

2023 CMOC
Environmental, Social
and Governance Report





CONTENTS

About this Report

Global Reporting Initiative (GRI)	01
Cautionary Statement	01

About CMOC

External Initiatives	04
Message from the Chairman of the Board of Directors	04
Management Approach	05

Environment

Tailings	11
Reclamation	13
Biological Diversity	14
Resource Management	15
Emission Management	17
Climate Change	19

Employees

Safety	24
Occupational Health	26
Employment	26
Training and Career Development	29

Community

Stakeholder Engagement	33
Community Development	35
Land Acquisition and Resettlement	40
Human Rights	41

Product

Supply Chain Management	45
Product Stewardship	48
Business Ethics and Transparency	49

Data Overview

ESG Content Index	53
GRI Content Index	59
Assurance Statements	64

CMOC Task Force on Climate-related Financial Disclosures (TCFD) Report 2023

Governance	67
Strategy	68
Risk Management	78
Metrics and Targets	79

About this Report

The *Environmental, Social and Governance Report* (hereinafter “this report” or “ESG report”) provides an account of the performance of CMOC Group Limited (hereinafter “CMOC”, “we”, or “the company”) in terms of fulfilling environmental, social, and governance responsibilities in 2023. For more information about the company, please refer to the 2023 Annual Report issued by the company on the Shanghai Stock Exchange (SSE) and the Hong Kong Stock Exchange (HKEX).

This report is compiled based on the *Environmental Information Disclosure Guide* issued by the SSE and the *Environmental, Social and Governance Reporting Guide* (HKEX Reporting Guide), including conformance with the latter’s “comply or explain” provisions, as published by the HKEX. Information and data in the report are obtained from CMOC’s official documents and statistical reports, as well as summaries and statistics provided by its affiliates. The scope of disclosure and entities covered in this report are consistent with the 2023 Annual Report. On 15 December 2023, CMOC sold its stake in the Northparkes Mines (“NPM”) operation in Australia. To provide an accurate reflection of the company’ s operations across the whole reporting year, NPM is still included in the scope of disclosure.

This report was published on March 22, 2024 following review and approval by the Board of Directors. Data and information in this report reflect the reporting period from January 1, 2023 to December 31, 2023, which is consistent with the 2023 Annual Report. Additional information that is relevant to the subject matter of this report and derived from events in 2024 prior to the publication date may also be included to ensure that investors have full access to material information. Events after the reporting period are clearly identified as such in the body of the text. We encourage users of this report to contact our sustainability department for inquiries (esg@cmoc.com). This report can be downloaded from the official websites of the company (www.cmoc.com), SSE (www.sse.com.cn), or HKEX (www.hkexnews.hk).

The boundaries of this ESG report represent a snapshot in the evolution of the company and its sustainability governance structure. CMOC published its first ESG report in 2017, and

continues to publish an updated ESG report on an annual basis. In 2018, the company designated the Board of Directors as the highest governance body for ESG matters, established a Strategic and Sustainability Committee at the Board level, and formulated a roadmap for a sustainability governance system. In recent years, the company has continued to build, update, and implement this sustainable governance system in accordance with the roadmap. We have nominated a member of the senior management in charge of ESG, and established a three-tier ESG management framework to oversee the implementation of ESG strategy and policies, with clear divisions of responsibility for the Board, senior executives, and our individual operating sites. In 2023, we published the *Responsible Production and Sourcing Policy*, which is benchmarked against the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas (“OECD Guidance”) and enshrines our commitment to due diligence and sustainable business practices throughout the mineral supply chain. CMOC currently has in place 13 compliance and sustainability policies, namely the *Code of Business Conduct*, *Supplier Code of Conduct*, *Anti-Corruption Policy*, *Export Controls Policy*, *Economic Sanctions Policy*, *Human Rights Policy*, *Environmental Policy*, *Community Policy*, *Health, Safety, and Environmental Policy*, *Employment Policy*, *Anti-Money Laundering Policy*, *Global Guidelines on Privacy*, and *the Responsible Production and Sourcing Policy*. The sustainability policies mentioned in this report are applicable to CMOC and all of its directly or indirectly controlled or majority-owned subsidiaries. These policies can be found on and downloaded from the official website of the company (www.cmoc.com). As in 2022, the company continued to seek external assurance this year, expanding coverage to all four international mining sites (namely Tenke Fungurume Mining and CMOC Kisanfu Mining in the Democratic Republic of the Congo, CMOC Brasil in Brazil, and Northparkes Mines in Australia) and IXM. Chinese mining operations are not currently covered in the scope of the assurance.

In 2023, MSCI ESG Ratings¹ upgraded CMOC’ s rating from “A” to “AA” .

Global Reporting Initiative (GRI)

As in 2022, in addition to addressing disclosure requirements of the SSE and HKEX Reporting Guide, this report also provides disclosures on material sustainability matters in accordance with the Global Reporting Initiative (GRI) Standards framework. The GRI disclosures were reported according to a harmonized data reporting process that included all business operations. Indexes to the HKEX ESG and the GRI content of this report are appended.

Cautionary Statement

This report includes forward-looking statements. All statements in this report, dated March 22, 2024, other than disclosures of historical facts, that address business activities, events, or developments that the company expects or anticipates may or will occur in the future (including but not limited to projections, targets, estimates, and business plans) are forward-looking statements. A range of factors and uncertainties may cause the company’s actual results or developments to differ materially from those indicated by these forward-looking statements. The company undertakes no obligation or responsibility to update these statements, nor do the statements constitute a substantive commitment by the company to investors. Investors are advised to pay attention to investment risks.

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About CMOC

Headquartered in the People’s Republic of China, CMOC is a public holding company engaged in the mining, processing, and trading of base and rare metals. With its main business presence in Asia, Africa, South America, and Europe, the company is one of the world’s largest producers of tungsten, cobalt, niobium, and molybdenum, as well as a leading copper producer. It is also a major producer of phosphatic fertilizers in Brazil and ranks among the world’s leading base metals merchants through CMOC’s wholly-owned subsidiary IXM. The company is listed on the Shanghai Stock Exchange (SHA: 603993) and the Hong Kong Stock Exchange (HKEX: 03993).

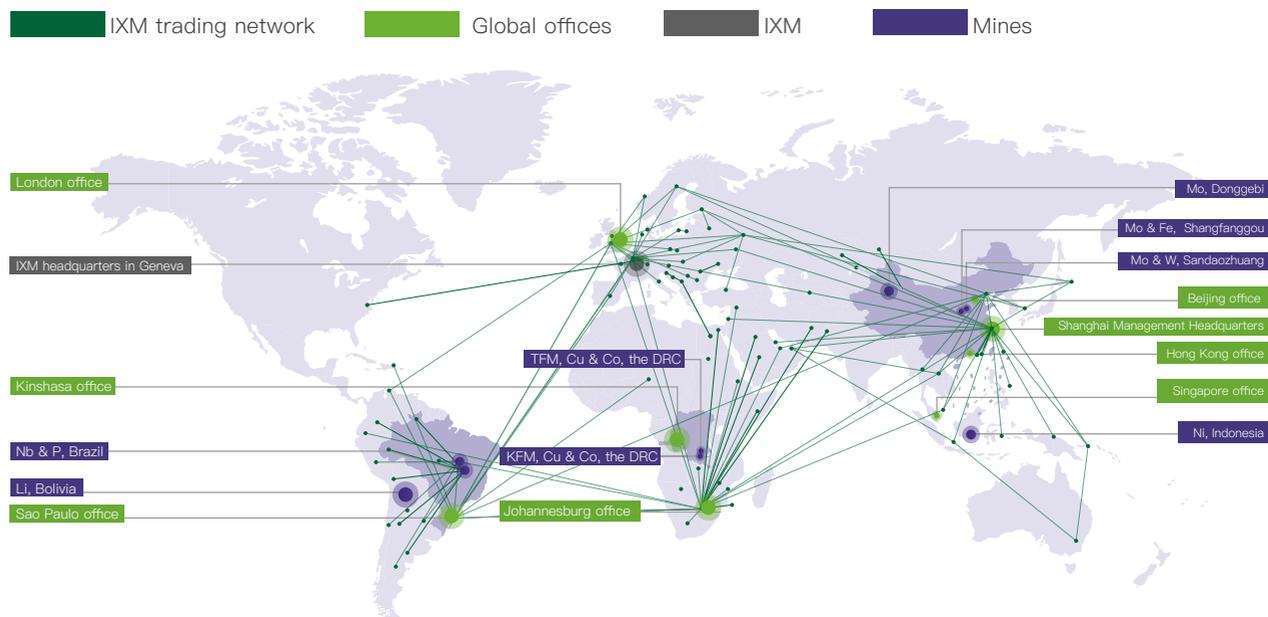
Specialized in the mining and trading of metals, CMOC has a vision to be a highly esteemed, modern and world-class resources company. In order to leverage the strategic opportunities presented by the global energy transition and achieve the company’s long-term goals, CMOC has set out a number of overarching development goals for the future, to be implemented in three steps: First, the company has “laid a foundation” by cutting costs and raising efficiency, while upgrading organizational structures and establishing global governance mechanisms, so as to create systems and improve mechanisms to attract top mining talent and build capacity. Second, the company will “level up” by ramping up construction and production at CMOC’s world-class TFM mixed mine and KFM mine, with a view to doubling output and equipping company personnel with valuable expertise. This stage will also involve the enhancement of modern governance practices to improve the management of subsidiaries. Third, the company will seek to “leap forward” and become a world-class company, which will involve growing the business and company cash flow, developing our workforce and project pipeline, and accelerating the

development of key regions and minerals to achieve the company’s vision and goals.

CMOC’s ESG strategy is closely aligned with the above development goals. First, the company has established an ESG management system which is integrated with the CMOC risk management and governance frameworks. Second, the company will strengthen medium-term and long-term planning, improve ESG performance, develop new management systems for climate change, biodiversity and other issues, and align all our assets with international benchmarks. Third, the company will seek to achieve world-class ESG performance and create favorable

conditions for the company to further access resources, markets, and financing. Currently, CMOC is in the critical “leveling up” phase of its three-stage strategy. In 2023, following continued improvements to our ESG governance framework, we shifted our focus to our individual operations by benchmarking ESG management practices against international standards across all our mining sites and IXM business.

As of December 31, 2023, the company’s main mining assets were located in the Democratic Republic of the Congo (DRC), China, and Brazil, and its metal trading business spanned more than 80 countries.



Tenke Fungurume Mining (TFM), located in the Democratic Republic of the Congo.

CMOC holds 80% equity in TFM, one of the world's largest copper and cobalt producers. TFM engages in exploring, mining, processing, refining, and selling copper and cobalt in a mining concession that covers over 1,500 sq. km. The main products are copper cathode and cobalt hydroxide. TFM operates a large, high-grade copper deposit that is also home to one of the world's largest high-grade cobalt deposits. As of the end of 2023, construction of the TFM mixed mine was essentially complete.

CMOC Kisanfu Mining ("KFM"), located in the Democratic Republic of the Congo.

In December 2020, CMOC acquired the KFM copper-cobalt mine, in which it currently holds a 71.25% stake. As one of the world's leading cobalt and copper projects, the KFM mine is home to large untapped resources of high-grade cobalt and copper, and is expected to create significant synergies with TFM's operations. Production activities commenced during the second quarter of 2023.

Sandaozhuang molybdenum-tungsten mine and Shangfanggou molybdenum mine, located in China.

CMOC has the highest ferro-molybdenum and molybdenum oxide production capacity in China. The Sandaozhuang molybdenum-tungsten mine is wholly owned and operated by CMOC, and is home to very large primary deposits of molybdenum and tungsten, which CMOC produces very competitively and at a low cost. The Shangfanggou molybdenum mine in Luanchuan (close to the Sandaozhuang molybdenum-tungsten mine), owned by Fuchuan Mining, a joint venture of CMOC, also has large deposits of molybdenum and iron ore as by-product, which are located close to the surface and relatively easy to mine. Operational capacity continued to increase over the course of 2023.

CMOC Brasil, located in Brazil.

CMOC holds 100% equity in CMOC Brasil, which is a leading producer of phosphate fertilizer in Brazil and spans the entire phosphate supply chain. CMOC Brasil is also a world leading niobium producer and is involved in exploiting and processing niobium minerals. Its main product is ferroniobium.

IXM, headquartered in Switzerland.

With offices in 12 countries and trading activity in more than 80 countries, IXM is fully owned by CMOC. It is one of the largest merchants of non-ferrous metals and plays a key commercial role at each stage of the metals supply chain, fuelling the energy transition.

Production data of CMOC for 2023 is provided below, and can also be found in the CMOC annual report.

Major products	Production volume
Copper metal (tonnes)	419,539
Cobalt metal (tonnes)	55,526
Molybdenum metal (tonnes)	15,635
Tungsten metal (excluding Yulu Mining) (tonnes)	7,975
Niobium metal (tonnes)	9,515
Phosphate fertilizers (1,000 tonnes)	1,170
Gold (ounces)	18,772
Physical trade volume (1,000 tonnes)	5,912

Note: NPM copper metal and gold production for 2023 was reported as of the sale closing date (15 December 2023).

The following table provides a summary of CMOC's key economic contributions to global operations:

For the year ended December 31, 2023 (million RMB)	China	Africa	Brazil	Australia	IXM	Other countries	Total
Payments to suppliers	11,482.4	7,060.9	3,779.6	580.2	139,909.4	4.7	162,817.1
Payments to employees wages and benefits	1,221.7	868.6	478.8	179.7	698.2	19.8	3,466.8
Payments to investors:	4,115.7	559.3	247.5	6.9	1,832.8	-	6,762.3
Dividends	1,820.2	491.7	-	-	-	-	2,311.9
Interest	2,295.5	67.6	247.5	6.9	1,832.8	-	4,450.4
(Refunded) Payments to governments	2,606.6	6,232.5	421.6	174.6	122.0	3.4	9,560.7
Community spending	15.9	218.1	55.7	2.6	3.3	-	295.6
Direct economic contributions	19,442.2	14,939.6	4,983.2	944.1	142,565.6	28.0	182,902.7

CMOC applies the PRC Generally Accepted Accounting Principles when consolidating information in its annual report. At the close of the reporting period CMOC had a total of 11,995 employees and 20,640 contractors across all business segments and corporate management sites. Of this total of 32,635 personnel, 29,439 were male and 3,196 (approximately 10%) female.

External Initiatives

CMOC is a member of the United Nations Global Compact (UNGC), and CMOC CEO Ruiwen Sun has pledged to incorporate the Ten Principles of the UNGC into the company's corporate strategy, organizational culture, and routine operations, as well as work with stakeholders to address global challenges. The company is also committed to supporting the UN's 17 Sustainable Development Goals, as demonstrated by the measures outlined in the various sections of this report.

In China, CMOC is a member of numerous industry associations, including the governing board of the China Mining Association, Chairing Bureau of the China Tungsten Industry Association, Vice-President of the China Nonferrous Metals Industry Association (in addition to Vice-President of the Molybdenum Sub-Committee and Rotating Chair of the Cobalt Sub-Committee), Vice President of the Alliance of Chinese Nonferrous Metals Enterprises for International Capacity Cooperation, and Vice-President of the China Chamber of Commerce of Metals Minerals & Chemicals Importers & Exporters (CCCMC).

CMOC is a sustaining member of the Cobalt Institute, a non-profit international trade association that promotes the sustainable and responsible production and use of cobalt in all forms. The company has also joined the Better Mining initiative and the Fair Cobalt Alliance, through which it supports efforts to improve conditions at artisanal and small-scale mining sites and within neighboring communities. In addition, CMOC participates in the Responsible Minerals Initiative (RMI), which provides companies with tools and resources to facilitate the responsible sourcing of minerals.

In addition to the initiatives supported by the Group headquarters, our various sites also participate in a range of other initiatives tailored to local needs and operational circumstances. For example, our TFM site in the DRC is a supporting company of the Extractive Industries Transparency Initiative – DRC (EITI-DRC) and the Lubumbashi Working Group for the Voluntary Principles on Security and Human Rights (VPSHR). Our KFM operation has also joined the Kolwezi Working Group for the VPSHR. In August 2023, TFM became the first African mine to participate in the Copper Mark, a leading assurance framework that aims to promote responsible production practices.

Message from the Chairman of the Board of Directors

In 2023, CMOC achieved significant milestones in its journey. Despite facing a volatile global landscape and substantial development tasks, our global team united to overcome these challenges. It was a year marked by successes: resolving the TFM royalties dispute, successfully initiating two world-class projects in the DRC, and achieving unprecedented operating results. However, we are also aware that the swift strengthening of our market position will attract increased scrutiny from stakeholders. The execution of our environmental and social responsibilities is under the microscope, leaving no room for error in our ESG work.

We're proud to report groundbreaking accomplishments in the ESG domain. Under the guidance of our climate vision, we unveiled the Carbon Neutral Roadmap and Action Plan. All of our mining sites joined forces to conduct carbon assessments and formulate the CMOC 2030 Peak Carbon Emissions Implementation Plan. Furthermore, we commenced climate-related financial disclosures, laying the groundwork for more impactful climate action.

In the DRC, our TFM copper-cobalt mine conducted its first human rights due diligence assessment, published its inaugural standalone ESG report and responsible supply chain due diligence report, completed the first RMAP audit, and became the first African participating site committed to meeting all of the Copper Mark standards. These pioneering efforts will serve as a benchmark for all CMOC mines operating in high-risk areas. Under our increasingly unified ESG management framework, both Chinese mining site and KFM conducted their first gap analysis against RRA criteria. Additionally, IXM issued its own standalone sustainability report and was awarded a Gold rating by Ecovadis, demonstrating continuous improvement in its due diligence system and information disclosure.

Nevertheless, we are acutely aware of the challenges ahead. With the rapid expansion of production output, there is an urgent need to invest more resources in strategic planning and daily management to improve our environmental performance. Likewise, in the social sphere, despite maintaining an active

community investment strategy for many years, our assessment and tracking of social impacts remain inadequate, and we must enhance engagement with stakeholders further. Governance-wise, there are numerous areas where we need to improve our systems and processes: business integrity and contractor management stand out as significant risk areas, necessitating a collective increase in awareness and capabilities among all staff.

As the cornerstone of any industrial operation, safety remains paramount. We are deeply saddened by the workplace fatalities that occurred in 2023. If we once took pride in any past achievements, the painful lessons of last year were a sobering reminder of our responsibilities. With unwavering determination, we are dedicated to swiftly reversing the situation to ensure both safe production and sustainable operations.

Looking ahead, 2024 is going to be a "year for management excellence" for CMOC. We are focused on refining management practices to drive high-quality development across the company. ESG work will play a pivotal role, ushering in qualitative improvements that should not only be reflected in numbers and reports but also genuinely felt by stakeholders such as employees and community members.

Finally, I extend my heartfelt gratitude to all employees for their commitment to our company's sustainable journey. I also extend thanks to shareholders, local governments, community residents, and non-governmental organizations for their steadfast support, as well as to our customers and partners for placing their trust in us. Let us continue witnessing CMOC's rise together.



March 22, 2024

Management Approach

As a company with a growing international presence, CMOC fully recognizes the importance of sustainable development in its access to resources, markets, and financing. In recent years, international and Chinese stakeholders' expectations of sustainability-related issues have been evolving rapidly. We face a combination of increasingly high expectations and strict regulatory requirements on matters including the environment, tailings, and contractor management. Following the completion of the first phase of our three-step growth strategy, we have established a three-tier ESG management framework with clear divisions of responsibility for Board members, senior executives, and our individual operating sites. As we enter the second "leveling up" phase, we are enhancing our medium- to long-term planning to deliver continued improvements to our ESG performance. In particular, in those material and high-risk areas, such as HSE, tailings management, contractor management and illegal artisanal mining issue, CMOC will further identify gaps, allocate resources, implement corrective action plans, and improve performance. To this end, in 2023 we strengthened strategic guidance at the Group level and improved management practices across our various operations.

