-	1	-	-
印度 India	/	1	-	-	-	1
芬蘭 Finland	/	-	1	1	-	-
美國 United States of America	/	-	1	1	-	-

加拿大 Canada	/	-	-	-	-	1
供應商總數 Total Number of Suppliers	/	309	226	271	250	392
• Kinsenda						
剛果(金) The DRC	/	337	301	268	244	225
南非 South Africa	/	176	172	163	148	140
贊比亞 Zambia	/	101	94	89	83	78
中國 The PRC	/	27	22	19	15	-
英國 United Kingdom	/	5	5	4	4	-
毛里求斯 Mauritius	/	4	3	3	2	-
荷蘭 Netherlands	/	3	3	3	3	-
澳大利亞 Australia	/	2	2	2	1	-
印度 India	/	2	2	2	-	-
德國 Germany	/	1	1	1	1	-
瑞典 Sweden	/	1	1	1	1	-
瑞士 Switzerland	/	1	1	1	1	-
西班牙 Spain	/	1	1	1	-	-
比利時 Belgium	/	-	1	1	1	-
其他 Other	/	1	-	-	-	23
供應商總數 Total Number of Suppliers	/	662	609	558	504	466

• Musonoi						
剛果(金) The DRC	/	180	89	122	6	-
中國 The PRC	/	54	24	18	24	-
南非 South Africa	/	21	17	16	-	-
贊比亞 Zambia	/	4	4	3	1	-
英國 United Kingdom	/	2	2	2	-	-
法國 France	/	1	1	1	-	-
毛里求斯 Mauritius	/	2	1	-	-	-
加拿大 Canada	/	1	1	-	-	-
其他 Other	/	1	-	-	-	-
供應商總數 Total Number of Suppliers	/	266	139	162	31	-
• Chibuluma						
贊比亞 Zambia	/	N/A	N/A	N/A	N/A	276
供應商總數 Total Number of Suppliers	/	N/A	N/A	N/A	N/A	276

▼ 2024年與供應商管理有關的其他數據 Other Data Related to Supplier Management in 2024

披露事項 Disclosure Item	單位 Unit	Ruashi	Kinsenda	Musonoi
於2024年簽署供應商行為準則的供應商比例 Percentage of suppliers who signed supplier code of conduct in 2024	%	88	100	80
簽署包含環境及勞工要求條款的供應商佔供應商總數百分比 Percentage of total suppliers signing clauses that include environmental and labour requirements	%	80	100	50
已開展社會影響評估的供應商數量 Number of suppliers that have conducted social impact assessments	個 Number	0	1	128
已開展環境影響評估的供應商數量 Number of suppliers that have conducted environmental impact assessments	個 Number	4	1	163
經確定為具有實際及/或潛在重大負面社會影響的供應商數量 Number of suppliers identified as having actual and/or potential significant adverse social impacts	個 Number	0	0	0
經確定為具有實際及/或潛在重大負面環境影響的供應商數量 Number of suppliers identified as having actual and/or potential significant adverse environmental impacts	個 Number	0	0	0
新供應商總數 Total new suppliers	個 Number	30	53	127
使用環境標準評估新供應商的百分比 Percentage of new suppliers using environmental evaluation criteria	%	40	100	85
使用社會標準評估新供應商的百分比 Percentage of new suppliers using social evaluation criteria	%	15	100	33
公司內部通過可持續採購培訓的採購員比例 Percentage of in-house purchasing specialists who have passed sustainable procurement training	%	100	100	75

## ▼ 於社區投資所動用的資源 Resources Contributed to Community Investment

披露事項 Disclosure Item	單位 Unit	2024	2023	2022	2021	2020
健康 Health	千美元 US\$' 000	180	203	682	200	609
教育 Education	千美元 US\$' 000	207	214	33	105	24
農業及生態保護 Agriculture and Ecological Protection	千美元 US\$' 000	976	731	347	470	223
體育及休閒 Sport and Recreation	千美元 US\$' 000	20	31	2	8	10
社區建設及幫扶 Community Construction and Assistance	千美元 US\$' 000	1,839	1,716	961	1,464	372
企業社會責任及關係 Corporate Social Responsibility and Relations	千美元 US\$' 000	121	195	147	68	127
社區投資總額 Total Community Investment	千美元 US\$' 000	3,343	3,090	2,172	2,315	1,365