At the Group level, the ESG department is responsible for the implementation of sustainability policies. In 2023, the department worked across three key policy areas: environmental, social, and information disclosure. We have defined uniform ESG standards that apply across the Group. For our mining business, risks are primarily managed and assessed using the Risk Readiness Assessment (RRA) published by the RMI and The Copper Mark; for our metals trading business, due diligence procedures for the mineral supply chain are aligned with the OECD Guidance and The Copper Mark's Joint Due Diligence Standard for Copper, Lead, Molybdenum, Nickel and Zinc. The ESG department monitors and provides technical guidance on the implementation of the aforementioned ESG standards for each business unit. In accordance with the sustainable development strategy formulated by the Board of Directors, the ESG team provides guidance to Group-level

departments and each of our operating units in order to strengthen medium- and long-term planning, and to ensure that ESG strategic risk considerations are fully incorporated into new construction projects, production, and other processes. For example, in early 2023 we published our Group-wide Carbon Neutral Roadmap, and in the second half of the year the ESG department instructed all our mining sites to assess their carbon footprint, identify opportunities for reducing emissions, and develop a plan for achieving peak carbon emissions by 2030. The ESG department organized a range of themed ESG training sessions for all levels of staff and strengthened its communications strategy to raise awareness of our ESG-related initiatives both within the company and among the wider public.

At the business unit level, in 2023, all of our operations appointed an ESG senior executive and established an ESG team, which is responsible for coordinating and strengthening cross-departmental collaboration on ESG-related matters such as HSE, human resources, compliance, and community, as well as ensuring alignment with international standards and driving continuous improvements in ESG performance. Each operation has developed its own quantitative ESG key performance indicators in order to encourage management-level staff to focus on priority areas. In accordance with the Group ESG strategy, all our operations initiated measures to perform RRA gap analysis and conduct third-party ESG audits based on stakeholder requirements and the characteristics of their respective metal products.

CMOC's compliance and sustainability policies are applicable to the entire Group, as well as all of its directly or indirectly controlled or majority-owned subsidiaries. As part of our commitment to aligning with international benchmarks, these policies reference international best practice frameworks, including the International Finance Corporation's (IFC) Environmental and Social Performance Standards, the International Labor Organization (ILO) Conventions, the International Bill of Human Rights, the UN

Guiding Principles on Business and Human Rights (UNGPs), the Voluntary Principles on Security and Human Rights (VPSHR), the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas ("OECD Guidance"), and the Risk Readiness Assessment (RRA). Guided by these policies, each of our sites has formulated and updated its own administrative measures and procedures to reflect actual circumstances and material risks.

External Assurance and Audits

All our established mining sites (China, CMOC Brasil, and TFM) undergo recurrent third-party audits to verify their alignment with applicable certification and compliance schemes in environmental, quality, health, and safety management, including ISO14001, ISO45001, and ISO9001. As a greenfield project which commenced production in 2023, our KFM site is currently working to establish a range of management systems in line with ISO requirements with the intention of achieving certifications in the near future.

In addition to aligning with ISO standards, in accordance with our Group-wide strategy and to ensure that our ESG performance meets international standards, we encourage all our mining sites to undergo third-party ESG audits and certifications. For example, in 2020, CMOC China's tungsten operation was audited against the Responsible Minerals Assurance Process (RMAP) of the Responsible Minerals Initiative; in 2023, our tungsten operation remained on the list of RMAP Conformant Tungsten Smelters. In June 2023, our TFM site in the DRC commissioned an RMAP audit, leading to TFM's inclusion on the RMAP Conformant Copper Processors and RMAP Conformant Cobalt Refiners lists in February 2024. In addition, as Africa's first participating site to The Copper Mark, TFM has committed to meeting all Copper Mark standards within the next two years. An on-site assessment was completed in January 2024 and the decision on award is being awaited at the time of writing.

In 2023, we continued to seek external assurance on the progressive implementation of the RMI'S RRA at our 4 international mining sites, as well as the assertions made in this report regarding IXM. CMOC has retained the services of Corporate Integrity Ltd. for this purpose. Their assurance statements can be found annexed to this report. During the assurance process, assurance specialists conducted interviews with the CEO, the ESG Vice President, and other Group senior executives, as well as with senior management staff across our various operations.

Governance

Under CMOC's ESG management framework, responsibilities are divided among the Board of Directors (the company's highest governing body), senior management, and individual operating sites. The CMOC Board of Directors (the Board) is responsible for risk oversight. There are four standing committees on the Board, namely Strategic and Sustainability, Audit and Risk, Nomination and Governance, and the Remuneration Committee. The Strategic and Sustainability Committee is led by the Chairman of the Board of Directors and is responsible for formulating the company's sustainability strategy. It also works with the Audit and Risk Committee to review and report non-financial material risks to the full board, and discuss with management the adequacy of measures to identify and manage sustainability-related material risks. Members of the company's highest governing body and senior executive team engage with investors and other stakeholders on ESG-related topics on a regular basis. In addition, the company is committed to improving the shared knowledge, skills, and expertise of the highest governing body in relation to sustainable development, and to encouraging Board members to participate in training organized by regulatory bodies or industry organizations. Among Board members, equity incentives for Director-level positions (Chairman of the Board and both Executive Directors) are linked to the

company's overall performance, including ESG indicators.

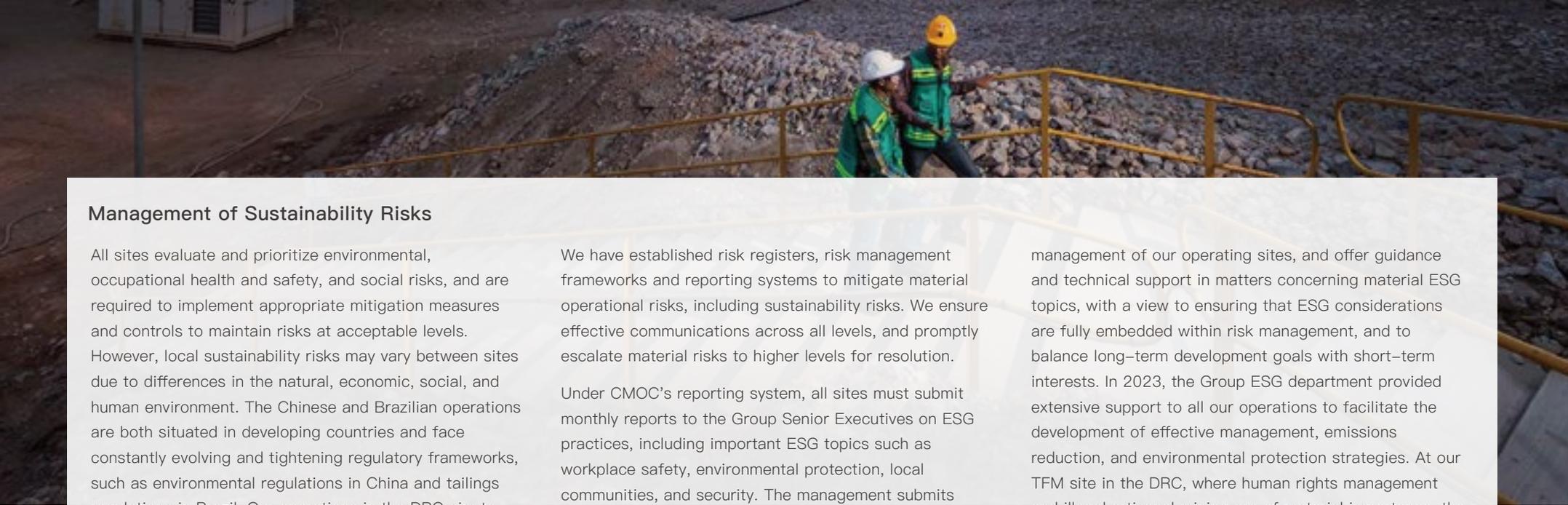
The Chairman of the Board of Directors and the Group Senior Executives are based at the company headquarters in China. We have appointed a Vice President for Sustainable Development, who is responsible for the Group ESG department and reports to the Group CEO and the Strategic and Sustainability Committee of the Board. The Vice President for Sustainable Development is responsible for executing Board decisions on sustainability matters, overseeing the implementation of the company's sustainable development strategy, monitoring and assessing sustainability-related risks at each of our operating sites, and managing the work of the Sustainability Executive Committee. At the executive level, the Sustainability Executive Committee established by the company in 2019 is a multifunctional organization whose members are nominated from the Board Office, HSE, Internal Control and Audit, Legal and Compliance, Global Supply Chain, Human Resources, Business Development, Commodity and Marketing, Anti-Corruption, and ESG departments. Its primary role is to promote cooperation and collaboration between functional departments on key ESG topics and seek cross-cutting solutions.

The Board of Directors and executive management attach great importance to risk control and audit procedures, which constitute a key part of Group-wide risk management policies. In 2023, after being briefed on comprehensive risk management and audit work, the Group senior management team decided to focus on two key areas. First, we published the Group's *Comprehensive Risk Management System* which is aligned with the standards and requirements of *ISO31000:2018 – Risk Management Guidance* and the *Comprehensive Risk Management Guidelines for Central State-Owned Enterprises*, taking into account the nature of the mining industry and the Group's unique circumstances. By implementing risk registers, tracking critical risks, and monitoring sources of material risks, we incorporated risk

management processes into operations management and increased the effectiveness of our risk management policies. We also further clarified the roles and responsibilities of the framework of four lines of defence: business units are the first line of defence, responsible for risk prevention and control; Headquarters functional departments the second line, responsible for supervision and guidance; the Internal Control and Audit Department the third line, responsible for streamlined management; while the Anti-Corruption Department and the Internal Control and Audit Department jointly play the role of the last line of defence, responsible for audits and investigations. Second, we continued to streamline our audit systems and procedures in order to identify deficiencies, close loopholes, improve management policies, and reduce costs. On the one hand, we focused on key aspects such as procurement bids and project management, which were subject to regular oversight through a combination of routine and targeted audits. In addition, the Internal Control and Audit department conducted needs-tailored regional audits in consultation with the Chief Audit and Supervision Officer of each operating site.

Business Ethical Values

Our *Responsible Production and Sourcing Policy*, *Code of Business Conduct (CBC)*, *Anti-Corruption Policy*, *Supplier Code of Conduct*, *Health, Safety, and Environment Policy*, and *Employment Policy* address CMOC positions on business ethics, including human rights, anti-corruption, and conflicts of interest, as well as the promotion of safe and healthy operations, workplace equality, and the elimination of discrimination. All staff are required to undergo regular compliance training on the CBC and Anti-Corruption policies. These policies also communicate the responsibility of individual employees and suppliers to report violations of company policies or the law. They also provide guidance for acting on that obligation, including use of the company's whistleblower channel.



Management of Sustainability Risks

All sites evaluate and prioritize environmental, occupational health and safety, and social risks, and are required to implement appropriate mitigation measures and controls to maintain risks at acceptable levels. However, local sustainability risks may vary between sites due to differences in the natural, economic, social, and human environment. The Chinese and Brazilian operations are both situated in developing countries and face constantly evolving and tightening regulatory frameworks, such as environmental regulations in China and tailings regulations in Brazil. Our operations in the DRC aim to comply with international standards in areas where local laws and regulations are weak or absent. However, the low level of socio-economic development and the weak infrastructure present a significant challenge for industrial business operations. In recent years, the significant influx of migrants into the region has caused increasing pressure associated with illegal artisanal mining and community development within the TFM concession. As a new mining operation that has not yet developed a robust talent pipeline and management systems, the main challenge faced by KFM is to establish a comprehensive ESG management framework in line with international standards, the Group's policies, applicable domestic and international laws, and international best practices. As a metals trading company, the main challenge faced by IXM lies in the increasing scrutiny from stakeholders on the sustainability risks within the mineral and metal supply chain. Therefore, we aim to continually strengthen due diligence on upstream suppliers to ensure that upstream mines and smelters comply with the environmental and social requirements set out in *IXM's Responsible Sourcing Policy*.

We have established risk registers, risk management frameworks and reporting systems to mitigate material operational risks, including sustainability risks. We ensure effective communications across all levels, and promptly escalate material risks to higher levels for resolution.

Under CMOC's reporting system, all sites must submit monthly reports to the Group Senior Executives on ESG practices, including important ESG topics such as workplace safety, environmental protection, local communities, and security. The management submits quarterly reports to the Board that feature a dedicated chapter on safety, environmental protection, ESG performance, and other relevant topics. Matters of ESG strategy that could have a material impact on company operations are referred to the Board by the Strategic and Sustainability Committee for deliberation and vote.

In 2023, guided by the Internal Control and Audit department and supported by the ESG department, we started to implement the updated version of our Group-wide *Comprehensive Risk Management System*. By establishing risk registers, the company is able to incorporate risk management into operational management processes by developing and implementing action plans for the highest ranked risks, including ESG risks. Risk registers undergo six-monthly reviews by corporate and site management leadership in order to update risk ratings and accompanying action plans and procedures. The corporate risk register is formulated and updated by the Internal Control and Audit department and presented annually to the Audit and Risk Committee of the Board for deliberation.

The Group headquarters also participate directly in the

management of our operating sites, and offer guidance and technical support in matters concerning material ESG topics, with a view to ensuring that ESG considerations are fully embedded within risk management, and to balance long-term development goals with short-term interests. In 2023, the Group ESG department provided extensive support to all our operations to facilitate the development of effective management, emissions reduction, and environmental protection strategies. At our TFM site in the DRC, where human rights management and illegal artisanal mining are of material importance, the Group headquarters worked with the local ESG team to conduct human rights due diligence and implement a diverse range of measures to manage the risks related to illegal mining. At KFM and our Chinese operations, the Group ESG department worked with local ESG teams to conduct gap analysis on 32 RRA standards and formulate an action plan to address identified gaps.

IXM implements a risk-based management approach and conducts due diligence in order to determine the severity and probability of supplier risks, especially with regard to suppliers in conflict-affected and high-risk areas, for which reasonable steps are taken to implement the due diligence framework envisaged by the OECD Guidance. In 2023, IXM continued to improve its sourcing management system by publishing a new *Responsible Sourcing Policy* and enhancing its *Third-Party Due Diligence Management Procedure*.

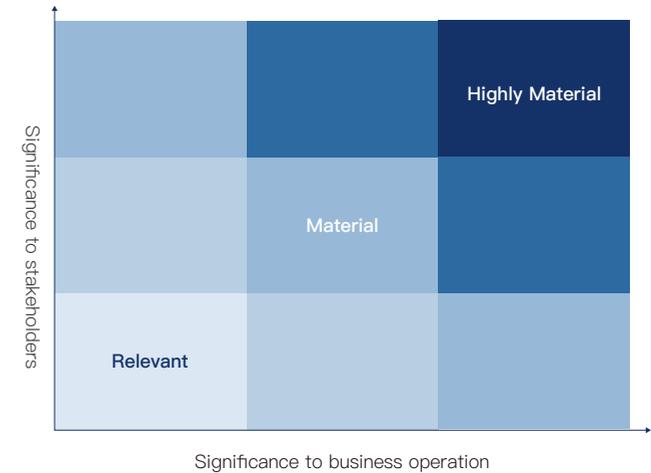
Our materiality assessments, stakeholder engagement, grievance mechanisms, risk registers, and due diligence procedures help to inform us of our key material issues and areas of risk, and to prioritize risk management activities.

Materiality

CMOC conducts materiality assessments to determine the issues that could have the greatest impact on stakeholders, the economy, the environment, and society, as well as to identify material risks to CMOC's business in terms of accessing capital, finance, markets, and resources. In accordance with the HKEX Reporting Guide and the Global Reporting Initiative (GRI) reporting principles, CMOC has conducted a Group level assessment to identify material issues at our operations for inclusion in our ESG report. These issues help shape risk management interventions at all of our sites, while ensuring we address the material concerns of stakeholders.

Using the guidance referred to above on materiality, our assessment was conducted by considering stakeholder feedback on priority issues according to the current understanding of the CMOC management and ESG team, corporate and site-based risk registers, and feedback from internal and external stakeholders associated with individual operating sites. Notable stakeholder groups providing feedback on sustainability matters include employees, regulatory agencies, investors and financial institutions, downstream customers, communities, human rights-focused NGO associations, and providers of audit and assurance services. Material issues resulting from this information were then prioritized in a materiality matrix and vetted by senior executives of the Group and the Sustainability Executive Committee.

Highly Material	Material
Business ethics & transparency	Economic value generated
Health & safety	Reclamation and closure
Human rights	Biodiversity
Product stewardship	Water
Environment	Energy
Tailings management	Climate change
Community	Air quality
Labor relations	Waste/dangerous goods
Government relations	
Suppliers/contractors management	



Stakeholders

CMOC regards stakeholder engagement as a critical tool in the management of risk and the creation of value for businesses under our management. Strategies for engaging with stakeholders at our operating sites are described in the "Community" section of this report. An overview of relations with stakeholders is presented below.

Stakeholder group	Areas of interest	Engagement methods
Employees and contractors	<ul style="list-style-type: none"> Competitive compensation and benefits Workplace health and safety Training and capacity Protection of human rights 	<ul style="list-style-type: none"> Meetings with union representation Safety and compliance meetings Internal communications channels Collective bargaining agreements Training and career development Grievance procedures Human rights due diligence
Government and regulatory agencies	<ul style="list-style-type: none"> Compliance with applicable laws and regulations Creating economic benefits Workplace health and safety Benefits to stakeholder communities Environmental stewardship and social responsibility 	<ul style="list-style-type: none"> Compliance reports Permit applications Direct meetings Annual sustainability report Meetings on compliance matters Site visits and inspections
Investors and financial institutions	<ul style="list-style-type: none"> Protecting the rights and interests of shareholders Conducting business in compliance with laws and regulations Climate change Timely disclosures of relevant and accurate information Fulfilling environmental and social responsibilities Improving corporate governance 	<ul style="list-style-type: none"> Shareholders' meetings External reporting Investor meetings and site visits Press releases and announcements Company website External audits
Communities	<ul style="list-style-type: none"> Local development Environmental stewardship and social responsibility Employment Opportunities to furnish goods and services Protection of human rights Land acquisition and resettlement 	<ul style="list-style-type: none"> Scheduled community meetings Notices of procurement opportunities Grievance procedures Focus group meetings Employment notices Human rights due diligence
NGOs	<ul style="list-style-type: none"> Investment in local development Participation in local community programs Environmental stewardship and social responsibility Protection of human rights Equity in sharing benefits 	<ul style="list-style-type: none"> Annual sustainability reporting Direct meetings Contacts through industry groups
Customers	<ul style="list-style-type: none"> Customer service Quality assurance Product stewardship Protection of human rights Environmental stewardship and social responsibility Climate change 	<ul style="list-style-type: none"> Key account meetings Customer visits to operating sites Sustainability reporting Systematic communications Participation in trade associations External audits



Grievance Procedures

To maintain effective stakeholder relationships, we have dedicated systems in place to record and resolve stakeholders' concerns and compliance issues, including those related to employees, the environment, communities, human rights, land use, and contractor management. CMOC provides corporate and subsidiary-level whistleblower channels that are available to all stakeholders and published on the Group's website and the websites of its subsidiaries. The whistleblower channel on the Group's website is anonymous and operated by a third-party, and anonymous whistleblower channels are available at all our operations. At the Group level, complaints are tracked, logged, and resolved by the legal and compliance or anti-corruption department depending on the nature of the complaint. All mining operations and IXM also maintain dedicated grievance systems that can receive and register concerns from employees, partners, the community, and other stakeholders, which are then tracked through the various stages of being addressed and resolved.

At our TFM operation in the DRC, community grievances are managed by a dedicated grievances officer appointed by the community development department, while employee grievances are handled through different channels operated by the legal and compliance team, HR department, and local unions. All members of the community, including TFM employees, are able to voice their opinions and provide feedback. Members of the community can also participate in the grievance resolution process through an independent mediation committee. In 2023, TFM enhanced its procedures for managing community grievances. The site is currently developing new action plans to further improve the speed and quality of responses.

In 2023, the KFM site rolled out a new employee grievance system, under which the General Secretariat, HR team, and ESG department are involved in the handling of complaints and recording into a grievance register. In addition, KFM employs a dedicated officer who records verbal or written complaints from the community, tracks their progress, and provides feedback to complainants.

At our operations in Brazil, complaints from employees, the community, suppliers, partners, and other internal and external stakeholders are received and addressed through a structured management system called "Talk to Us", which tracks, resolves, and then gives feedback to complainants. The HR department also encourages employees to report complaints through informal conversations in order to help the company identify employee concerns at the earliest opportunity. In addition, the community department makes regular visits to local residents in order to collect feedback on the company's operations.

Community grievances at our mining and processing sites in China are managed through a "letters and visits" program, through which local people or organizations can provide information, make comments or suggestions, or lodge complaints to the company through correspondence, emails, faxes, phone calls, and on-site visits. IXM also operates a dedicated complaints hotline, which is listed on the company's website. The compliance department is responsible for the collection, handling, and reporting of complaints.

In 2023, our mining and trading operations received a total of 845 grievances, of which 768 (91%) were resolved. This represents a significant increase in the resolution rate compared with 2022 (44%). Approximately 91% of complaints were associated with the TFM site, which can be attributed to the sizeable geographical area occupied by the mining concession, the dense population, and the large footprint of the mine's operations. Approximately 41% of the complaints received by TFM were in the resettlement category, while 28% were associated with damages. In 2023, the TFM community team enhanced its grievance management procedures, strengthened cross-departmental collaboration, and expedited the processing of complaints. In addition, TFM's IT and community teams are currently developing a new grievance processing system, which will help to increase the transparency of grievance handling processes and speed up processing times.

Reported grievances												
Site	Resettlement	Environment	Employment	Damages	Social/ community	Health /safety	Human rights	Security	Land	Harassment, discrimination and injustice	Other	Total
China	0	2	0	0	0	0	0	2	0	0	5	9
NPM	0	2	0	0	0	0	0	0	0	2	0	4
Brazil	0	25	1	2	0	3	1	0	0	8	6	46
TFM	314	112	93	213	2	3	1	1	17	14	1	771
KFM	1	2	2	0	3	4	1	0	1	0	0	14
IXM	0	0	0	0	0	0	0	0	0	0	0	0
HQ	0	0	0	0	0	0	0	0	0	0	1	1
Total	315	143	96	215	5	10	3	3	18	24	13	845

Environment

In 2023, CMOC continued to implement its *Environmental Policy*, which is applicable to the entire group. The environment is one of the most prominent ESG issues influencing CMOC, covering climate change, greenhouse gas emissions, biodiversity, tailings management, energy, water management, air quality, and mine closure and rehabilitation. As a global mining company, CMOC must manage these issues while meeting the challenges of the different climatic, geographical, ecological, and human environments where we operate, as well as the changing and evolving expectations of stakeholders. CMOC is committed to complying with environmental laws and regulations applicable to our operations. We manage the extent of our environmental impact through risk-based approaches to material issues and adherence to standards. We also invest in a range of projects to reduce pollution and mitigate our environmental impact. In 2023, CMOC spent RMB 252 million on environmental protection.

Our Chinese, Brazilian, and TFM operations maintain mature Environmental Management Systems (EMS) certified to ISO 14001 standards. These management systems are independently audited at each operating site for recertification and include required training and awareness programs for all employees and contractors on environmental objectives and procedures. Our KFM site in the DRC commenced operations in 2023, and is currently developing its own EMS in line with ISO 14001 standards in order to enhance management of environmental risks; a certification of the new EMS will be conducted at the earliest opportunity following its completion.

CMOC aligns itself with international trends and standards,

and continuously monitors and improves its environmental performance by setting long-term strategies and quantitative targets. In 2021, the company set out two long-term visions for climate change and biodiversity, as well as four short-term environmental performance goals for the emissions intensity of nitrogen oxide (NOx) and sulfur oxide (SOx), the share of energy from renewable sources, and the proportion of recycled water. In 2023, we published the *CMOC Carbon Neutral Roadmap and Action Plan*, which sets out our commitment to achieve peak Scope I and Scope II emissions by 2030, net-zero Scope I and Scope II emissions by 2050, and a reduction in our Scope III emissions through a series of short, medium and long-term emission reduction targets.

We will review the implementation of these targets on an ongoing basis. With respect to our environmental performance goals, we have made good progress on increasing the share of energy from renewable sources.

However, progress on other goals has been slower. NOx emissions intensity increased in 2023 compared to 2020 (base year), mainly due to higher stripping and transportation volumes at our open-pit mines in the context of our expansion strategy, resulting in increased gasoline and diesel usage. In 2023, our SOx emissions intensity was on target; however, reductions in SOx emissions were primarily attributable to the shutdown of the acid plant at CMOC Brasil for maintenance work, highlighting the need for further progress on production processes and management strategies. The proportion of recycled water also fell short of our target, mainly due to instable equipment performance during commissioning period at our African mining sites. Our carbon emissions intensity in 2023 was comparable to 2022 (base year). As production volumes begin to stabilize and we continue to introduce energy efficient technologies, we are confident that we can achieve our performance goals ahead of schedule.

CMOC environmental performance goals	Base year	2023	Progress
5% reduction in NOx emissions intensity compared with 2020.	4.29 x 10 ⁻⁵ (t/t processed ore)	5.50 x 10 ⁻⁵	Incomplete
2% reduction in SOx emissions intensity compared with 2020.	5.71 x 10 ⁻⁵ (t/t processed ore)	4.61 x 10 ⁻⁵	Complete
Reuse at least 83% of water by 2025.	NA	79.9%	Incomplete
Source at least 40% of energy from renewables by 2025.	NA	41.4%	Complete
Carbon reduction short-term goal: Reduce emissions intensity by 15% compared with 2022.	0.028 (t/t processed ore)	0.028	Incomplete

Tailings



At our mine operations, ore containing valuable minerals undergoes dressing and smelting processes to extract economically significant minerals. The residual material that is left after the treatment and dressing of the ore is referred to as tailings. Tailings are typically transported and discharged into a tailings storage facility (TSF). TSFs vary greatly in design, capacity, operation, and other factors, but are intended to safely and effectively store tailings, usually in perpetuity. Construction and expansion of one or more TSFs is often an ongoing process over the operating life of the mine.

CMOC is acutely aware of the history of TSF failures and the catastrophic consequences for the public, the environment, and mining businesses involved. We are also conscious that a major TSF incident has the potential to jeopardize community safety and the environment, as well as compromise CMOC's reputation, solvency, viability, and business operations. In view of these material risks, a responsible tailings management is essential to preventing such catastrophes in the future. CMOC maintains and continues to improve engineering design, safety, and environmental management plans, and implements full lifecycle management of tailings facilities to minimize associated risks to communities, the environment, and our operations.

CMOC maintains a set of standards and processes to mitigate risks associated with TSFs and water-retaining structures, including *CMOC's Corporate Governance Standard for Tailings and Mineral Residue Management, Tailings & Dams Quantitative Performance Objective (QPO) Reporting Procedure*, and the *Tailings & Dams Stewardship Team (TDST) Program*. These Governance Standards came into force after being signed off by the CMOC Chairman in February 2019 and were implemented at all of CMOC's business units. Another operational standard entitled *Regulations for Safe Operation of Tailings Storage*

Facilities was released in 2021 to reinforce the operational safety of the TSFs of all CMOC's business units.

CMOC's corporate standards and guidelines for tailings management address six key governance elements: (i) accountability, responsibility, and competency; (ii) planning and resourcing; (iii) risk management; (iv) change management; (v) emergency preparedness and response; and (vi) review and assurance. CMOC implements management strategies that include having qualified tailings managers at both the operations and corporate levels; retaining qualified consultants and assigning TSFs an Engineer of Record (EoR); designing, constructing, operating, and closing TSFs in accordance with international guidelines; implementing surveillance and monitoring programs; and performing systematic third-party reviews.

At the Group level, in response to more stringent regulatory requirements of the countries in which we operate and greater risk aversion among financial institutions, we are working to enhance standards for the governance and oversight of tailing ponds, as well as strengthen monitoring of our various business units by the Group headquarters. We have established a Group-wide TSF register in accordance with international standards, which is updated on a regular basis. The register gives an overview on technical information, engineering records and expert review, risk evaluation (including climate-related and community risks), and other important elements in the life cycle of each facility. Following the guidance of the Group, relevant business units have carried out gap analysis against the Global Industry Standard on Tailings Management (GISTM), and formulated and implemented improvement plans to close the gaps against international standards.

We pay special attention to the impact of climate change

and the flood season on our TSFs. For this reason, we require all mining sites to conduct capacity checks, dam stability maintenance, and other targeted inspections before the onset of the flood season to verify the integrity of dams, flood discharge facilities, and monitoring systems.

At our Chinese site, our TSF is managed by a closed-loop visual dispatching center, which monitors critical areas in real time, processes early warning information, verifies potential issues, and provides feedback. We have also rolled out a drone inspection system, which completes a full inspection of the TSF within 15 minutes using a predefined route and identifies potential safety hazards by means of image comparisons and data analysis. In addition to faster inspections and early identification of risks, the drone system also provides a safer working environment for operating personnel thanks to its ability to conduct inspections in inaccessible areas.

Our Chinese site also leverages regional resources in order to improve its emergency response capabilities. For example, we recently signed a new mutual assistance agreement with the Luanchuan County emergency services department and established a joint response and prevention mechanism. In addition, we install dual spillway systems at all new TSFs and those scheduled for closure in order to minimize the risk of accidents and ensure that production can continue as normal.



Drone inspection system at our Chinese site.

In the DRC, we carry out routine operation, maintenance, and monitoring of TSFs in strict accordance with design standards and company procedures. In 2023, our TFM site faced a series of new challenges in relation to the construction and expansion of new and existing TSFs. In response, we continued to hold biweekly meetings with Engineers of Record (EoRs), published regular TSF inspection reports, recorded and prioritized existing problems, allocated resources for remedial work, and implemented a closed-loop management strategy. In addition, we continued to implement our action plan with reference to our GISTM gap analysis. At KFM, following the commissioning of the site's TSF, we performed a series of safety-related tasks such as routine inspections, monitoring, and dam stability maintenance in accordance with established standards, and continued to optimize safety procedures. In addition, we plan to conduct gap analysis against GISTM standards in order to further enhance our TSF governance framework.

At CMOC Brasil, EoRs independently assess the structural integrity and stability of tailings dams and publish monthly stability reports that provide sound guidance for TSF operations, maintenance, and monitoring. We have also enhanced risk visibility by standardizing warning signs surrounding the mine's TSFs.

CMOC is keenly aware of the vital importance of and public sensitivity toward TSF management. We will continue to adopt new technologies and align ourselves with international standards and good practice, identify deficiencies in our TSF management, formulate improvement plans, and optimize resource allocation to ensure that risks can be controlled throughout the life cycle of TSFs.

Tailings Safety & Communities

All of CMOC's operating sites have TSF emergency response plans, assess and monitor community risks, and make communities a key priority of emergency preparedness measures.

At our Chinese operations, we attach great importance to the impact of heavy rainfall and other extreme weather events. In response, we have formulated a series of safety measures to mitigate the impact of heavy rainfall on our TSFs, including an emergency response plan to evacuate all people downstream of tailings ponds to a safe area. We also distribute information leaflets to local residents prior to the start of the flood season in order to raise awareness of flood prevention measures, early warning systems, evacuation routes, and emergency contacts. In 2023, in accordance with our annual emergency management plan, we organized training on emergency rescue, physical fitness, and practical skills. We also conducted a dam failure drill to improve our emergency response and rescue capabilities, and assess the evacuation capabilities of employees and residents within TSF impact zones.

Tailings safety measures are also a key priority at CMOC Brasil. In May and August 2023, we conducted a dam failure and evacuation drill at the Buraco Dam in collaboration with the National Mining Agency (ANM) in order to systematically test the ability of the emergency response team, HSE department, the local community, and relevant functional departments to coordinate a rapid response and rescue effort in the event of an emergency.

At our TFM site, we conducted a dam failure drill on November 29, 2023. The drill was coordinated by staff from the safety, environment, fire safety, security, and community teams, who worked with the local Red Cross to evacuate local residents to designated assembly points. In addition to testing

TFM's ability to respond to a dam failure, the drill also gave members of the local community the opportunity to learn about our operations and the risks associated with our TSFs.



In November 2023, TFM conducted a dam failure drill in local community.

Reclamation



In 2023, CMOC continued its practice of applying sustainability principles to the design, development, operation, and closure of our mining operations. Developing sound strategies and plans for the closure of a mining or processing facility is of material importance for CMOC and the communities in which we operate. This ensures public safety, environmental protection, and optimal land use post-closure. Where practicable, we pursue progressive reclamation during the operational phase. We also revegetate our mining sites and neighboring areas in order to restore the local ecosystem and reduce erosion and dust emissions. In addition, we actively explore new reclamation methods and technologies to develop solutions to priority issues.

In China, we have adopted a phased approach to reclamation and formulated plans tailored to local conditions. Since 2000, the Sandaozhuang mine has planted over 50,000 cold-hardy trees to revegetate waste rock piles and create a stable, layered, and mixed population of plants. A number of other reclamation projects have also been completed, including a park, camping site, and ecological livestock farm, all aimed at enhancing the landscape's diversity and scenic appeal. In 2023, our Sandaozhuang mine and Shangfanggou molybdenum mine were recertified as "National Green Mines".

Our Sandaozhuang mine has also developed a new solution for revegetating the slopes of waste rock piles. Thanks to the use of vegetation concrete and a "near-natural rain-fed restoration" process, we have significantly improved soil consolidation; slope vegetation cover rose to over 95 per cent in the space of just three months, resulting in an 80% improvement in water retention. In addition, we reclaimed over 10,000 m² of land at a tailings beach using a combination of fencing, bamboo poles, and soil. This innovative approach sets a new precedent for the reclaiming of tailings beaches in the context of TSF closures.

At our TFM operation in the DRC, reclamation and revegetation of waste rock piles is conducted annually in accordance with the company's reclamation plan. As of 2023, TFM had planted more than 15,000 trees in the mining site and surrounding areas. At our KFM operation, reclamation is performed concurrently with construction and operational activities. To date, almost 3,000 m² of tailings dams have been reclaimed through the sowing of grass seeds and planting of vegetation.

At CMOC Brasil, slopes surrounding waste rock piles are reshaped, covered with soil, equipped with water discharge facilities, and planted with vegetation. In addition, tailings storage facilities are hydroseeded in order to ensure their effective revegetation.

In 2023, we reclaimed 198.5 hectares of land, including 72.6 hectares of forest and shrubland, and 113 hectares of grassland. This was achieved through the planting of 410,000 saplings and 59 tonnes of grass seeds.



Land reclamation at our Chinese operations.



Slope revegetation at our Chinese operations.



Biological Diversity



Due to the nature of the mining industry, biodiversity has always been a key focus of environmental management at CMOC. In order to establish a unified vision, goals, and plans for biodiversity protection at the Group level and build a clearer performance planning and monitoring system, we formulated our biodiversity vision in 2021, which commits to “ensure no net loss of biodiversity from operations by continuously improving management and implementing mitigation measures.” Guided by this vision, we will gradually develop key implementation strategies and establish a framework of core indicators to improve data aggregation, monitoring, and review.

As stated in our *Environmental Policy*, CMOC is committed to developing strategies in line with international good practices to mitigate the impact of our operations on biodiversity. All our operations conduct surveys of nature reserves, ecological reserves, and rare species of flora and fauna to determine the vulnerability of local ecosystems, assess the status of biological resources, and identify the expected impacts that may result from the development of greenfield or brownfield projects. Accurate impact definition in turn drives application of the mitigation hierarchy in typical stages, such as “avoid, reduce, mitigate, and offset” and the subsequent development of biodiversity management plans if needed.

The actions described above, associated with project

environmental impact assessments, are a common requirement under the regulatory systems that govern our operations in various countries. At our TFM mine in the DRC, the company also aligns with internationally recognized practice frameworks, including the guidelines and standards of the International Finance Corporation (IFC), notably IFC Performance Standard 6 on Biodiversity Conservation and Living Natural Resources. CMOC’s well-established operations are also governed by individual site environmental policies and procedures that recognize biodiversity risk. As a new mining operation, KFM is now developing its biodiversity management system according to the Group’s policy.

At TFM, the leading biodiversity conservation issue continues to be associated with plants adapted to the local soil and climate with naturally occurring high concentrations of metals. Over the years, TFM has set up nurseries and seed banks for copper flora as part of biodiversity conservation work in the mining area. Thanks to these efforts, we have protected approximately 40 species of copper flora over a period of 14 years. In addition, in order to better protect the woodland ecosystem surrounding the mining site and prevent uncontrollable forest fires during the dry season, we construct and maintain firebreaks to minimize the impact of forest fires on biodiversity. At our KFM operation, we have protected a total of more than 200 native trees by optimizing the layout of the site’s living quarters.

In Brazil, our operations are located in the Cerrado savannah biome and the Atlantic Forest biome, areas which are particularly rich in biodiversity. In view of our responsibility to protect the local environment and biomes, we have designated roughly 3,800 hectares of land for protecting local plants and animal habitats. Our environmental control plan also contains specific provisions for the monitoring of animal and plant populations, including birds, reptiles, and aquatic animals. In 2023, CMOC Brasil invested approximately RMB 650,000 (R\$450,000 BRL) in biodiversity efforts.



At our TFM site, we construct firebreaks to reduce the risk of forest fires during the dry season.

Resource Management



CMOC is committed to the responsible use and management of resources and the minimization of waste generation. We recognize the value of responsible stewardship of these elements to our business and the communities in which we operate. In 2023, we continued to improve production management in line with our stated goals of increasing recycling rates across our operations and promoting the energy transition.

Water

Human-induced climate change has exacerbated shortages of water, which is required in large amounts for the mining and processing of ores. In response to this challenge, we have enhanced our water management practices across all our operations and adopted a risk-based approach to identifying, assessing, and managing water-related risks. Possible future risks include inadequate water supply, inefficient use of water, surface and groundwater contamination due to run-off, and an increase in water-related disputes with local communities.

In 2023, due to the expansion of our TFM operation and the commencement of production at our KFM operation, our water use increased by 42% compared with 2022, reaching a total of 180 million cubic meters. 79.9% of the water we use on our sites is recycled water from our own operations. Due to ongoing commissioning work resulting in less stable production conditions at our TFM and KFM sites, our water use intensity increased by 21.4% year-on-year to 3.191 cubic meters per tonne of processed ore.

In order to mitigate the risk of water shortages and inefficient water use, we have set a target to increase the proportion of recycled water to 83% of total water usage by 2025. In addition, we will continue to encourage water-efficient production methods, lower our water use intensity, and reduce drawdown of water resources. In this context, all our operations have implemented a range of corresponding measures, including the construction of water storage facilities and water recycling systems, as well as enhanced management policies and innovative technologies to ensure the efficient use of water.

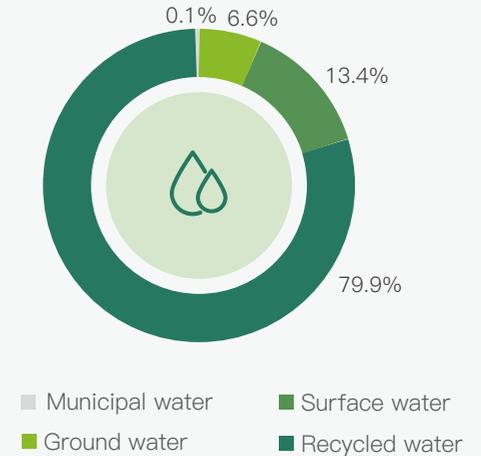
We are also committed to managing wastewater treatment and discharge, as well as the risk of water pollution from run-off. In 2023, our mining sites continued to adopt a series of measures to reduce wastewater discharge and mitigate environmental impacts:

- At our Chinese operations, we upgraded wastewater processing equipment at our molybdenum-tungsten recovery facility, which will reduce wastewater volume by 10,800 m3 per year.
- At CMOC Brasil, we invested over R\$600,000 to improve the monitoring of the environmental quality of local water bodies.
- At our TFM operation, we improved the management of stormwater runoff by constructing new sedimentation tanks to facilitate the collection of surface runoff, improve the separation of clean and waste water, and pump rainwater back to production processes for recycling. In addition to improving wastewater treatment and water reuse rates at our process plant, the new system has delivered a significant improvement in water quality indicators at the downstream rainwater tank.
- At our KFM site, we have improved workflows and retrofitted the drainage system in our cobalt drying workshop in order to prevent stray cobalt powder from flowing into the drainage system during rainstorms or surface cleaning. We have also formulated a long-term plan comprising measures such as equipment retrofitting, water-returning structures, and automatic monitoring systems in order to minimize run-off caused by equipment commissioning and poor on-site management.