## 管治 GOVERNANCE

## ▼ 董事會成員結構 Structure of the Board of Directors

## • 按職位劃分的董事會成員 Board of Directors by Position

披露事項 Disclosure Item	單位 Unit	執行董事 Executive Director	非執行董事 Non-executive Director	獨立非執行董事 Independent Non-executive Director	總數 Total
董事人數 Number of Directors	/	2	1	4	7
佔比 Percentage	%	29	14	57	100

## • 按性別劃分的董事會成員 Board of Directors by Gender

披露事項 Disclosure Item	單位 Unit	男性董事 Male Director	女性董事 Female Director	總數 Total
董事人數 Number of Directors	/	6	1	7
佔比 Percentage	%	86	14	100

# 附錄 - 報告指標索引

## Appendices - Reporting Index

### HKEX ESG索引表 HKEX ESG Index

▼ 環境 ENVIRONMENT			
索引 Index	編號 Indicator No.	指標 Subject Areas, Aspects, General Disclosure and KPIs	頁碼 Pages
層面A1:排放物 Aspect A1:Emissions	一般披露 General Disclosure	有關廢氣及溫室氣體排放、向水及土地的排污、有害及無害廢棄物的產生等的：(a) 政策；及 (b) 遵守對發行人有重大影響的相關法律及規例的資料。  Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer; relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste.	42-43, 66-67, 69-71, 73-74
	A1.1	排放物種類及相關排放數據。 The type of emissions and respective emissions data.	75, 206
	A1.2	直接(範圍1)及能源間接(範圍2)溫室氣體排放量(以噸計算)及(如適用)密度(如以每產量單位、每項設施計算)。  Direct (Scope 1) and energy indirect (Scope 2) greenhouse gas emissions (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	44, 201-202
	A1.3	所產生有害廢棄物總量(以噸計算)及(如適用)密度(如以每產量單位、每項設施計算)。  Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	73, 205-206
	A1.4	所產生無害廢棄物總量(以噸計算)及(如適用)密度(如以每產量單位、每項設施計算)。  Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility).	73, 204
	A1.5	描述所訂立的排放量目標及為達到這些目標所採取的步驟。 Description of emissions target(s) set and steps taken to achieve them.	67-68, 74-75
	A1.6	描述處理有害及無害廢棄物的方法, 及描述所訂立的減廢目標及為達到這些目標所採取的步驟。  Description of how hazardous and non-hazardous wastes are handled, and a description of reduction target(s) set and steps taken to achieve them.	73-75

層面A2：資源使用 Aspect A2: Use of Resources	一般披露 General Disclosure	有效使用資源 (包括能源、水及其他原材料) 的政策。 Policies on the efficient use of resources, including energy, water and other raw materials.	45-46, 62
	A2.1	按類型劃分的直接及／或間接能源 (如電、氣或油) 總耗量 (以千個千瓦時計算) 及密度 (如以每產量單位、每項設施計算)。 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 production volume, per facility).	50, 202-203
	A2.2	總耗水量及密度 (如以每產量單位、每項設施計算)。 Water consumption in total and intensity (e.g. per unit of production volume, per facility).	66, 203-204
	A2.3	描述所訂立的能源使用效益目標及為達到這些目標所採取的步驟。 Description of energy use efficiency target(s) set and steps taken to achieve them.	46-49
	A2.4	描述求取適用水源上可有任何問題, 以及所訂立的用水效益目標及為達到這些目標所採取的步驟。 Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency target(s) set and steps taken to achieve them.	62-66
	A2.5	製成品所用包裝材料的總量 (以噸計算) 及 (如適用) 每生產單位佔量。 Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced.	207
層面A3：環境及天然資源 Aspect A3: The Environment and Natural Resources	一般披露 General Disclosure	減低發行人對環境及天然資源造成重大影響的政策。 Policies on minimising the issuer's significant impacts on the environment and natural resources.	54-56
	A3.1	描述業務活動對環境及天然資源的重大影響及已採取管理有關影響的行動。 Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	56-61
層面A4：氣候變化 Aspect A4: Climate Change	一般披露 General Disclosure	識別及應對已經及可能會對發行人產生影響的重大氣候相關事宜的政策。 Policies on identification and mitigation of significant climate-related issues which have impacted, and those which may impact, the issuer.	30-33
	A4.1	描述已經及可能會對發行人產生影響的重大氣候相關事宜, 及應對行動。 Description of the significant climate-related issues which have impacted, and those which may impact, the issuer, and the actions taken to manage them.	34-42