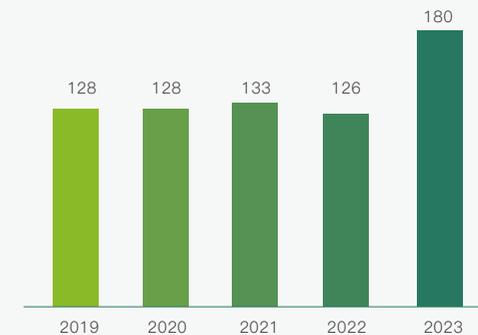


CMOC Brasil uses retired mine pits to store water.

Water consumption by source (%)



Total water consumption (million cubic metres)



Energy

Large-scale mining and metallurgy require significant amounts of energy. We obtain energy directly through the burning of coal, diesel, gasoline, natural gas, and biofuels, as well as indirectly through purchased electricity generated by hydropower, thermal power stations, and renewable sources. In addition, our mining sites take advantage of every feasible opportunity to improve energy security and safeguard the availability of affordable and reliable energy. This includes prioritizing renewables and low-carbon energy when seeking new sources of energy, and delivering continuous improvements in energy efficiency.

As a result of business expansion, CMOC's total energy consumption increased from 4,230,000 MWh in 2022 to 5,800,000 MWh in 2023, an increase of 37.1%. Total energy intensity increased by 16.5% to 0.103 MWh per tonne of processed ore, primarily due to an increase in stripping volumes. In total energy consumption, direct energy accounted for 49.9% and indirect energy for 50.1%. Direct energy consumption from diesel constituted 72.2% and renewable sources 8.3%. Renewable sources such as hydropower and solar power accounted for 73.3% of our indirect energy consumption.

Under the company's expansion plan, our energy goal is to use more energy-efficient production methods to reduce energy intensity per unit of processed ore. We will ensure that at least 40% of our overall energy consumption is sourced from renewables by 2025, both by increasing the use of clean energy sources such as solar and hydropower, and by retrofitting our mining machinery. In 2023, we reached this target ahead of schedule, with renewable sources accounting for 41.4% of overall energy consumption.

At our Chinese operations, we use innovative technology in order to reduce energy consumption, encourage the use of

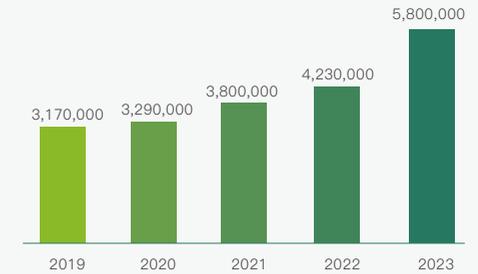
renewable energy sources, and drive the energy transition. For example, we are currently installing photovoltaic power stations at retired TSFs; the first phase of the project has already been connected to the grid, and the facility is expected to have an installed capacity of 42 MW following its completion. In addition, we are also installing a roof-mounted distributed solar power system. The first phase of the project is forecast to have an installed capacity of 3.1 MW, and will help to increase the proportion of renewable energy in our energy mix. At our smelting facility, we have replaced traditional techniques for drying molybdenum concentrate with a less energy-intensive method that utilizes the residual heat from rotary kilns.

At our TFM operation and CMOC Brasil, we continued to generate electricity using residual heat harvested from sulfuric acid plants. In 2023, TFM and CMOC Brasil generated 66 GWh and 58 GWh of electricity in this way, respectively. In addition, in 2023, our TFM site installed a new 15 MW generator at the mixed ore facility, increasing the installed capacity of cogeneration to 25 MW. The new generator will make an important contribution to increasing the proportion of renewable energy in our direct energy consumption.

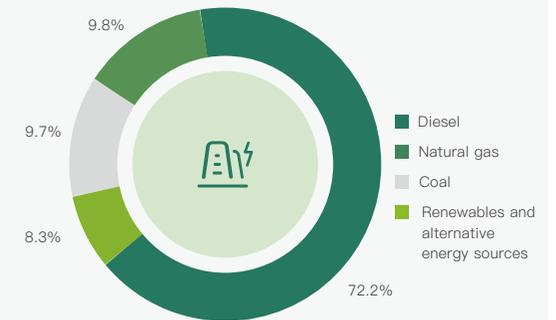


At our Chinese operations, we have installed photovoltaic power stations at retired tailings storage facilities.

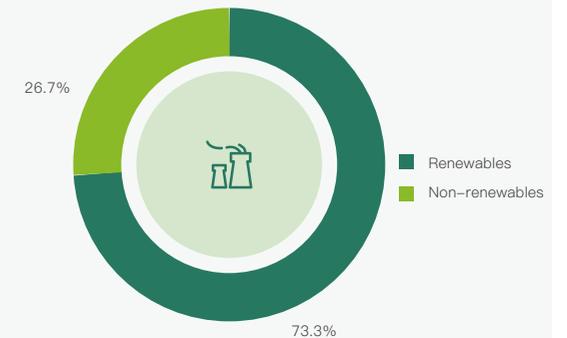
Total energy consumption (MWh)



Direct energy consumption by source (%)



Indirect energy consumption by source – Purchased electricity (%)



Emission Management



CMOC is committed to reducing the discharge of pollutants and waste, as well as mitigating the environmental impact of emissions, by continuously improving its environmental management system. We implement appropriate control measures to ensure compliance with relevant laws, regulations, and emission standards in the countries where we operate, as well as international laws.

In 2023, we received one environmental penalty for minor violations at our Brazilian operations. Due to the late payment of environmental inspection fees to the federal environment agency IBAMA, a fine of approximately RMB 37,000 was levied.

Air Quality

The main sources of exhaust gas from our operations are conventional vehicles and industrial processes, which produce nitrous oxides, sulfur oxides, and particulate matter. Due to the expansion of our operations, emissions of nitrous oxides and particulate matter increased slightly compared with 2022. Sulfur oxide emissions were lower than in 2022, primarily due to the prolonged closure of the sulfuric acid plant at CMOC Brasil for maintenance.

For atmospheric emissions, our target for 2025 is to reduce the emissions intensity of nitrous oxides by 5% and sulfur oxides by 2% on 2020 levels through a combination of equipment upgrades, new energy sources, and improved processes. Due to the increase in gasoline and diesel consumption driven by higher stripping volumes in our DRC open-pit mines, in 2023 the emissions intensity (tonnes per tonne of processed ore) for nitrous oxides was 5.50×10^{-5} for nitrous oxides, which represents a slight increase on 2020 levels. In response, we will continue to adopt energy efficient technologies and increase our processing capacity to improve our performance. Due to the prolonged closure of the sulfuric acid plant at our Brazilian operations, emissions intensity

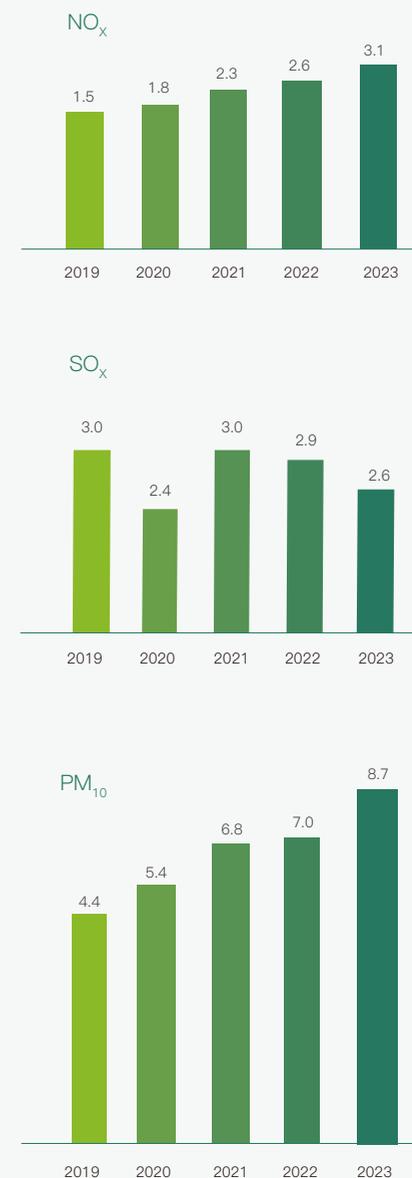
(tonnes per tonne of processed ore) for sulfur oxides was 4.61×10^{-5} , lower than our 2020 baseline target.

The main concern at our mining operations is the emission of particulate matter such as dust. Potential sources of particulate matter include mine transportation, ore transfer, blasting, crushing, fugitive dust, and other industrial processes. We use wet suppression, dust collection, water spraying, and other preventive measures in dust-generating processes. We implement control measures for road dust, such as surface treatments, regular road maintenance, and speed limits to minimize the generation of dust.

In 2023, we continued to take measures to manage air pollution at our Chinese operations. To suppress dust from blasting activities, we deployed remote-controlled dust suppression trucks equipped with a high-pressure spraying system, covering an area of more than 2,800 m². We also developed a mobile self-powered water cannon in order to effectively control waste rock dump dust across an expansive area. In addition, we equipped crushing stations with an automatic eco-friendly spraying system, which has reduced the amount of dust generated from crushing while also delivering a significant reduction in water usage.

At our Brazil operations, water spraying and hydroseeding are used to mitigate dust lift-off in waste rock dump areas. We have also installed 16 pollutant monitoring devices in seven neighboring communities to continuously monitor trends in the concentration of pollutants. The data collected from these devices is then used to determine and enhance our emission control measures. In the DRC, our TFM and KFM mines spray unpaved roads with water or dust suppressants and limit vehicle speeds to reduce road dust. At our TFM site, ambient air quality in the operating area and other sensitive surrounding areas is monitored continuously, and roads are treated with the natural dust suppressant Dustex in order to improve the quality of the road surface and effectively suppress dust.

Total airborne emissions (kilotonnes)



Waste Management

Our main waste product is tailings and waste rock from processing and mining activities. In 2023, our global operations generated 49 megatonnes of tailings and 332 megatonnes of waste rock. Both figures are up from 2022, mainly due to an increase in output. The company manages this waste in accordance with applicable laws and standards. Waste storage facilities are designed and built to minimize risks pertaining to slope stability, geochemical hazards, health and safety, and environmental impact.

Other waste generated at our operations is classified into non-hazardous and hazardous waste. We manage waste from our business activities to minimize the amount that requires disposal. We treat waste on site with approved equipment, and also transport it off site for recycling, storage, or disposal. In 2023, CMOC generated 24.0 kilotonnes of non-hazardous

waste, of which 35.5% was recycled; and 27.0 kilotonnes of hazardous waste, of which 86.9% was recycled. We continue to improve waste recycling rates, reduce our environmental impact, and promote the circular economy by recycling scrap metal from mining sites, recycling waste smelter dust, and reducing and recycling hazardous waste.

CMOC champions the circular economy and actively explores ways to recycle tailings and reduce the impact of waste storage on the environment. At our Chinese processing facility, tailings are combined with aggregate and concrete to produce material for paving roads, significantly enhancing recycling rates. We also actively explore ways in which to recycle spent catalysts; in 2023, we recycled 34.78 tonnes of spent catalysts through a third-party recycling company.

At our TFM operation, we introduced a series of measures to improve the management of waste and increase recycling rates, such as reusing packaging materials to collect stray cobalt. In addition, as part of our commitment to raise awareness of waste management, we participated in an environmental forum in Lubumbashi organised by the DRC Chamber of Mines, where we discussed the management and recycling of mining and household waste together with other public, academic, and industrial stakeholders.

At CMOC Brasil, we comply with applicable environmental regulations governing the classification, packaging, storage, and disposal of waste. We also organize training and awareness campaigns to ensure that all waste generated by our operations is handled in accordance with environmental regulations.

Waste	2023 amount (kilotonnes)	Density (tonnes per processed unit of ore)	Recycling rate	Waste category
Non-hazardous waste	24.0	4.255×10^{-4}	35.5%	Scrap metal; household waste (disposable goods, kitchen waste, office paper, etc.); swill; ferromolybdenum slag; coal cinder; calcium slag
Hazardous waste	27.0	4.787×10^{-4}	86.9%	Used oil, hydrocarbon/water emulsion; ground phosphate rock; acid sludge; mud; spent catalysts; waste oil drums



TFM participated in an environmental forum in Lubumbashi organized by the DRC Chamber of Mines.

Climate Change



In January 2022, the Board of Directors reviewed and approved CMOC’s Climate Vision, which specifies the following aims: “We will incorporate climate change into the company’s ESG governance framework. The Strategic and Sustainability Committee of the Board will be responsible for monitoring implementation and establishing a top-down framework for managing the company’s response to climate change. We will work together with international and domestic stakeholders and make our due contribution to achieving a carbon neutral world.”

Guided by this vision, we initiated the development of a top-down framework to manage our response to climate change, continue to improve our procedures for identifying, assessing, managing, and disclosing risks, and establish and disclose science-based emissions targets.

In 2023, we published the *CMOC Carbon Neutral Roadmap and Action Plan*, which outlines our commitment to support the goals of the Paris Agreement, namely to limit global warming to 1.5°C above pre-industrial levels. In this context, we are committed to achieving peak Scope I and Scope II emissions by 2030 and net-zero Scope I and Scope II emissions by 2050, as well as reducing our Scope III emissions. In addition, we plan to invest at least US\$ 1.5 billion up to the year 2050 in order to deliver on our carbon neutral action plan.

In order to achieve our carbon neutral goal, our plan encompasses a comprehensive range of short-, medium-, and long-term goals and corresponding actions across four key areas: energy efficiency, electrification, renewable energy, and carbon capture and storage. Energy efficiency measures will be implemented throughout all stages of the roadmap. Electrification and renewable energy measures will be implemented after 2030 following an initial pilot phase, while carbon capture and storage technologies will be introduced during the final phase of the roadmap.

Electric mining trucks at our Chinese operations.

Short-term goals and action plan (before 2030)

Goals:

- Reduce our emissions intensity (per unit of processed ore) by 15% compared with 2022.
- Reach peak emissions by the year 2030.

Actions:

- Instruct each operating site to formulate an implementation plan and raise awareness of CMOC’s carbon neutral roadmap.
- Progressively implement energy efficiency measures in routine operations.
- Launch pilot electrification and renewable energy projects.
- Assess effectiveness of carbon neutral strategies at each operating site and optimize management strategies.
- Monitor developments in low-carbon technologies and update our technology strategy.

Medium-term goals and action plan (2030–2040)

Goals:

- Deliver a 38% reduction in absolute emissions by 2040 compared with the 2030 peak.
- Deliver a 60% reduction in emissions intensity (per unit of processed ore).

Actions:

- Continue to implement energy efficiency measures in routine operations.
- Require contractors to use zero-carbon and low-carbon technologies.
- Launch large-scale electrification and renewable energy projects (e.g. solar, wind, and hydropower).
- Continue to assess the effectiveness of carbon neutral strategies at each operating site and optimize management strategies.
- Monitor developments in low-carbon technologies and update our technology strategy.

Long-term goals and action plan (2040–2050)

Goals:

- Deliver a 67% reduction in absolute emissions by 2045 compared with the 2030 peak.
- Achieve carbon neutrality by 2050.

Actions:

- Continue to implement energy efficiency measures in routine operations.
- Introduce stringent criteria to require contractors to use zero-carbon and low-carbon technologies.
- Continue to assess the effectiveness of carbon neutral strategies at each operating site and optimize management strategies.
- Continue to implement electrification measures and renewable energy projects (e.g. solar, wind, and hydropower).
- Monitor developments in low-carbon technologies and update our technology strategy.
- Use carbon capture and storage technologies to capture residual emissions.

In 2023, in order to drive the implementation of our *Carbon Neutral Roadmap and Action Plan*, the Group ESG department instructed each mining site to formulate its own action plan with details of future emission trends and key emission reduction measures for achieving peak carbon absolute emissions by 2030. In order to realize this goal, we will adopt a phased approach consisting of three stages. During the first two years (2024–2025), we will lay the groundwork for cutting emissions by analyzing the strengths and weaknesses of each mining site and selecting suitable projects; the burden of emissions reduction will be relatively modest. During the subsequent three years (2026–2028), we will focus on reducing emissions by implementing a wide range of emission reduction measures. During the final phase (2029–2030), we will consolidate our achievements by making continuous improvements to emission reduction projects and preparing for the introduction of electrification and renewable energy projects during the post-2030 phase of the roadmap.

In accordance with the measures outlined in our *Carbon Neutral Roadmap*, key Group-wide emission reduction projects to be implemented before 2030 include the continued roll-out of energy efficient technologies (such as optimized transportation routes, conveyor belts, and the retrofitting of equipment), electrification measures to reduce direct energy consumption, and generating renewable energy through measures such as TSF/distributed photovoltaic projects and hydroelectric power stations, as well as increasing the proportion of biodiesel, natural gas, biomethane, and other clean energy sources to reduce reliance on conventional sources of energy.

The challenges we face in terms of reducing emissions vary greatly between mining sites due to differences in geographic conditions, national policies, economic development, and access to technology. As a result, we have drawn up a series of targeted emission reduction measures and backup strategies. At our Chinese operations, we have developed diverse, wide-ranging, and highly feasible measures to cut emissions, which are also closely linked to enhancing production processes and reducing energy consumption. At our African mining sites, the greatest challenge we face is the tight

supply of local electricity. In this context, renewable energy projects are key to driving electrification and large-scale emission reductions, and will constitute the focal point of our climate measures over the next few years. At CMOC Brasil, replacing conventional diesel with biodiesel is the primary means through which we reduce our carbon emissions. This approach has a proven track record and is supported by the local government, and also helps to reduce costs.

Greenhouse Gas Emissions

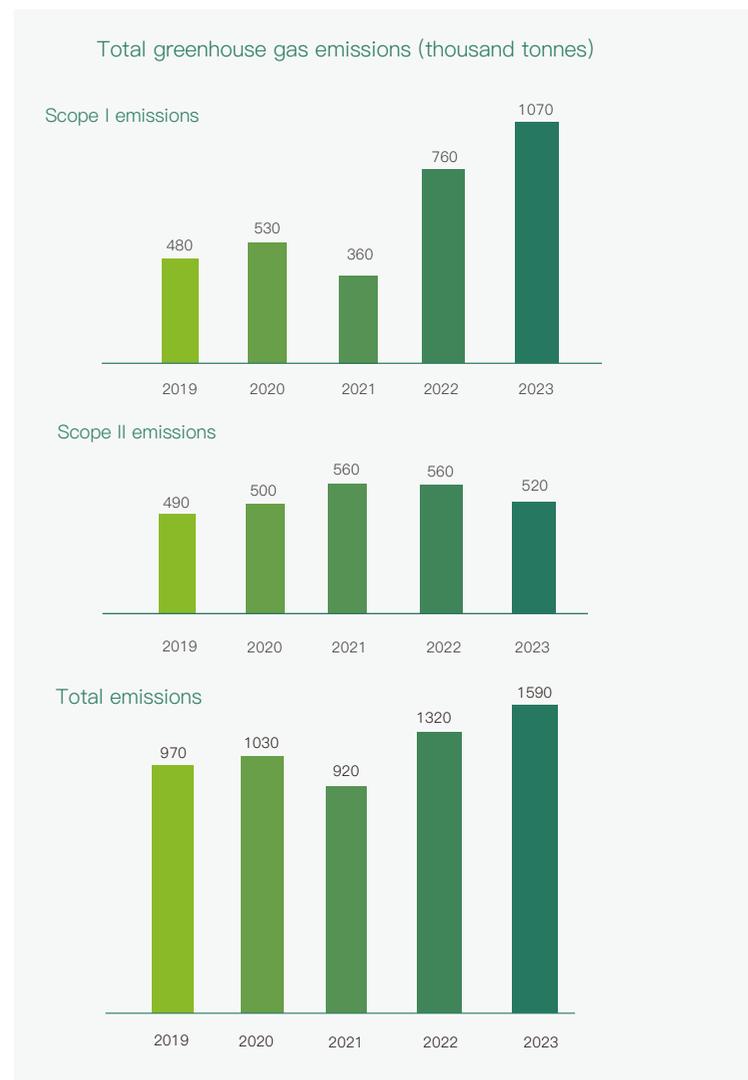
In 2023, our total greenhouse gas emissions measured on a CO₂-equivalent basis were approximately 1,590,000 tonnes. Our emissions intensity remained unchanged at 0.028 tonnes per tonne of processed ore. As outlined in our *Carbon Neutral Roadmap*, we are committed to reducing emissions intensity by 15% by 2030 compared with 2022. Due to continued growth in capacity at our African mining sites, we were unable to achieve a material reduction in emissions intensity, although the overall trend remains in line with our forecasts.

Our Scope I direct GHG emissions, which are primarily generated from diesel, coal, and natural gas, were approximately 1,070,000 tonnes. Diesel fuel is mainly used to power the mining machinery and haulage fleets at our various mining sites. Most of our coal consumption is attributable to the coal-fired boilers at our Chinese operations and the quicklime plant at our TFM site in the DRC, while natural gas is mainly used for the drying of our product in Brazil. Due to an increase in output and processed ore at our TFM site, as well as increased capacity at our KFM site, our Scope I direct GHG emissions increased significantly compared with 2022.

Our Scope II indirect greenhouse gas emissions are mainly attributable to purchased electricity. In 2023, our total Scope II emissions fell 8% year-on-year to approximately 520,000 tonnes, primarily due to increased use of renewables at our Brazilian operations. The majority of our Scope II emissions are from our Chinese and Brazilian sites due to the structure of the local electricity grid.

For IXM, quantifying the climate impact and risks in our supply chains is an essential first step toward reducing carbon emission intensity in our trading activity. In 2023, IXM

continues its efforts to measure, assess, and improve its environmental footprint. IXM is able to quantify a partial scope of its upstream scope 3 GHG emissions stemming from all IXM trades except for China domestic transactions. On a monthly basis, based on IXM trades a carbon emission analysis report is received from an external carbon accounting platform, as well as trade-by-trade analysis with asset- and supplier-level performance assessment against carbon emission industry benchmarks.



Emission Reduction Initiatives

Guided by our climate vision and the commitments outlined in our Carbon Neutral Roadmap and Action Plan, we have implemented a range of energy efficiency, electrification, and renewable energy initiatives. These efforts aim to fulfill the environmental responsibilities commensurate with our development stage while improving the efficiency of our global operations.

Energy efficiency

At our Brazilian phosphate mine in Ouvidor, we have reduced transportation distances by an average of 20% through a combination of optimized haulage routes, strategic ramps, and improved equipment, resulting in lower fuel consumption and greenhouse gas emissions. At our Chinese operations, we have introduced a smart dispatching system that uses 5G technology to manage our fleet of manned and unmanned electric trucks and plan optimal routes, delivering a significant improvement in energy efficiency.

Electrification

At our Chinese operations, we have acquired a fleet of electric trucks, loaders, and other equipment to pave the way for the roll-out of our Group-wide electrification strategy. In 2023, our Sandaozhuang mine acquired two fully electric excavators as part of a pilot project, as well as 30 additional electric haulage trucks. Currently, we operate a fleet of 129 electric vehicles, which account for over 91% of our haulage fleet.

Renewable Energy

We have adopted a range of measures to increase the proportion of renewable energy in our energy mix, including the installation of photovoltaic systems at retired tailings storage facilities and on the roofs of buildings, and capturing residual heat from production processes to generate power and heat our facilities. At our Chinese operations, we have reduced electricity consumption during the winter heating season by

777,600 kWh by replacing our gas-powered heating systems with a combination of solar powered heaters, air-source heat pumps, induction heaters, and other energy-efficient technologies. At our molybdenum smelting plant, we have reduced coal consumption by 36% by replacing coal-fired boilers with gas alternatives. Thanks to this achievement, in 2023 the smelting plant was included on the list of “Green factories” issued by the Henan provincial government.



Our China site uses electric excavators to reduce the use of fossil fuels.

Risks and Opportunities of Climate Change

In 2023, in order to drive climate action and increase transparency in the disclosure of climate-related information, we implemented a series of measures based on the conclusions of the Task Force on Climate-related Financial Disclosures (TCFD). In this context, we identified, assessed, and prioritized climate-related risks and opportunities, and devised strategies to strengthen the climate resilience of our business. For more information, please refer to the CMOC 2023 TCFD Report, which can be found annexed to this report.

Our major climate-related risks and opportunities include transition risks and opportunities associated with the transition to a low-carbon economy, and physical risks associated with physical impacts caused by climate change. Transition risks are primarily the result of policies and regulations and growing regulatory scrutiny. Uncertainty in market signals may also have an impact on the sales of our products. Transition opportunities arise primarily from growing demand for low-carbon products and services and the resulting increase in demand for our products, as well as increased business resilience due to the growth in alternative energy sources in the context of the energy transition. For physical risks, we use climate models to simulate potential scenarios and measure the level of physical risk that our assets may face in the medium and long term. The primary physical risks to our operations are wildfires and extreme heat.

CMOC has incorporated the management of climate-related risks into its Group-wide risk management procedures, and conducts a biannual assessment to identify, assess, and manage climate risks. Through this process, we identify the climate-related risks and opportunities facing the company and assess the potential scale and scope of major risks and opportunities in order to better understand climate-related impacts and incorporate them into our business strategy. This enables us to formulate and implement effective risk response measures to enhance our climate resilience and seize climate-related opportunities.



Employees

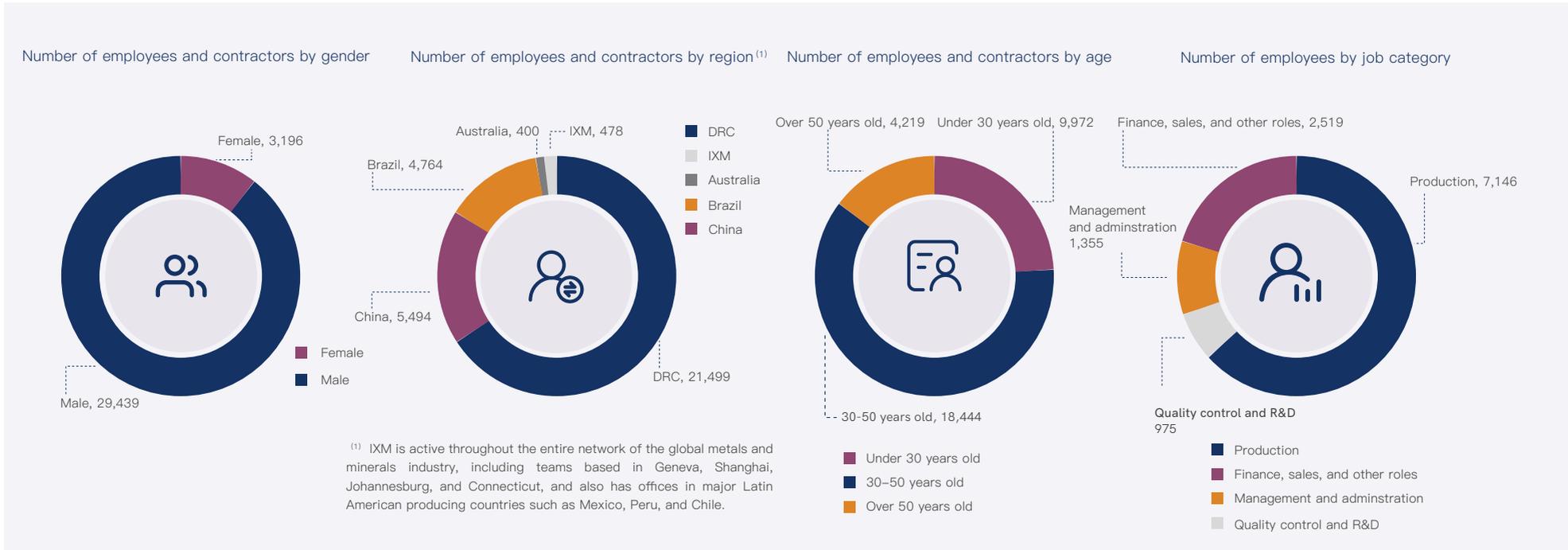
At the close of the 2023 reporting period, CMOC had 11,995 employees across its operating sites and management offices, as well as 20,640 contractors. Approximately 9.8% of the workforce was female. 30.6% of the workforce was under the age of 30, 56.5% was aged between 30 and 50, and 12.9% was over 50. 59.6% of CMOC employees were employed in production, 8.1% in quality control and R&D, 11.3% in management and administration, and 21.0% in finance and sales roles.

The company's *Employment Policy* applies to CMOC and all of its directly or indirectly controlled global subsidiaries, and outlines the company's commitments in terms of fair employment, comprehensive remuneration schemes, career development, freedom of association and collective bargaining,

and employee communication. CMOC is committed to ensuring that the needs of employees and wider society are met during the growth of the company. This involves establishing harmonious labor relations, respecting and upholding employees' rights and interests, and pursuing diverse, open and inclusive employment policies that respect local culture and customs and give employees access to equal career opportunities irrespective of nationality, race, gender, religion or cultural background. CMOC values communication with its employees. The grievance mechanisms provided by the Group and each of its operations are available to all employees and contractors, and employees and contractors are encouraged to provide feedback.

In our labor relations, CMOC aims to comply with the requirements of ILO Conventions and local labor laws and

regulations, and to establish fair employment mechanisms. Although some sites do not operate under collective bargaining agreements, all 11,995 employees in our worldwide operations have the right to freedom of association and collective bargaining. In 2023, 6,530 members of our global workforce (54%) were covered by collective bargaining agreements, including all employees at our CMOC Brasil, TFM, and KFM operations. Collective bargaining agreements are developed in consultation with union leadership and include provisions which stipulate that further consultation is required in the event of modifications to operating schedules that impact employees. At all of our sites, we provide employees with market-based wages and benefits in accordance with legal requirements, including health insurance, life insurance, and maternity leave.



In 2023, we stepped up recruitment efforts to support our growing overseas operations and new projects. In accordance with project needs, we hired a large number of local workers and increased our expatriate workforce. We also continued to recruit young talent and expand our team of management trainees to consolidate the company's talent pool, and incorporated cross-cultural communication skills into our key training criteria in order to improve integration between local and foreign staff.

In terms of the remuneration and incentive system, the company conducts annual performance appraisal for all employees and offers a diverse range of incentive schemes including operational, equity, project-based, and long-term incentives. In 2023, we revised our performance review system by increasing the frequency of performance reviews. In addition to an annual performance review, all employees are now required to complete a mid-year review to enhance the company's ability to monitor organizational and individual performance. We endeavor to ensure a fairer and more objective appraisal process, focusing on

assessing progress toward the company's goals and the quality of employees' work. For general staff and departmental managers, individual performance is directly linked to organizational performance to encourage employees to contribute to the company's growth.

We also continued to enhance our comprehensive incentive policies. In addition to our existing incentive mechanisms, we developed targeted incentive measures to address shortcomings and bottlenecks at each of our operating sites, including a ferro-molybdenum production-based incentive scheme at our Chinese operations, a niobium recovery rate incentive scheme at CMOC Brasil, and a milestone-based incentive scheme at our KFM and TFM sites. All of these schemes are designed to motivate employees and encourage them to develop solutions to intractable challenges. In 2023, we also incorporated ESG metrics into our procedures for assessing organizational performance to encourage good ESG practices across all operating sites. Depending on local circumstances, these metrics include

renewable energy usage, carbon intensity, employee training, stakeholder engagement, community development, and other important ESG topics.

CMOC strives to provide a safe and healthy working environment for its employees and is committed to maintaining fair labor relations, promoting equality, and making continuous improvements to its career development framework. In 2023, the overall turnover rate among CMOC staff and contractors was 28.4%. Among staff, the turnover rate was 7.3%. Among contractors, the turnover rate was 36.7%, an increase of 14.2% compared to 2022, primarily due to the departure of contractor workers as the construction activities at KFM and TFM extension project were gradually coming to an end. 28.4%. Among staff, the turnover rate was 7.3%. Among contractors, the turnover rate was 36.7%, an increase of 14.2% compared to 2022, primarily due to the departure of contractor workers as the construction activities at KFM and TFM extension project were gradually coming to an end.

Safety



CMOC's HSE, environment and community policies reflect our commitment to preventing harm to employees and reducing negative impacts on the environment and local communities. We are also committed to strengthening our HSE systems through practical actions and initiatives. We have formulated a series of HSE-related procedural documents such as the *Group HSE Handbook* and the *Emergency Response Measures*. Regrettably, we were unable to achieve our goal of zero work-related fatalities in 2023 following the death of one employee and two contractors at our TFM site. We are deeply saddened by their loss; in response, we have conducted in-depth investigations and formulated a series of action plans to improve safety measures at the site.

In 2023, our key priority was to improve the scope and efficiency of our HSE systems, both at the Group level and across our various operations. Guided by the Group-level HSE Committee, we conducted a series of inspections in accordance with existing HSE procedures, which enabled us to assess their scope and efficiency and identify deficiencies, such as the lack of an accountability system and effective sharing of lessons learnt, which we will address in the coming year. Other notable achievements included the development of annual HSE targets, internal and external audits of our HSE systems, and targeted inspections of individual operating sites to coincide with critical periods.

We attach great importance to occupational health and safety training, which we provide to all our employees and contractors in order to reduce the risk of safety-related incidents. In 2023, we strengthened collaboration across all parts of the organization, both vertically (between the Group and our subsidiaries) and horizontally (between subsidiaries). Our goal is to create a learning organization where employees can participate in a diverse range of training activities, including safety workshops, emergency drills, and knowledge contests. Through measures such as these, employees are able to learn from previous incidents, improve their awareness of safety issues, and prevent accidents from reoccurring.



At our Sandaozhuang open-pit mine, we unload steep slopes and monitor slope stability in real time to provide the on-site team with early warning information. We have also developed a comprehensive control system equipped with smart technology, which can complete a range of automated tasks including ore blending, shovelling, and scheduling. In addition, we deploy industrial drones to conduct routine inspections of our tailings storage facilities. This is particularly useful in adverse weather conditions, and significantly reduces the amount of labor-intensive work as well as the risk of accidents.



At one of our Chinese mining operations, we launched a points scheme to incentivize good health and safety practices. By capturing images of safety hazards, conducting inspections, and taking remedial actions, employees are able to earn points that can be redeemed for dish detergent, cooking oil, and various other daily necessities. Hazards are divided into 13 categories, with 10 to 50 points awarded for each action.

At our Chinese operations, we recognize the value of external independent audits, and engage third-party specialists to evaluate our HSE systems and priorities. In 2023, our safety management system was certified in accordance with ISO 45001 requirements. In addition, we continued to benchmark against domestic and international industry leaders to exchange best practices. In 2023, based on the results of an external survey and the specific needs of our Chinese mining operations, we formulated and implemented a *Standard Work Team Alignment Plan*, and took steps to build trust and encourage sharing between team leaders and members to improve employee safety practices. We also launched an incentive scheme to encourage employees to contribute to the design of our HSE procedures, such as how to improve the safety of electrical systems, machinery, and ladder equipment. In addition, we introduced a points system to reward employees who engage in safe work practices, and provided special incentives to reward safety-related technological innovations or concepts. In response to government directives to improve mining safety standards, we also introduced a range of technologies such as IoT, cloud computing, big data, artificial intelligence, and 5G, which will help to make our mining operations more intelligent and ensure intrinsic safety.

At our TFM operation in the DRC, ongoing construction activities throughout 2023 presented a number of challenges in terms of safety management. In response, we introduced a broad range of measures, including controlling access to the premises by employees and equipment, and monitoring areas which are critical to construction work and existing operations, as well as key processes and high-risk activities. TFM's safety management system went through a supervision audit in accordance with ISO 45001 requirements. After the audit, we developed a corrective action plan to address all the non-conformances.

Regrettably, there were three fatal workplace accidents at our TFM operation in 2023, resulting in the death of one employee and two contractors. The first accident was caused by an explosion while welding a fuel tank to a haul truck. In the second incident, a truck driver directing a reversing vehicle was crushed to death in a car park, and the third incident involved a leaching tank maintenance worker who was struck by a metal plate detached from a pressured hydraulic cylinder.

Following these incidents, the Group senior management convened an emergency meeting to inform our business units, conduct an initial investigation, and draw lessons for the future. In accordance with site policies, a root cause analysis was conducted and effective measures were implemented to address loopholes. The Group headquarters also dispatched a dedicated team to the TFM site to conduct a review of existing HSE procedures as well as identify and address shortcomings in areas such as the management of high-risk jobs, HSE leadership, delineation of roles and responsibilities, handover procedures, risk assessments for commissioning activities, the reporting of HSE incidents, and employee feedback.

TFM also commissioned several independent audits from different auditing bodies to help us review the effectiveness of our HSE systems from a range of perspectives. In view of the profound impact of workplace fatalities on employees and their families, all levels of our management will reflect seriously on past failures and implement the specific measures proposed during the

mentioned audits in order to improve our HSE systems and performance.

In 2023, CMOC Brasil maintained good HSE performance and completed an ISO 45001 audit of its HSE system. We also introduced the NOSA Five Star System and completed quantitative audits of our niobium and phosphorus HSE systems, which received a four-star ("Very good") and a three-star ("Good") rating. In addition, we reinforced proactive risk management measures, formulated a leadership plan for all levels of management, introduced quantitative critical control measures and workplace inspection criteria to encourage management staff to engage with frontline workers and promote a culture of safety. In addition, we organized a range of activities to improve the ability of our workforce to identify safety hazards and enhance HSE performance, including an emergency evacuation drill to simulate a TSF failure, the use of drones in wildfire prevention, and a variety of interactive programs held during the SIPAT 2023 (Week for the Prevention of Accidents at Work).

At our KFM operation in the DRC, 2023 was a critical year as the project transitioned from the construction to the operational phase. In light of the continuous increase in production capacity, collaboration between our on-site teams and proficient handling of machinery are crucial factors in ensuring safe operations. To improve safety standards, our KFM operation established a comprehensive QSHS system in line with ISO9001/14001/45001 standards, identified and evaluated process risks, established a risk register and work permit system, and implemented a range of rigorous risk controls. In addition, we hired a third-party consultancy firm to conduct gap analysis of our HSE systems, obtain independent insights into the scope and effectiveness of our HSE policies, and identify weaknesses. In response, we produced and implemented an action plan to redress deficiencies, including a commitment to obtaining ISO9001/14001/45001 certification. The purpose of these measures is to create a clean, safe, and healthy working environment for all our workers in line with international standards.



Employees at Brazilian site actively participated in the SIPAT 2023, identifying safety risks in the work environment to prevent safety accidents through a variety of interactive programs.

IXM also implemented its own HSE policies and took a range of other steps to improve safety standards, including risk control measures to reduce critical risks in its warehousing business, tailored management policies, and requiring partners to sign contractual agreements to define responsibility for safety issues.

Safety performance at CMOC is measured according to established benchmarks, such as our Total Recordable Incident Rate (TRIR) and Lost Time Injury Rate (LTIR). In 2023, CMOC reported 72 recordable incidents from a total of 84,741,321 hours worked, equating to a TRIR of 0.85 per million hours worked. There were 24 lost time injuries, equating to an LTIR of 0.28 per million hours worked. There were also 593 lost days due to work injury. Readers can find the year-on-year trends of our safety performance in appended Data Overview.