▼ 社會 SOCIAL

• 僱傭及勞工常規 EMPLOYMENT AND LABOUR PRACTICES

索引 Index	編號 Indicator No.	指標 Subject Areas, Aspects, General Disclosure and KPIs	頁碼 Pages
層面B1: 僱傭 Aspect B1: Employment	一般披露 General Disclosure	有關薪酬及解僱、招聘及晉升、工作時數、假期、平等機會、多元化、反歧視以及其他待遇及福利的: (a) 政策; 及 (b) 遵守對發行人有重大影響的相關法律及規例的資料。  Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer; relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare.	86-93
	B1.1	按性別、僱傭類型(如全職或兼職)、年齡組別及地區劃分的僱員總數。 Total workforce by gender, employment type (for example, full- or part-time), age group and geographical region.	101-102, 103-104, 208-213
	B1.2	按性別、年齡組別及地區劃分的僱員流失比率。 Employee turnover rate by gender, age group and geographical region.	102, 213-215
層面B2: 健康與安全 Aspect B2: Health and Safety	一般披露 General Disclosure	有關提供安全工作環境及保障僱員避免職業性危害的: (a) 政策; 及 (b) 遵守對發行人有重大影響的相關法律及規例的資料。  Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer; relating to providing a safe working environment and protecting employees from occupational hazards.	113-116
	B2.1	過去三年(包括匯報年度)每年因工亡故的人數及比率。 Number and rate of work-related fatalities occurred in each of the past three years including the reporting year.	116, 219
	B2.2	因工傷損失工作日數。 Lost days due to work injury.	116, 219
	B2.3	描述所採納的職業健康與安全措施, 以及相關執行及監察方法。 Description of occupational health and safety measures adopted, and how they are implemented and monitored.	117-132
層面B3: 發展與培訓 Aspect B3: Development and Training	一般披露 General Disclosure	有關提升僱員履行工作職責的知識及技能的政策。描述培訓活動。 Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities.	110-111
	B3.1	按性別及僱員類別(如高級管理層、中級管理層等)劃分的受訓僱員百分比。 The percentage of employees trained by gender and employee category (e.g. senior management, middle management).	112, 216-217
	B3.2	按性別及僱員類別劃分, 每名僱員完成受訓的平均時數。 The average training hours completed per employee by gender and employee category.	112, 217-219

層面B4:勞工準則 Aspect B4: Labour Standards	一般披露 General Disclosure	有關防止童工或強制勞工的：(A) 政策；及 (B) 遵守對發行人有重大影響的相關法律及規例的資料。 Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer; relating to preventing child and forced labour.	87-88
	B4.1	描述檢討招聘慣例的措施以避免童工及強制勞工。 Description of measures to review employment practices to avoid child and forced labour.	88
	B4.2	描述在發現違規情況時消除有關情況所採取的步驟。 Description of steps taken to eliminate such practices when discovered.	88
• 營運管理 OPERATING PRACTICES			
層面B5: 供應鏈管理 Aspect B5: Supply Chain Management	一般披露 General Disclosure	管理供應鏈的環境及社會風險政策。 Policies on managing environmental and social risks of the supply chain.	190-191
	B5.1	按地區劃分的供應商數目。 Number of suppliers by geographical region.	220-222
	B5.2	描述有關聘用供應商的慣例，向其執行有關慣例的供應商數目，以及有關慣例的執行及監察方法。 Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, and how they are implemented and monitored.	191-193, 200
	B5.3	描述有關識別供應鏈每個環節的環境及社會風險的慣例，以及相關執行及監察方法。 Description of practices used to identify environmental and social risks along the supply chain, and how they are implemented and monitored.	194-197
	B5.4	描述在揀選供應商時促使多用環保產品服務的慣例，以及相關執行及監察方法。 Description of practices used to promote environmentally preferable products and services when selecting suppliers, and how they are implemented and monitored.	196
層面B6: 產品責任 Aspect B6: Product Responsibility	一般披露 General Disclosure	有關所提供產品和服務的健康與安全、廣告、標籤及私隱事宜以及補救方法的：(a) 政策；及 (b) 遵守對發行人有重大影響的相關法律及規例的資料。 Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have 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.	177-178, 181, 188-189
	B6.1	已售或已運送產品總數中因安全與健康理由而須回收的百分比。 Percentage of total products sold or shipped subject to recalls for safety and health reasons.	177

	B6.2	接獲關於產品及服務的投訴數目以及應對方法。 Number of products and service related complaints received and how they are dealt with.	183
	B6.3	描述與維護及保障知識產權有關的慣例。 Description of practices relating to observing and protecting intellectual property rights.	183-184
	B6.4	描述質量檢定過程及產品回收程序。 Description of quality assurance process and recall procedures.	177-182
	B6.5	描述消費者資料保障及私隱政策, 以及相關執行及監察方法。 Description of consumer data protection and privacy policies, and how they are implemented and monitored.	188-189
	一般披露 General Disclosure	有關防止賄賂、勒索、欺詐及洗黑錢的: (A) 政策; 及 (B) 遵守對發行人有重大影響的相關法律及規例的資料。 Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer; relating to bribery, extortion, fraud and money laundering.	160-161
層面B7:反貪污 Aspect B7: Anti-corruption	B7.1	於匯報期內對發行人或其僱員提出並已審結的貪污訴訟案件的數目及訴訟結果。 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.	151, 162
	B7.2	描述防範措施及舉報程序, 以及相關執行及監察方法。 Description of preventive measures and whistle-blowing procedures, and how they are implemented and monitored.	162-166
	B7.3	描述向董事及僱員提供的反貪污培訓。 Description of anti-corruption training provided to directors and staff.	159, 163

## ▼ 社區 COMMUNITY

索引 Index	編號 Indicator No.	指標 Subject Areas, Aspects, General Disclosure and KPIs	頁碼 Pages
層面B8:社區投資 Aspect B8: Community Investment	一般披露 General Disclosure	有關以社區參與來了解營運所在社區需要和確保其業務活動會考慮社區利益的政策。 Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests.	133-134
	B8.1	專注貢獻範疇(如教育、環境事宜、勞工需求、健康、文化、體育)。 Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport).	135-145
	B8.2	在專注範疇所動用資源(如金錢或時間)。 Resources contributed (e.g. money or time) to the focus area.	146-147, 224