Occupational Health



The processes used in the mining and smelting industry present a range of occupational health hazards, including dust emissions, noise, toxic and hazardous gases, and exposure to mechanical vibrations. We are committed to creating a safe and healthy work environment for our employees and partners in order to prevent occupational illnesses.

Across all our global operations, we have established comprehensive mechanisms for managing occupational health issues, including the identification and mapping of occupational health hazards, prioritizing technical measures to eliminate or mitigate occupational health hazards at source, requiring employees to work in rotation to reduce exposure times, and mandating the use of personal protective equipment. We monitor the health of employees before, during, and after their period of employment or prior to their transfer to another post to prevent occupational contraindications and ensure they are in a fit state of health.

Dust and hazardous gases are the primary threats to employee health, and originate from drilling, blasting, ore loading and transport, crushing, and other handling during the production process. All employees undergo regular occupational health checks to monitor their state of health, which is recorded in an occupational health file. To reduce employees' exposure to risks, some of our mitigation efforts include the wetting or sealing of roads in mining and ore transport areas, the installation of dust collection systems next to dust-producing machinery and processes, and requiring employees to wear appropriate respirators in processes which produce toxic or hazardous gases. At our China operations, we increased automation in ore transportation, crushing, and packaging to minimize employees' exposure to dust.

Chronic exposure to noise from transportation, crushing, and milling of ores is another threat to employee health. In light of these risks, we monitor and map noise levels next to major sources of noise, install warning signs to inform employees of occupational health hazards, implement technical measures such as the installation of vibration- and noise-reducing systems and sound-proofed rooms, and provide employees with appropriate hearing protection based on their level of exposure, including ear plugs and ear defenders.

We are also committed to supporting the mental well-being of our employees and contractors; in 2023, we enshrined this commitment in our Responsible Production and Sourcing Policy. At our Chinese operations, we established dedicated mental health hotlines to support employees suffering from work-related stress or mental health issues. At CMOC Brasil, we supported the Janeiro Branco mental health awareness campaign by providing employees and their families with free and confidential mental health counseling. IXM continued to hold its "Wellness Week" campaign for the third year running, which encourages employees to value their physical and mental well-being.



In June 2023, IXM held its annual "Wellness Week", during which employees had the opportunity to participate in a series of activities aimed at improving well-being.

Employment



CMOC is committed to offering a diverse, open, inclusive, and trusting workplace that respects the rights of employees, ensures equal employment, and promotes fair competition and personal development. We develop our employment policies, such as workforce rights, in accordance with local labor laws and ILO conventions, and have a corporate culture that aims to promote the career development of our employees.

Labor Relations

In accordance with CMOC's *Employment Policy*, we respect the rights of all employees, and strive to provide an environment that ensures fair treatment and good working conditions. The company has a compensation program that provides employees with a salary and benefits that are consistent with market standards and relevant laws and regulations, including but not limited to pension, medical, and unemployment plans as required by regional and national governments. We set working hours and holiday entitlements according to the law or collective bargaining agreement that applies in the relevant jurisdiction. Employees have access to internal grievance mechanisms through which they can report and resolve workplace complaints or concerns. We make continuous improvements to our labor policies and seek innovative approaches aimed at enhancing industrial relations.

Our *Employment Policy* recognizes our employees' rights to freedom of association and collective bargaining. At our TFM site in the DRC, all workers are represented by one of 10 major DRC trade union organizations and covered by collective bargaining agreements. The unions have dedicated onsite mailboxes to collect employee concerns and grievances. The company management maintains close contact and holds quarterly meetings with union representatives to discuss employee and company concerns. In 2023, we organized a vote to elect new union representatives.

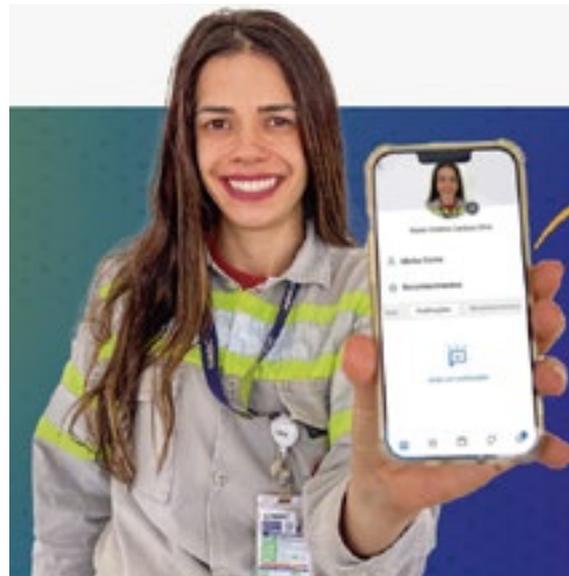


At our KFM site, union members liaise closely with onsite workers to monitor working conditions and grievances. To safeguard workers' rights, we have established a close partnership with two major trade union organizations, with whom we hold quarterly and annual meetings to discuss issues of concern. In addition, in May 2023 we issued the *KFM Staff Integration Policy* in Chinese, English, and French, which aims to prevent misunderstandings between local and expatriate employees. The policy is currently being implemented and will continue to be updated as circumstances require.

At our Chinese operations, we built 16 staff recreational areas equipped with a wide range of leisure, entertainment, and study facilities, including a reading area, a table football area, yoga and fitness facilities. In addition, after soliciting feedback from frontline workers, we liaised with third-party insurance companies to improve our health insurance policies and ease the financial burden on workers and their families, such as by reducing deductibles and providing coverage for a wider range of treatments. In the second half of 2023, we also issued 260,000 RMB of educational stipends to fund the university studies of 130 children of CMOC employees.

At CMOC Brasil, material issues are stipulated in collective bargaining agreements negotiated with trade union organizations and explained clearly to all employees. In 2023, we

launched a new app called CMOC MAIS pelo, which provides a transparent and convenient means for employees to share images and videos, access news and information about the company, and interact with colleagues.



The "CMOC MAIS pelo" app allows employees at CMOC Brasil to access information on our vacant positions, corporate values, ESG policies, health and safety regulations, and staff benefits.

Equal Employment

In keeping with the principle of equal employment, CMOC recruits and hires personnel through various means including open and competitive recruitment, and provides diversified and equal career development opportunities for employees. As stated in the *Employment Policy*, *Human Rights Policy*, and procedures at our operating sites, we do not allow any discrimination based on race, ethnicity, religion, gender, age, sexual orientation, gender identity, or other factors. We also adhere to the principle of fair employment and make employment decisions based on genuine job requirements, including remuneration, training, and promotion.

CMOC values workforce diversity and strives to offer an inclusive workplace. We practice local hiring and diversity in recruitment to support local employment, and cultivate talent to help build a more sustainable local economy. We respect different ways of life and encourage flexibility in exchanges and communications between locations and departments based on actual needs. At our Chinese operations, we support local government policies to facilitate the employment of people with disabilities, providing them with suitable job opportunities and ensuring they receive the same pay as their non-disabled counterparts. In 2023, we were listed as a model enterprise by the Henan Provincial Government for our efforts to promote harmonious labor relations.

Our TFM site published the *Policy on Safeguarding Vulnerable Groups* to identify and protect employees from vulnerable groups, such as people with disabilities, women and expectant mothers, young workers, immigrants, and workers with medical constraints.

In the DRC, which suffers from a high rate of unemployment, we include in our efforts community-based recruitment to help local people find stable employment opportunities. At our TFM operation, the human resources department works closely with the community department to advertise vacancies and organize village recruitment fairs aimed at encouraging local residents to apply for positions within the company. We also encourage contractors to conduct community recruitment in accordance with our company procedures, and provide employment opportunities to TFM scholars to encourage them to pursue a career within the company. In 2023, the TFM community department helped a total of 1,415 local residents to secure stable employment. At our KFM site, we issued clear regulations on issues ranging from local recruitment channels and methods to workforce composition and the safeguarding of employees' rights, ensuring compliance with the requirements of ILO conventions. As of the end of 2023, KFM had held over 100 recruitment campaigns through a combination of community events, job fairs, and recruitment agencies, creating approximately 2,000 jobs for local residents.

CMOC is committed to gender equality. We treat male and female employees equally, safeguard the health, safety, and wellbeing of all employees, promote women's career advancement by enhancing their education and training, and raise community awareness through community programs and campaigns. Across all our global operations, we support and encourage innovations and efforts to promote equality and diversity. Notably, at our Chinese operations, women account for 25.9% of the workforce — significantly higher than the global industry average in a sector that is traditionally regarded as male-dominated. In light of these achievements, we will endeavor to apply similar practices to our other operations in order to increase the number of women in our workforce and senior management positions.



In October 2023, the TFM Women's Committee organized their first activity — a workshop to help raise awareness about breast cancer.

In the DRC, TFM supports the Women in Mining — DRC (WIM DRC) initiative, which aims to end all forms of discrimination against women in the DRC's mining sector and promote the inclusion of gender in the DRC's national development strategy. In March 2023, WIM DRC organized a festival called *Thamani* (meaning "value" in Swahili) to recognize the contribution of various organizations in promoting women's leadership, including TFM, which was represented by a delegation of female employees.

In 2023, TFM also issued a *Gender Equality Policy* and established a Women's Committee. This committee furthers the company's commitment to gender equality and aims to promote women's professional development, safeguard their rights, and provide a forum for women to discuss issues of concern.

Our KFM site also published its own *Gender Equality Policy* to ensure that women receive equal treatment in the workplace and safeguard the rights of vulnerable women to prevent them from becoming victims of abuse or harassment.

At CMOC Brasil, we continued to organize a series of activities to celebrate International Women's Day and reinforce our values of care and respect, including an on-site event on the theme of equality and women's empowerment and a symposium for female employees.

In October 2022, IXM participated in the "Pink Month" initiative to raise awareness of breast cancer. This was followed by a month-long "Movember" campaign in November 2023 to spark conversations about men's health issues such as prostate and testicular cancer.



Around 70 members of IXM staff took part in the company's "Movember" campaign to raise funds and awareness for men's health issues. Their contributions have played an invaluable role in fostering a culture of health and well-being.

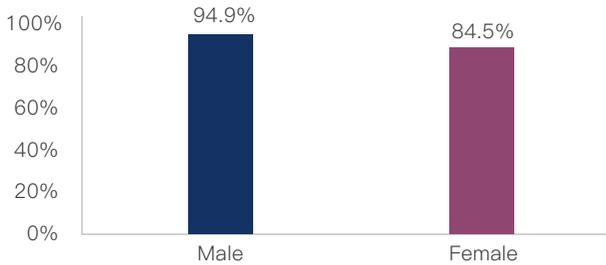
Training and Career Development



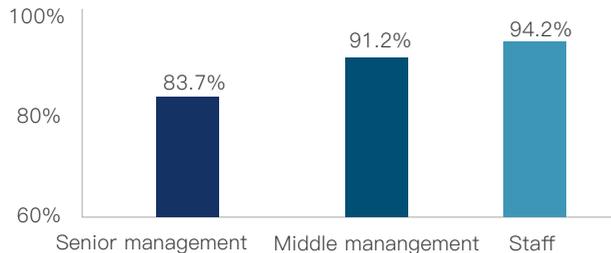
In accordance with the *CMOC Employment Policy*, to broaden firm-wide internal exchanges, we operate a differentiated talent development program that provides our employees with in-house training, rotation across mines, incentive-based development plans, and internal mobility channels based on recruiting, internal competitive selection, and referral. Guided by people-oriented principles and the strategy of the Group, we offer multiple paths for career development with space, tools, and opportunities for growth.

In 2023, 93.9% of CMOC’s workforce received training, with each employee receiving an average of 23.4 hours of training, a 3% increase compared to 2022.

Percentage of employees who received training by gender



Percentage of employees who received training by job category



In 2023, the Group HR department organized a range of targeted training programs for different grades of staff in order to support career development, share best practices, and improve organizational effectiveness. Specifically, we have incorporated the following measures into our talent development and training framework:

- As part of our global management trainee program, we introduced needs-tailored, modular training courses to equip talented university graduates with essential technical and management skills and help them to become competent, highly motivated, and internationally-minded leaders. In 2023, 123 graduates with degrees in mining, processing, metallurgy, supply chain logistics, and other relevant subjects were admitted to our management trainee program and assigned to positions across our global network of operations.
- We organized the “CMOC Talk” forum to enable senior executives to share their experiences with younger members of staff, and launched industry-leading skills courses to improve the leadership and professional skills of our management team. In 2023, we developed 12 new training courses and provided training for over 1,400 management-level staff.
- As part of our internal trainer empowerment program, we developed 52 microlectures covering 9 different topics, including mining, processing, geology, smelting, safety and environmental protection, electromechanics, and occupational functions. The microlectures were produced by 55 experts with reference to learning maps and specific work scenarios.
- We launched a new online learning platform, where employees can access a wealth of online learning resources, including 1,800 courses on general topics as well as internal training content. Since the launch, our employees have logged over 500,000 hours of training.

In 2023, the Group ESG department arranged a series of training sessions for all CMOC employees to raise awareness of ESG issues, covering topics such as responsible production and procurement, human rights, environmental risk management, ESG standards, and the Task Force on Climate Related Financial Disclosures (TCFD). At the Group level, the ESG department launched a new training initiative called “ESG Tea Break”, which provides one-to-one, in-person training to the Group’s various functional departments. At our mining sites, we appointed leading international consultancy to develop training materials on human rights due diligence and organize thematic training for employees.



In July 2023, CMOC China’s tungsten operation organized a range of professional skills training for maintenance workers covering topics such as routine maintenance, troubleshooting, and setup procedures. After completing training, participants were required to complete a practical test to assess their skills.

At our Chinese operations, we continued to improve our training systems to help our employees improve their professional skills and competence. We have set up targeted training programs for managers, skilled workers, and employees in functional departments to meet the needs of each department. In 2023, we organized a series of skills contests and tests to reinforce key skills and knowledge and foster a culture of collective learning. Over the course of 2023, 100% of employees at our Chinese operations participated in some form of training.

At our TFM operations in the DRC, 16,786 employees and contractors participated in training in 2023, equivalent to 99% of the total workforce. In addition to annual refresher training, the company also organized a range of other skill training courses for employees and contractors, covering topics such as forklift

operation, language skills, and high-risk jobs. In 2023, our KFM operation continued to organize onboarding training and safety inductions for all new employees. We also launched a new mentorship program, using a combination of on-the-job training, theoretical learning, case studies, and job rotations to support the development of local and Chinese talent. In 2023, 100% KFM employees participated in training. In view of the close proximity and similar nature of our TFM and KFM mining sites, in 2023 we organized a number of exchanges between technical staff to explore strategies for improving production standards, covering processes such as grinding and milling, electrowinning, and copper cathode quality management.

In 2023, CMOC Brasil launched a new skills training program, providing a total of 30 hours of online theory classes and 70 hours

of needs-tailored practical training to improve workers' skills and support their career development. In addition, the human resources department launched a new corporate university platform called UniCMOC, which offers over 200 courses designed to help employees improve their skills and plan their careers. In 2023, 67% of employees received some form of training.

At our IXM operation, the training catalog has been integrated into the company's HR system, where it can be accessed by all members of staff. Currently, the catalog contains 146 training modules in various formats, which cover a diverse range of topics including industry knowledge, skills, and certification training, as well as training courses on the company's organizational culture. In 2023, 39% of IXM employees participated in training.



CMOC Brasil organized a graduation ceremony for 330 employees who completed the first phase of our new skills training program, which aims to promote continuous learning.



Community

CMOC's *Community Policy* is applicable to all of the Group's operations. In 2023, we updated this policy in line with the RRA criteria of the Responsible Minerals Initiative as well as the needs and operational circumstances of our global operations in order to underscore CMOC's commitment to local communities and provide better guidance for our community work. By identifying and mitigating negative community impact risks and making long-term positive contributions, our goal is to establish partnerships based on mutual trust at all levels of community, from local to national, support the achievement of the United Nations Sustainable Development Goals (SDGs), and build self-reliant communities.

We continue our engagement with communities affected by our operations, improve representation of community

members, and maintain multi-channel grievance systems to collect feedback and concerns. We use long-term community investment strategies and development projects to implement community priorities. We make investments, develop infrastructure, support health, safety, and education efforts, and provide local employment and business opportunities to empower communities.

Community investment projects at CMOC's international sites are guided by local laws and regulations and seek alignment with international good practice frameworks such as the RRA and Performance Standard 5 of the International Finance Corporation. Community engagement and investment activities may also be governed by commitments made through the process of environmental and social impact assessments or their equivalents under national regulations. At our Brazilian and DRC operations,

our community work is primarily guided by stakeholder engagement centered on community risk and impact management. Community engagement also enables us to identify community priorities and develop tailored investment plans. At our Chinese site, our community work is closely aligned with national rural development strategies as well as local government and community development priorities. Through this work, we endeavor to consolidate China's achievements in poverty alleviation and stimulate socio-economic development. In all cases, CMOC understands that stakeholder engagement based on mutual trust and transparent dialog is material to the success of our business, and is committed to continuously improving the implementation of engagement so that we can effectively mitigate the adverse impact of our operations while strengthening our positive contributions.

Our Chinese operation is located in Luanchuan, Henan province, a rural, mountainous county with rich mineral resources. Despite being officially removed from China's list of impoverished counties in 2019, the area is still relatively underdeveloped. As one of the largest companies in Luanchuan county, we live up to our social responsibility by making a long-term contribution to local development. As of 2023, our multi-year investment programs have cumulatively contributed over RMB 220 million in donations to the county for urban-rural development, economic development, education, health, the environment, and other causes. Currently, the community work of our Chinese mining operation is focused on a number of areas, including consolidating previous achievements in poverty alleviation and promoting rural revitalization. We continue to donate to educational and environmental causes, and provide targeted assistance to Xiaohe village by supporting the local rural tourism industry, creating stable job opportunities, and strengthening oversight of community development projects.

In the DRC, our TFM operation is located near rural villages, agricultural land, and two towns which have experienced significant population influx and rapid urbanization in recent years. According to current estimates, the population of the urban and rural areas within TFM's 1,500 km² concession is around 400,000, which represents an eight fold increase since the start of the project. The growing migrant population from other poorer regions has had a significant impact on local people's livelihoods, customs, and traditions, while presenting challenges for our community work. The community programs at this site are aligned with the UN Sustainable Development Goals and aim to address acute community development priorities, complement government development plans, and promote positive relations between community stakeholders and the company while balancing the limited human and material resources of the company with the needs of the rapidly growing migrant population. In 2023, TFM's community work focused on several key areas, including community liaison activities, health, education and youth development, agricultural and economic development, and infrastructure.

In 2023, we continued to implement the *Cahier Des Charges (Scope Statement for Community Development)*, which was signed by our TFM operation and the local community on January 20, 2021 and commits to investing US\$31 million in community development over a Five-year period, targeting priority needs such as health, education, economic development, infrastructure, and telecommunications. In addition, our TFM operation continued to invest 0.3% of net revenue in the Social Community Fund (SCF), which was created through contributions from TFM and responds directly to community determined priorities in the areas of infrastructure, education, health, and agricultural income generation. From its inception in 2009 through December 2023, the SCF has received estimated contributions of US\$68.83 million from TFM, of which US\$9.77 million was given in 2023. At the end of 2023, in accordance with the requirements of the DRC Mining Code, stewardship of the TFM Social Community Fund was handed over to DOT-TFM, a new management committee headed by the Congolese government with TFM and the local communities participating as joint members.

Our KFM mining site in the DRC occupies an area of approximately 20 km². Consequently, there are fewer local communities that are impacted by our operations. Community work at KFM is aimed at establishing positive partnerships with the local community based on mutual trust and respect, improving local livelihoods, and building community resilience. In 2019, KFM signed the first *Cahier Des Charges* with the local community, which has been implemented in full. In 2023, we engaged with stakeholders to produce a new version of the *Cahier Des Charges*. Over a period of four months, we held extensive consultations with the local community, with the participation of local government, traditional chiefs and NGOs, culminating in the adoption of the new *Cahier Des Charges* on November 30. Around 20,000 people will benefit from this plan, which contains a commitment to investing almost US\$8 million between 2024 and 2028 to support community development and address the needs of local communities through 23 different projects covering education, health, economic

development, energy, infrastructure, women's empowerment, and capacity building to enhance self-reliance. The KFM site also employs designated members of staff who are responsible for liaising with the local community, and maintains a community grievance scheme.

At our Brazilian operations, in 2023 we conducted a socioeconomic survey, which utilized a combination of quantitative and qualitative methods to analyze the status of neighboring communities as well as the internal and external stakeholders, focusing in particular on social vulnerability in rural communities. The conclusions of the survey proposed a number of strategies and recommendations, which will guide our community investment. These included promoting dialog and engagement with stakeholders; improving the management of social and environmental impacts; generating economic, social, and environmental value for local communities; contributing to quality of life, social inclusion, and environmental sustainability, and strengthening the company's reputation and social license to operate. Guided by these strategies, CMOC Brasil directly invests in community programs in surrounding areas and rural communities, and manages projects financed by the government's tax incentives in urban communities. In 2023, these programs targeted a range of issues including economic development, education and training, community health, culture and sports, sustainable development, diversity, and inclusion.

As a metals trading company, IXM places social investment in its efforts to improve the minerals supply chain. In 2023, it continued to participate in the Better Mining initiative and the Fair Cobalt Alliance in order to support efforts to formalize artisanal and small-scale mining (ASM) of cobalt in the DRC, as well as to improve the living conditions of local communities that depend on artisanal mining. In addition, IXM and its employees participated in a range of charitable initiatives, including fundraising activities for public health programs and a "Good Deeds" campaign to encourage employees to give back to society.

Stakeholder Engagement

CMOC's operations are located in diverse settings where cultural and economic conditions can vary greatly. For this reason, proactive and inclusive engagement with stakeholders near our operations is a common practice in successful community relations, mitigating social risks related to our operations, and maintaining our social license to operate. Through a diverse range of engagement channels, we encourage engagement with all types of stakeholders including local government agencies, traditional leadership, community groups, industry associations, non-governmental organizations (NGOs), the media, and individuals that may have a broad array of interests in our operations.

We develop stakeholder mapping and structured engagement plans, establish multi-stakeholder committees and define systematic procedures for multi-stakeholder communication, which constitute important channels for communicating with and collecting feedback from local communities. Community engagement committees have been established by our operations in Brazil and the DRC. Another important aspect in maintaining effective community relations are our systems for logging and responding to community concerns, such as issues concerning the local environment, health and safety, social investment, human rights, resettlement and land acquisition, and the recruitment of employees. All of our operations maintain systems that can receive and register community concerns and grievances, which are then tracked through the stages of being addressed and resolved.

Our Chinese operations maintain close relations with local stakeholders such as the local authorities and community members. We provide a community grievance mechanism, which plays an important role in facilitating engagement with the local community. Staff are regularly trained to ensure that the mechanism operates effectively, and we encourage local stakeholders to make full use of this mechanism to communicate with the company. When local residents have concerns, our community relations staff have the

responsibility to verify and address them in a timely manner and communicate the results to local residents. To this end, the company has established a reporting mechanism which requires concerns from employees and the local community to be reviewed and addressed on a monthly basis. An accountability system has also been introduced to ensure that all grievances receive a response from the relevant department. In addition, the company makes regular visits to the local community during holiday periods to distribute gifts of appreciation and learn about the challenges faced by local residents. In 2023, our Chinese operations received an award from Luanchuan county for the eighth consecutive year in recognition of our work to address community grievances.



At our Chinese operations, we employ a full-time member of staff to assist with rural revitalization efforts in Xiaocheng village and support the development of the rural economy.

At our TFM site in the DRC, the company engages with stakeholders on a regular basis in order to better understand their interests, concerns, and goals. TFM's stakeholders include government authorities, chieftainships, village leaders, civil society organizations, and members of urban and rural communities. As the primary means of gaining input on the community's priority development needs, every quarter TFM holds engagement meetings with a wide array of stakeholders at Tenke and Fungurume. In 2023, these quarterly meetings were attended by 184 stakeholder representatives, providing the company with the opportunity to inform the community about its mining activities and

construction projects, as well as respond to concerns received by the community liaison officers. In addition, the company organizes visits to neighboring villages to engage directly with local residents and improve relations. In 2023, we visited 76 of the 122 settlements within the TFM concession.

TFM also maintains a community liaison department, which staffs permanent liaison offices in the community. Each area has a designated TFM community liaison officer, who is responsible for holding routine meetings with key stakeholders, receiving community input on company actions, and serving as the primary communication channel between local residents and TFM. In 2023, the TFM community liaison team held 67 meetings with local chieftains and engaged with 3,263 members of the local community. To strengthen engagement with the community, we also recruited a number of volunteer messengers in local villages, who enable the company to monitor and respond promptly to developments within the community. In addition, the company organizes consultations and awareness campaigns for specific projects and for issues which are of concern to the community. In 2023, these consultations and campaigns included topics on implementation of the Cahier Des Charges, emergency response drills at tailings storage facilities, safety measures around the site perimeter, and community recruitment. TFM's community grievance system is managed by the community liaison department, which employs a dedicated community grievance officer. All community members including TFM employees may present grievances related to the impacts of our operations. All grievances are received and tracked by an information management system. Community residents can also participate in the grievance resolution process through an independent mediation committee, 60 percent of whose members are local residents.

Stakeholder engagement is also important when we develop effective strategies for mitigating risks. Material risks affecting the local community and TFM operations include the establishment of new settlements driven by the continued expansion of the two major towns and neighboring villages posing a threat to the health, safety, and stability of local communities, illegal artisanal miners who congregate in the villages surrounding mining sites causing disturbance to our operations and social tensions, and an increasing number of opportunists raising resource constraints and execution difficulties in our resettlement activities. In response, TFM has strengthened its engagement with the local government, civil society organizations, industry associations, and other mining companies in order to develop joint strategies for mitigating risks related to in-migration and ASM.

At our KFM site in the DRC, the community department has established procedures for day-to-day communications, meetings, and correspondence with nine neighboring villages in order to understand their needs and receive and respond to their grievances. In 2023, KFM updated its map of community stakeholders, which primarily include government authorities, chieftainships and village leaders, local development committees, villagers, and civil society organizations. The community team maintains close contact with stakeholders by making weekly visits to the community and organizing a community meeting at the end of each quarter to discuss the progress of the company's projects, solicit opinions, exchange views on recent developments, and explore solutions for addressing villagers' needs and challenges.

In August 2023, KFM commenced the drafting of a new *Cahier Des Charges* for the period 2024 through 2028. As part of this process, we engaged extensively with the local community and held 25 meetings with a total of 937 participants. Implementation of the new *Cahier Des Charges*

will be monitored by a Local Supervision Committee comprised of local stakeholders. A Local Development Committee comprised of community representatives will also serve as a bridge between the company and local villagers.

Our Brazilian operations continue to value and maintain dialog with various stakeholders, including members of the community, NGOs, media organizations, opinion leaders, industry associations, government authorities, and regulatory bodies. Through our "Talk to Us" initiative, we provide a range of channels for internal and external stakeholders to contact us, including social media, telephone, and email. Other key engagement activities include face-to-face meetings, house-to-house visits, interviews with local residents, community grievance mechanisms, training, and awareness campaigns. Our community team also distributes information leaflets and fridge magnets with the company's contact details.

In 2023, CMOC Brasil held a total of 75 meetings with external stakeholders; our community team also engaged with 1,190 urban community members and 1,035 rural community members, totaling 547 hours and 301 hours respectively. The company attends meetings of the Cubatão Consultative Community Council and liaises with government departments in Catalão and Ouvidor on a regular basis. In addition, CMOC Brasil engages actively with 44 households situated within the TSF emergency evacuation zone in order to raise awareness of evacuation procedures and invite residents to participate in emergency drills.

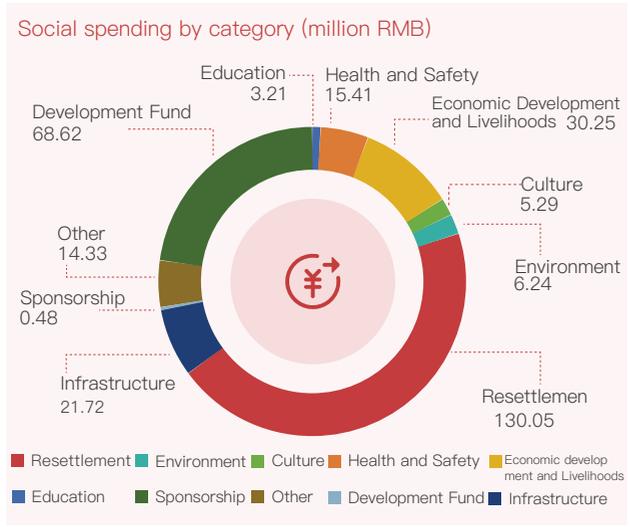
In 2023, CMOC Brasil completed a comprehensive socio-economic analysis. Based on information collected from 410 interviews, we updated our stakeholder map, analyzed community and stakeholder priorities, and defined our community investment strategies and focus areas. We also held an open day for customers and continued to strengthen engagement with stakeholders from across the supply chain, as well as with all levels of government.



In 2023, CMOC Brasil conducted a comprehensive socio-economic analysis and strengthened communication channels to foster effective engagement, friendly relations, and trust with local communities.

Community Development

CMOC's investment approach is based on community's priority needs and includes direct investment, contributions to community foundations, and participation in government as well as private sector-led initiatives. Our community investments are also centered around the United Nations Sustainable Development Goals (SDGs), with a particular focus on Goals 1 (No poverty), 2 (Zero hunger), 3 (Good health and well-being), 4 (Quality education), 5 (Gender equality), 6 (Clean water and sanitation), 7 (Affordable and clean energy), 8 (Decent work and economic growth), and 9 (Industry, innovation, and infrastructure). Investments are typically made in the broad categories of education, healthcare, economic development, infrastructure, the environment, and resettlement. At our TFM and KFM sites in the DRC, implementation of the *Cahier Des Charges* is subject to regular inspection by a Local Supervision Committee; at our Brazilian operations, regulatory authorities conduct an annual audit of our social projects within the tax incentive portfolio. In 2023, CMOC spent a total of RMB 295.60 million in community projects.



Education



Support for education from kindergarten through to university is a high priority for our community investment projects. Across all our operations, we support higher and vocational education to improve career opportunities for the younger generation. In 2023, we invested RMB 3.21 million in educational programs worldwide.

In China, the company believes that addressing educational needs is the key to promoting regional development. In 2023, we donated a further RMB 2 million to educational causes in Luanchuan county, including helping university students to finish their studies and ensuring that students from low-income families in Xiaohe village can attend school. Over the past ten years, CMOC has donated a total of RMB 20 million to educational programs, which have benefited more than 6,000 students from Luanchuan county.

In the DRC, we are committed to expanding access to basic education and reducing drop-out rates. Education is one of the key priorities of TFM's community investment strategy. In 2023, TFM continued to build local schools and subsidize teachers' salaries and school operations. In addition, the company is currently implementing a range of other projects listed in the *Cahier Des Charges*, including a vocational school and new school facilities.

TFM is also committed to improving vocational education opportunities for local young people. Since 2013, we have provided annual scholarships to local students who are admitted to the Technical Institute of Mutoshi. In 2023, scholarships were awarded to 29 students, including 11 female students. In addition, TFM supported local community centers by providing training to 278 trainees covering skills such as carpentry, tiling, plumbing, and tailoring.



TFM provides vocational skills training to improve career prospects for young people from neighbouring communities.

At KFM, we continued to fulfill our social responsibilities in the *Cahier des Charges* by providing occupational skills training. In 2023, a total of 126 people from neighboring communities participated in skill training, including 4 carpenters, 15 masons, 70 driving students, 10 welders and 27 metalworking students. In addition, on January 26, 2023 we held a handover ceremony to celebrate the completion of Kansuki primary school and provided the school with 135 backpacks and stationery sets.

At our Brazilian operations, we implemented a diverse range of educational and training programs in collaboration with local partners, including knowledge and skills courses for school-age children covering topics such as science, society, art, sports, health, and safety. We also continued to offer the "SENAI" program, providing skills training to 56 young people in order to help them enter the labor market. In addition to technical skills and theoretical knowledge, our training programs also focus on the development of soft skills such as discipline, responsibility, interpersonal and social skills, and mental health.



At CMOC Brasil, we teamed up with the Goiás State Fire Department to organise a fire safety course at a local primary school in Catalão.

Community Health and Safety



Across all our operations, community health and safety is critical to the success of our business. Members of the local community comprise the majority of our workforce, and therefore community health and safety has a direct impact on the stability and productivity of the company's workforce. Our operations may also result in adverse health and safety risks and impacts for local communities, and constitute a material risk in terms of the potential social and human rights impacts. In view of these risks, we have designated community health and safety as one of our key investment priorities, and monitor performance very closely. In 2023, CMOC invested approximately RMB 15.41 million in community-based health and safety projects, addressing a range of priority needs.

Due to the lack of medical and healthcare facilities and municipal infrastructure, communities near our TFM operation may face shortage of medical, sanitation, and health services. In recent years, the growing migrant population within the mining concession has increased the risk of communicable diseases that have the potential to affect the health of local residents and TFM employees. Our health support projects help to mitigate these risks by addressing the urgent needs of local communities. In 2023, TFM took a range of steps to improve community health and safety, including updating its community health survey, the construction of new healthcare facilities, skills training for healthcare professionals, disease surveillance and control, expanding access to clean drinking water, installing signposts at emergency evacuation points, and conducting emergency evacuation drills.

In recent years, TFM has continued to monitor the incidence of communicable diseases in the local community, such as malaria, HIV/AIDS, cholera, and sexually transmitted infections, as well as raise awareness and assist with efforts to control their spread. In 2023, we took a range of

measures to reduce the incidence of malaria. In addition to spraying approximately 7,390 rooms with mosquito repellent, we also identified 29,258 mosquito breeding sites within the mining concession and applied larvicide at all sites where we detected malaria-infected mosquitoes. The company also runs an insect laboratory that conducts research into the effectiveness of residual insecticides on various surfaces and malaria vectors. In 2023, TFM deployed a medical team at schools in Fungurume to conduct an annual malaria survey among local schoolchildren and provide antimalarial medication. A total of 3,255 children aged 6–12 participated in the survey. We also provided polio vaccinations to 81,381 children.

TFM has also continued to support the "SafeTstop" HIV/AIDS awareness and testing initiative for truck drivers. In 2023, 4.9% of those truck drivers who participated in voluntary testing tested positive for HIV. We also distributed over 20,600 condoms to truck drivers and assisted the local NGO Lamuka with an HIV awareness campaign for approximately 2,000 residents of neighboring communities, including over 1,000 high-risk individuals such as sex workers, truck drivers, taxi drivers, and police officers. Approximately 47,000 condoms were distributed as part of the campaign.



Following the end of the 2023 rainy season, TFM deployed a medical team at local schools. In addition to conducting an annual malaria survey, the team provided children and parents with free medication and raised awareness of malaria prevention measures, such as how to use a mosquito net. The initiative has made a meaningful contribution to reducing absenteeism due to sickness of school children.

In 2023, our KFM site implemented a range of projects as part of the *Cahier Des Charges*, including training 45 community health workers for the Lualaba Provincial Health Division, organizing birth planning workshops for local women, and providing 1,250 vaccinations for children aged 0–5 in neighboring villages, including the BCG, measles, cowpox, and polio vaccines. We monitor and log disease outbreaks in communities surrounding the mining site in order to inform our health-related interventions. KFM has also drilled wells, installed solar panels, built water tanks, and maintained water pumps to improve local residents' access to clean drinking water and reduce the incidence of diarrhea and other waterborne diseases. In addition, we conduct regular maintenance of roads in Mayeba village to reduce the number of traffic accidents, and incorporate health and safety into our community awareness campaigns.



Betty Amunaso, a community health worker in KFM's surrounding community, highlighted the importance of the training she received, both for personal health and community hygiene: "The course enhanced my understanding of vaccination schedules, community health, and family planning, and also sought to help eliminate child marriage. I appreciate KFM's commitment to community well-being and hope it can continue to support this cause, so as to bring further positive change to the community."

In 2023, CMOC Brasil continued its community health campaign by providing influenza vaccinations for members of neighboring rural communities who are unable to travel to cities. We also launched an educational program on dengue fever prevention, reaching over 4,000 students in 8 local schools.

In November 2023, IXM launched a “Movember” campaign and donated to the eponymous charity to support efforts to combat cancer and raise awareness of men’s health issues. The company also launched a “Good Deeds” campaign to encourage employees to assist vulnerable members of the community, such as by volunteering at food banks (Switzerland), donating blood (South Africa), caring for cancer patients (Peru), and distributing gifts to children at a local orphanage (Mexico).

Environment



CMOC attaches great importance to the protection and continuous monitoring of the natural environment and neighboring communities. In 2023, we invested approximately RMB 6.24 million in environmental research, management, and education to protect local communities and the natural environment.

At our operation in China, we donated a further RMB 5 million to Luanchuan county to assist with environmental improvement. At KFM, we conducted a feasibility study on renewable energy and installed solar panels for 103 households in Kisanfu–Koni village in order to meet basic lighting needs and reduce emissions. In 2023, CMOC Brasil continued to invest in afforestation projects by planting approximately 30,000 native saplings over an area of 37.5 hectares. Our Brazilian operations also continued to work with the Federal University of Catalão to conduct a water

management research project in neighboring communities. In 2023, after reaching an agreement with 56 local farms, we installed rainwater collection systems and conducted a groundwater impact assessment. A total of 200 systems are due to be installed as part of the project. In addition, the community team launched a new project to protect 12 local springs and revegetate neighboring areas with saplings, some of which are bought from local family nurseries.



In Brazil, we responded to the needs of neighbouring communities by launching a water management research project. The project aims to improve the sustainability of local water resources, reduce the risk of water shortages, and improve community relations.

Economic Development and Livelihoods



The value we create as a company also includes generating economic growth and improving livelihoods for the communities impacted by our mining operations. We strive to help communities become self-sufficient and take charge of their own development — factors which are important for reducing external pressure and creating a favorable environment for our operations. Therefore, we invest in economic development and livelihood initiatives in neighboring communities. Our programs are directed at building capacity to address economic drivers, such as agriculture and local business development, with a particular focus on economic diversification and building the capacity of local women. In 2023, CMOC invested approximately RMB 30.25 million in projects of economic and livelihood development.

At our Chinese operations, we donated a further RMB 8 million to a dedicated charity fund in collaboration with Luanchuan county to support local healthcare, infrastructure, and the development of local industries. Since 2017, we have appointed a designated member of staff to assist with poverty alleviation efforts in Xiaohe village, where we have introduced a range of measures to boost the incomes of local residents, including supporting the development of local industries, expanding market and building reputation in rural tourism, chrysanthemum farming, fruit production, and investing in village infrastructure. In 2023, we received a “Best Practice Award” from the China Association for Public Companies in recognition of our efforts to promote rural revitalization by empowering members of the local community. In addition, we supported the construction of a pumping well in the neighboring village of Huayuan to improve access to clean drinking water.

Our community team also conducts regular surveys to understand the evolving community needs and helps formulate plans for stimulating development. In addition, we deployed a team of four staff to neighboring villages, supporting village development by introducing advanced management expertise and facilitating access to economic resources. In 2023, the team spent a total of 2,170 hours working with local communities.

At our TFM operations in the DRC, one of our key areas of developmental support is the agricultural sector due to its importance to the local economy and household food security. In 2023, we implemented a range of livelihood projects from TFM's *Cahier Des Charges*, including the following:

- 1) We continued our maize credit project, providing support to 1,677 farmers over 1,502 hectares of agricultural land. In 2023, a total of 7,510 tonnes of maize was harvested, which corresponds to an average yield of 5 tonnes per hectare.
- 2) We donated 114 goats to 35 households and provided animal husbandry training to a total of 58 households.
- 3) We supported a range of projects at the local Songhai agricultural development center, focusing on power and water infrastructure.
- 4) We supplied agricultural and livestock cooperatives across four regions with agricultural resources and essential infrastructure, and organized management training, benefiting approximately 8,000 farmers.
- 5) We donated 8 tractors to 2 local development committees. To date, the tractors have plowed a total of 639 hectares of land.
- 6) We supported 8 local women associations (cooperatives) in entrepreneurial activities.