## 其他 ESG索引表 Other Core ESG Indexes

報告框架 Reporting Framework		GRI準則 GRI Standards	SASB標準 SASB Standards	IFRS S2
關於本報告 About This Report		2-1, 2-2, 2-3, 102-47, 102-50		
概覽 Overview	董事會主席致辭 A Message from our Chairman of the Board	102-14		
	關於金川國際 About JCI	2-6, 2-9, 2-28, 102-1, 102-2, 102-3, 102-4, 102-5, 102-6, 102-7, 102-16, 102-18, 102-19		
	我們的可持續發展戰略 Our Sustainability Strategy	2-22, 2-23, 2-24, 102-21, 102-26, 102-29, 102-31		
	重要性及持份者參與 Materiality & Stakeholder Engagement	2-16, 2-29, 3-1, 3-2, 3-3, 102-15, 102-33, 102-34, 102-40, 102-41, 102-42, 102-43, 102-44, 102-46, 102-47, 207-3		
氣候變化 Climate Change	亮點2024 2024 Highlights			
	氣候管治 Climate Governance			Governance: 6 (a), 6 (b)
	氣候戰略 Climate Strategy	102-29		Strategy:-Strategy and decision-making: 14 (a) Risk management: 25 (b), 25 (c)
	氣候風險及機遇 Climate Risks & Opportunities	201-2, 203-1, 203-2	EM-MM-110a.2	Strategy: -Climate-related risks and opportuni- ties: 10 (a), 10 (b), 10 (c) -Business model and value chain: 13 (a) -Financial position, financial performance and cash flows: 15 (b) -Climate resilience: 22 (b) Metrics and targets: 29 (b), 29 (c)
	氣候行動及能源管理 Climate Action & Energy Management	302-1, 302-3, 302-4, 302-5, 305-1, 305-2, 305-3, 305-4	EM-MM-110a.1 EM-MM-120a.1 EM-MM-130a.1	Strategy: -Strategy and decision-making: 14 (c) Metrics and targets: 29 (a)
環境管治 Environmental Stewardship	亮點2024 2024 Highlights			
	環境管理 Environmental Management	3-3, 307-1		
	水資源管理 Water Resources Management	303-1, 303-2, 303-3, 303-4, 303-5	EM-MM-140a.1 EM-MM-140a.2	
	固體廢棄物及廢氣排放物管理 Solid Waste & Air Emissions Management	301-2, 305-7, 306-2, 306-3, 306-5	EM-MM-120a.1 EM-MM-150a.7 EM-MM-150a.4	

	生物多樣性及土地利用 Biodiversity & Land-use	304-2, 304-3	EM-MM-160a.1
	尾礦管理 Tailings Management	306-1, 306-2, 306-3, 306-4, 306-5	EM-MM-150a.1 EM-MM-150a.3 EM-MM-150a.5 EM-MM-150a.9
社會影響 Social Impact	亮點2024 2024 Highlights		
	人權 Human Rights	2-30, 405-1, 406-1, 407-1, 408-1, 409-1, 410-1, 411-1	EM-MM-210a.3 EM-MM-210b.1 EM-MM-310a.2
	賦能僱員 Empowered Workforce	2-7, 2-8, 401-1, 401-2, 403-9, 404-1, 404-2	EM-MM-000.B
	職業健康及安全 Occupational Health & Safety	403-1, 403-2, 403-4, 403-5, 403-6, 403-7, 403-8, 403-9, 403-10	EM-MM-320a.1
	社區繁盛 Thriving Community	203-1, 203-2, 411-1, 413-1	EM-MM-210b.1
穩健管治 Sound Governance	亮點2024 2024 Highlights		
	企業管治 Corporate Governance	2-9, 2-10, 2-11, 2-12, 2-14, 2-15, 2-20, 102-18, 102-22, 102-23, 405-1	
	商業道德 Business Ethics	2-25, 2-26, 205-1, 205-2, 102-16, 102-17, 206-1	EM-MM-510a.1
	風險評估及管理 Risk Assessment & Management	102-30	
經濟韌性 Economic Resilience	亮點2024 2024 Highlights		
	經濟表現 Economic Performance	201-1	EM-MM-000.A
	產品責任 Product Responsibility	416-1, 416-2, 418-1	
	可持續供應鏈 Supply Chain Sustainability	204-1, 308-1, 414-1	
附錄 Appendices	可持續發展績效數據 Sustainability Performance Data	102-47	
	報告指標索引 Reporting Index	102-54, 102-55	
	氣候風險釋義 Climate Risk Definition	201-2	

# 附錄 - 氣候風險釋義

## Appendices - Climate Risk Definition

金川國際情景分析採用國際公開、權威的氣候數據進行底層建模，其實體風險有關釋義、數據來源等詳細信息<sup>15</sup>如下表所示。

JCI Scenario Analysis uses internationally recognised and authoritative climate data for the underlying modeling. The detailed information on physical risks, such as interpretation and data sources, is shown in the table below.

風險類別 Risk Type	風險名稱 Risk Name	評估指標及其定義 Assessment Indicator and Its definition	覆蓋維度 Coverage	分辨率 Resolution	數據來源 Data Source
急性 Acute	極端高溫 Extreme Heat	熱浪強度：某地夏季氣溫超過該地正常水平的事件的頻次及持續時間 Heat intensity: the frequency and duration of events in which the summer temperatures at a given location exceed the normal level.	全球 Global	25km	<ul style="list-style-type: none"> <li>第六次國際耦合模式比較計劃 (CMIP6) Coupled Model Intercomparison Project Phase 6 (CMIP6)</li> <li>美國國家航空航天局 (NASA) National Aeronautics and Space Administration (NASA)</li> </ul>
急性 Acute	極端降水 Extreme Precipitation	暴雨強度：某地某時間段內降水量超過該地正常水平的事件的頻次及持續時間 Heavy rainfall intensity: the frequency and duration of events in which precipitation exceeds the normal level at a given location for a given time period.	全球 Global	25km	<ul style="list-style-type: none"> <li>第六次國際耦合模式比較計劃 (CMIP6) Coupled Model Intercomparison Project Phase 6 (CMIP6)</li> <li>美國國家航空航天局 (NASA) National Aeronautics and Space Administration (NASA)</li> </ul>
急性 Acute	滑坡 Landslides	滑坡頻率：某地某年發生滑坡災害的頻次 Landslide frequency: the frequency of landslides in an area in a given year.	全球 Global	1km	<ul style="list-style-type: none"> <li>世界銀行全球減災與恢復基金 (GFDRR) Global Facility for Disaster Reduction and Recovery (GFDRR)</li> </ul>
慢性 Chronic	乾燥趨勢 Dry Trend	乾燥天數：以某時間段內的持續未降水天數來衡量特定地點的乾燥趨勢 Drying days: the number of days without continuous precipitation in a given time period.	全球 Global	25km	<ul style="list-style-type: none"> <li>第六次國際耦合模式比較計劃 (CMIP6) Coupled Model Intercomparison Project Phase 6 (CMIP6)</li> <li>美國國家航空航天局 (NASA) National Aeronautics and Space Administration (NASA)</li> </ul>

15.資料來源：妙盈科技 (MioTech) 氣候風險方法論。

Source: MioTech's Climate Risk Methodology.

慢性 Chronic	濕潤趨勢 Wet Trend	降水天數：以某時間段內的持續降水天數來衡量特定地點的濕潤趨勢  Precipitation days: the number of consecutive precipitation days in a given time period.	全球 Global	25km	<ul style="list-style-type: none"> <li>第六次國際耦合模式比較計劃 (CMIP6) Coupled Model Intercomparison Project Phase 6 (CMIP6)</li> <li>美國國家航空航天局 (NASA) National Aeronautics and Space Administration (NASA)</li> </ul>
慢性 Chronic	變暖趨勢 Warming Trend	變暖天數：某地某時間段內氣溫持續高於歷史同期水平的天數  Warm spell duration index: the number of days when the temperature consistently exceed the historical level for the same period.	全球 Global	25km	<ul style="list-style-type: none"> <li>第六次國際耦合模式比較計劃 (CMIP6) Coupled Model Intercomparison Project Phase 6 (CMIP6)</li> <li>美國國家航空航天局 (NASA) National Aeronautics and Space Administration (NASA)</li> </ul>
慢性 Chronic	水短缺 Water Scarcity	徑流深度：在某時間段內地表水及地下水徑流的深度  Depth of runoff: the depth of surface and groundwater runoff during a given period of time.	全球 Global	10km	<ul style="list-style-type: none"> <li>世界資源研究所 (WRI) World Resources Institute (WRI)</li> </ul>

15/F, Tower 2, Admiralty Centre  
18 Harcourt Road, Admiralty, Hong Kong  
香港金鐘夏慤道18號海富中心2座15樓

[www.jinchuan-intl.com](http://www.jinchuan-intl.com)



本產品採用 FSC™ 認證的和其他受控來源的材料。紙漿無氯氣漂染及不含酸性。FSC™ 標誌表示產品所含的木料來自管理良好的森林；該等森林根據Forest Stewardship Council™ 的規例獲得認可。

The product is made of FSC™ certified and other controlled material. Pulps used are chlorine-free and acid-free. The FSC™ logo identifies products which contain wood from well-managed forests certified in accordance with the rules of the Forest Stewardship Council™.