In 2023, TFM donated tractors and plowing equipment to the local community and organized training in tractor maintenance. The tractors have significantly reduced the amount of time farmers spend plowing their land and provide a greater tillage depth, which contributes to higher crop yields.

In 2023, our KFM operation continued to provide agricultural resources to villagers living in neighboring communities, benefiting a total of 125 households. We also organized agricultural skills training for 234 people to help local farmers improve their tillage techniques and increase their productivity. In addition, we enabled 140 women to participate in an adult literacy program and established Village Savings and Credit Associations (VSCAs) in each village to encourage a culture of saving. We also provided female artisans with free supplies of fabric, sponsored International Women's Day activities, and advocated for gender equality among community stakeholders to raise awareness of women's rights.

In 2023, CMOC Brasil continued to provide technical assistance and training through its "No campo com a CMOC" initiative, which helps rural families to boost their incomes and economic independence by starting their own business. In 2023, a total of 232 families benefited from the initiative. In addition, our "Parceiro CMOC" initiative

supports agricultural producers in neighboring communities by supplying high-quality fertilizers at reduced prices, enabling onion and garlic farmers to save on production costs and expand their cropland, as well as providing more employment opportunities for local residents. Our family nursery program has also started to generate income for participating families: in 2023, we purchased the first batch of 10,000 saplings, which are expected to generate an income of BRL 50,000 (approx. US\$6,200) for each nursery. CMOC Brasil will continue to organize technical training and provide support with marketing strategies and cost-effective production techniques to help participating nurseries establish a successful business model.



Marcelo Alves participates in our family nursery program. Before joining the program, he made most of his income from his job as a spice producer and his earnings from a small fruit and vegetable plot. In 2023, CMOC Brasil purchased the first batch of saplings from his home nursery, providing him with an additional source of income. His saplings have also attracted considerable interest from individual buyers. He is optimistic about the future and is committed to turning his home nursery into a successful business that generates a steady source of income.

Infrastructure



A robust infrastructure is essential for empowering local communities. Depending on local needs and priorities, we invest in a wide range of infrastructure including water supply, roads and bridges, electricity infrastructure, healthcare, schools, and community facilities, all of which play an important role in helping communities to meet their basic needs. In addition to supporting the construction of new infrastructure, we also train local people to manage and maintain existing infrastructure to ensure that members of the community continue to benefit over the long term.

In 2023, our TFM operation completed an electrification project to improve access to electricity in the town of Tenke. Approximately 50,000 people have benefited from the project, which included the construction of a substation, the installation, connection, and commissioning of electrical infrastructure, and the installation of overhead power lines in an urban area with a radius of 13 kilometers. Other TFM-funded projects completed over the course of 2023 include a new bridge in Fungurume town, which is expected to benefit almost 200,000 people, and the completion of a new healthcare clinic in Tshilongo village, which will help to meet the healthcare needs of around 10,000 local residents. Ongoing infrastructure projects include 9 local primary schools, 1 village healthcare center, 24 kilometers of urban and rural roads, 50 wells and a water supply system, 3 community centers, 4 tractor sheds, 4 grain storage facilities, and 4 farmers' markets.

Following the completion of Lianxin Bridge in Xiaohe village in 2021, our Chinese operation held a groundbreaking ceremony on October 31, 2023 to celebrate the start of a new bridge project on the eastern side of the village. Funded by a RMB 1.2 million investment from CMOC, the bridge will improve access across the river during the flood season.



Our TFM operation completed an electrification project in the town of Tenke, demonstrating its commitment to addressing community development priorities and long-term infrastructure needs.



Land Acquisition and Resettlement



All our global operations require the acquisition of land to accommodate mining, processing, and administrative needs. The acquisition of land follows procedures derived from site policies that in turn reflect relevant laws and regulations in the areas where operations are located. Across all our operations, land acquisition methods reflect internationally accepted good practices, including stakeholder consultation and negotiated settlement based on fair market valuation.

At our Chinese mining site, safety regulations at the Sandaozhuang waste rock dump required the acquisition of approximately 60 hectares of land in 2023, affecting 305 people. Acquisition and resettlement was completed by the People's Government of Chitudian Town in Luanchuan County in accordance with the *CMOC China Land and Forest Management Regulations* and the compensation policies of Luoyang Municipal Government. We also provided job opportunities for affected residents in accordance with the *CMOC China Regulations on the Employment of Resettled People*. In 2023, we employed a total of 37 resettled people, including 19 women. To date, we have created jobs for more than 1,000 local residents, providing them with a stable source of income.

At our TFM operation in the DRC, land acquisition and resettlement is guided by international good practices, notably Performance Standard 5 of the International Finance Corporation (IFC), which helps protect the

livelihoods and rights of affected populations that are vulnerable due to poverty and lack of formal title to the lands they occupy. In 2023, TFM acquired 1,864 hectares of land for operational needs. In total, 1,191 project affected households were resettled in other communities with assistance from TFM. In addition, 1,631 project affected persons received economic compensation for their land and other resources, but were not required to relocate. Since the beginning of construction in 2006, TFM has physically displaced 2,714 households, of which 742 households have been relocated to newly built residential areas. An additional 1,972 households have been assisted with resettlement in Fungurume, Tenke, and other communities. Under our livelihood restoration program, we relocated 1,135 plots of farming land within the mining concession and distributed seeds and fertilizer to support the cultivation of crops. During the 2023 agricultural year, we helped to restore the livelihoods of 2,737 displaced farmers. TFM recognizes the importance of land management and resettlement, and formulates acquisition and resettlement plans in close consultation with stakeholders. Our resettlement activities also undergo an external audit every two years to determine whether resettlement outcomes comply with relevant policies and standards, assess satisfaction among members of the community, identify gaps and develop corrective action plan accordingly. In 2023, we drafted

and implemented an action plan based on the recommendations of the 2022 audit. We also engaged with the local community to complete the relocation of the Kimpiyi tomb site in accordance with our *Chance Find Procedure*.

In 2023, our KFM site acquired 518.6 hectares of land within the mining concession. Our land acquisition procedures include explaining the land acquisition process to local villagers, identifying affected people and property, surveying affected land in consultation with government representatives and local residents, calculating and disbursing compensation payments in accordance with established standards, and tracking relocation progress. In 2023, we relocated two tomb sites covering an area of approximately 1 hectare in accordance with our *Chance Find Procedure*. The relocation took place following extensive consultation with leaders of the Bayeke chieftainship and ten local families, and a traditional ceremony was held to mark the occasion.

At CMOC Brasil, approximately 103 hectares of land was acquired in 2023 due to operational needs, affecting 3 households. Affected residents were compensated in accordance with relevant legal requirements and company policies. We also updated our *Resettlement Procedures* in order to better respond to the expectations of stakeholders.



Human Rights

In 2023, CMOC continued to refine its human rights policies and procedures. We enhanced management capabilities and practices across business units and strengthened stakeholder engagement to better meet their expectations.

Following the update to the *Human Rights Policy* in 2022, in 2023 CMOC published the *Responsible Production and Sourcing Policy*. This policy enshrines CMOC's commitment to ethical and sustainable business practices in its operations and supply chain, which includes continuously carrying out appropriate due diligence in the mineral supply chain and ensuring responsible production and sourcing of minerals in line with the OECD Guidance. The *Responsible Production and Sourcing Policy* aligns with the company's commitment to ethical business conduct and respect for human rights, as stated in policies such as the *Human Rights Policy* and *Supplier Code of Conduct*. It encompasses the identification, mitigation, and reporting requirements for human rights and conflict risks within the supply chain. These efforts have strengthened our management of human rights risks within the supply chain. In the latter half of 2023, CMOC also updated its *Comprehensive Risk Management System* and established clear risk register criteria for identifying and assessing human rights and conflict risks. All global business units received training on the use of these new risk management tools.

In 2023, all employees and contractors at CMOC Brasil received training on human rights policies. At our Brazilian operations, we employ 87 contract security staff who are primarily responsible for controlling access points. All of these staff are unarmed and have received training in human rights. All service agreements at our Brazilian operations include an appendix with provisions on human rights. The company investigates and deals with all human rights violations that are reported to the "Allo CMOC" hotline.

In 2023, KFM published the *KFM Human Rights Policy* and provided training to improve human rights risk management among the KFM management team. In 2023, one of KFM's key priorities was the establishment of a comprehensive induction and refresher training system. A total of 1,423 new employees underwent human rights training during the onboarding process, while 2,543 existing employees received human rights training through refresher courses.

All TFM employees and contractors are required to complete induction training and annual refresher training, which includes a module on the company's Human Rights Policies. CMOC's *Human Rights Policy* and TFM's *Zero Tolerance Rules* are applicable to both TFM employees and contractors. In 2023, TFM strengthened human rights training and performance assessments for employees and contractors, and took steps to raise awareness of

grievance mechanisms. Human rights grievance and investigation procedures are applicable to all TFM employees, contractors, and local community members. In 2023, 99.1% of TFM employees and 99.3% of contractors received training in human rights policies. TFM's contract department has incorporated the evaluation of social indicators such as supplier safety, environmental performance, and human rights into its supplier rating system. Human rights clauses are also included in all contractor contracts and the TFM *Supplier Code of Conduct*. In 2023, TFM also published a *Responsible Mineral Supply Chain Due Diligence Report in an appendix to the 2022 TFM Environmental, Social and Governance Report*. The due diligence report outlines how TFM approaches OECD Annex II risks, which include serious human rights violations, within its operations and supply chain. It covers management policies and approaches, risk assessments, mitigation plans, past achievements, and ongoing challenges in this area.

Due to the expansion of TFM's operations, there has been a significant increase in construction contractors at the mine over the past two years. TFM is fully aware of the challenges and increased occupational health, safety, and human rights risks associated with contractors, and is implementing measures in the following areas to further mitigate those risks: 1) Relevant functional departments have intensified inspection and supervision of all

contractors, including scrutiny of employee codes of conduct, labor contracts, salary disbursement, working hours, labor unions, employee communication, safety training, provision of protective equipment, and compliance training. 2) We have strengthened a tiered management approach for contractors, drawing insights from routine inspections and considering different levels of risk exposure. This includes issuing written warnings, implementing corrective measures with timeline, temporary suspension and corrective action, and contract termination. 3) We stepped up training and awareness campaigns on human rights policies, zero-tolerance policies, and the company's complaints hotline. 4) We encouraged contractors to incorporate freedom of association and the payment of a living wage in employee contracts.

In 2023, CMOC hired international human rights experts to conduct human rights due diligence (HRDD) on TFM. In the course of the HRDD, experts assessed and prioritized human rights risks, impacts, and salient issues within TFM based on the United Nations Guiding Principles on Business and Human Rights (UNGPs). Experts conducted two visits to TFM sites and communities, where they engaged in extensive and constructive communication with key stakeholders. More than 350 stakeholders participated in the due diligence, providing valuable feedback. The HRDD specifically included risk assessments and training activities related to the Voluntary Principles on Security and Human Rights (VPSHR). As a follow-up to the HRDD, TFM appointed a senior executive to oversee the implementation of a human rights management system and established a cross-departmental human rights working group to ensure the continuous execution of HRDD. At the same time, TFM formulated a human rights action plan to manage human rights risks for both employees and the community. The plan encompasses

various aspects of TFM's operations, including human resources, health and safety, contracts and procurement, global supply chains, local communities, land acquisition and resettlement, and security. TFM also conducted extensive HRDD training for the management to enhance awareness, and released a *Human Rights Due Diligence Report* and a *Human Rights Commitment Statement*. According to the HRDD, TFM's salient human rights issues include artisanal and small-scale mining (ASM), influx of migrants, and security and human rights.

In terms of ASM, in the copper mining region of southeastern DRC, significant artisanal mining takes place. Many ASM workers, mostly in-migrating people, have congregated around privately owned mines, and some even enter mining sites to engage in illegal ASM activities. The formalization of ASM activities in the country is progressing slowly, and illegal ASM operations around the TFM concession continue to pose significant human rights risks. In 2023, TFM completed an ASM baseline survey to further assess the risks and impacts associated with illegal ASM activities within and around the TFM concession. The primary human rights risks include child labor, unsafe and unhealthy working conditions, and risks arising from interactions between ASM miners and TFM security personnel. The potential impacts include harm to TFM's staff and security personnel, stress and fear experienced by employees and the local community, and adverse effects on the environment, local security, and governance. Based on the survey results, TFM developed and released the *TFM Artisanal and Small-Scale Mining Policy*, established an ASM management task force, and formulated corresponding management plans and risk mitigation measures to strengthen human rights governance in the mining concession. To address the significant risk of child labor in illegal ASM operations, we have developed specific procedures for identifying and

addressing child labor risks. We have also collaborated with non-governmental organizations to pilot a child labor identification and remediation project. At the same time, we have developed a stakeholder engagement procedure to encourage a multi-stakeholder approach to managing and mitigating the risks associated with ASM activities.

CMOC also continues to support multi-stakeholder initiatives such as the Fair Cobalt Alliance and Better Mining to address the widespread and complex human rights challenges associated with ASM. We continue to engage in dialog with the government and appeal for the establishment of more legal ASM mining areas. We have also strengthened communication with various stakeholders in the community to build consensus regarding the risks associated with illegal mining. In addition, we support basic and vocational education in the community to reduce the risk of child labor in artisanal mining, and we invest in local communities to promote local economic diversification, so as to encourage illegal artisanal miners to transition to legal economic activities.

In terms of risks associated with influx of migrants, the main risks include a rise in crime, disease, harassment, and gender-based violence; adverse impacts on water, sanitation facilities, land, and cultural heritage sites; loss or impairment of social investments; and the detrimental impact of increasing ASM mining. Through ongoing communication with various stakeholders, TFM maintains dialog and collaboration with local government, communities, traditional tribal leaders, and non-governmental organizations. TFM also continues its efforts in areas such as education, clean water, community health and safety, local employment, and human rights protection through strategic community investments and comprehensive development projects. These initiatives aim to alleviate the adverse impacts of migration.

Security and Human Rights

Security solutions for all of our operations are tailored to specific needs. These include measures to prevent unauthorized personnel from disrupting production, ensure orderly and secure operations, safeguard the health and safety of employees and the public, and protect company assets.

In the copper mining region of southeastern DRC, an influx of migrants has intensified illegal ASM activities, contributing to rising crime in local communities. To safeguard company assets and personnel and maintain access control to operational areas, all of our operations in the DRC employ security personnel and engage private security contractors. These personnel and contractors are unarmed, have no law enforcement authority, and are primarily responsible for the supervision and management of access control points as well as industrial production areas within the mining area.

In the TFM and KFM concessions, the Mines and Hydrocarbons Police (PMH), a branch of the national police, oversee the enforcement of national laws, the legal extraction of minerals, and the safe operation of mining activities. While the PMH operate independently in law enforcement, they must adhere to the terms outlined in their contracts with the company's security contractors. These contracts explicitly stipulate compliance with the VPSHR, including directives on how to address allegations of human rights violations.

TFM and KFM adhere to the VPSHR, a set of principles that help companies to achieve operational security while upholding human rights. Both mines provide training to their employed security personnel, private security contractor staff, and mining police on the key principles of the VPSHR. Private security firms are also subject to due diligence at the contracting stage, including human rights aspects. In 2023, out of the 153 security personnel directly employed by TFM and the 2,447 staff employed by private security contractors, over 99% received training or refresher courses on the VPSHR. A total of 200 PMH officers were

stationed in the TFM concession, of which 197 received VPSHR training. KFM provided VPSHR training to all of its 4 directly employed security personnel, 576 staff from private security contractors, and 91 PMH officers within the mining area.

In recent years, a surge in migrants has exacerbated illegal mining activities in and around TFM, causing an uptick in crime and safety issues in local communities that relate to dangerous ASM practices. In June 2019, the government of the DRC decided to deploy armed forces to disperse illegal miners and crack down on unlawful activities. The armed forces and police of the DRC have the authority, as per applicable laws, to unilaterally enter and perform their duties in mining concessions. As of December 2023, there were still 141 soldiers stationed at the TFM concession and in adjacent areas. TFM recognizes the potential human rights risks associated with the deployment of the military. Therefore, with each rotation of the military, the company issues letters to government and military leaders that reaffirm its commitment to human rights policies, including its adherence to the VPSHR and policies regarding the use of force. TFM does not engage directly with the armed forces, does not participate in any military operations, and does not provide any assistance that could facilitate military operations.

TFM's security, community, and external relations departments continually monitor and record security incidents, as well as security and human rights issues at the concession. They also provide humanitarian assistance and conduct human rights investigations when necessary.

The primary security and human rights risks faced by TFM come from artisanal and small-scale mining activities within and around the mining area. To manage these risks, TFM conducts regular risk assessments and ongoing training for both public and private security in order to implement VPSHR within the TFM concession. In 2023, within the

framework of the HRDD, TFM invited an international human rights expert to provide training of trainers (ToT) on VPSHR for the security team and PMH. A VPSHR risk assessment was also conducted. We formulated an action plan for the implementation of VPSHR and took various measures to mitigate risks. In particular, we (i) intensified training on safety during handover among frontline mining staff; (ii) updated security-related standard operating procedures (SOPs); (iii) ensured security communication equipment operational; (iv) distributed VPSHR reminder cards; and (v) enhanced cross-departmental collaboration and communication between the security department, mining department, community department, external affairs department, and legal department. In addition, TFM invited the DRC civil society organization, Justicia, which is responsible for coordinating the VPSHR Working Groups, to provide training for the PMH. The training focused on the mission and roles of the PMH as well as regulations regarding the use of force and non-lethal weapons. Representatives from KFM's security team also attended the training.

As part of its efforts to promote and implement the VPSHR, TFM regularly participates in VPSHR Working Group meetings held in Kolwezi and Lubumbashi. During these sessions, TFM exchanges information and opinions with various stakeholders, shares best practices, and collaboratively develops advanced training materials on VPSHR. TFM views VPSHR as a strategic entry point for further dialog with the government of the DRC and the training of public security forces.

In 2023, KFM continued to enhance its management and training systems for security and human rights in line with VPSHR requirements. Continuous VPSHR training was provided for all security personnel and mining police, and terms in security contracts that related to VPSHR were updated. Representatives of KFM also regularly participate in the meetings of the VPSHR Working Group.



Product

Our mining and processing operations produce refined metal as well as intermediate and final composite products that are essential to the global economy. Molybdenum, tungsten, and niobium are mainly used in the metallurgy of super alloys. Cobalt primarily in lithium-ion batteries, essential for batteries and electric vehicles. Copper is widely used in every aspect of our lives, and is an important component of the clean energy transition, including the development of solar panels, wind turbines, energy storage, electric vehicles, and supporting infrastructure. Phosphate fertilizer is an indispensable material for agriculture. Our manufacturing streams also consume other products and services sourced from suppliers and contractors.

Our trading platform IXM provides global coverage for sourcing, risk management, logistics and financing solutions to a wide and established network of clients in the metals industry. IXM is also committed to efforts aimed at improving sustainability and transparency across the supply chain of EV-critical minerals.

The sourcing, manufacturing, transport, and delivery of all these metal materials pose environmental and social risks to the ecosystem and people within those supply chains. We address these risks, as well as those in the upstream and downstream value chain, with policies and due diligence procedures at our operating sites.

Supply Chain Management

Supply Chain Management in Mining Business

We consider environmental and social risks in the company's supply chain where we need to source input materials and services to support our operations. CMOC's sustainability policies serve as requirements for supplier management systems across all operations, covering matters such as health and safety, human rights, anti-corruption, codes of conduct, employment practices, environmental management, and community relations. In 2023, CMOC and its subsidiaries continued to execute these policies. All operations developed and improved procedures and systems for managing business partners in accordance with risk exposure.

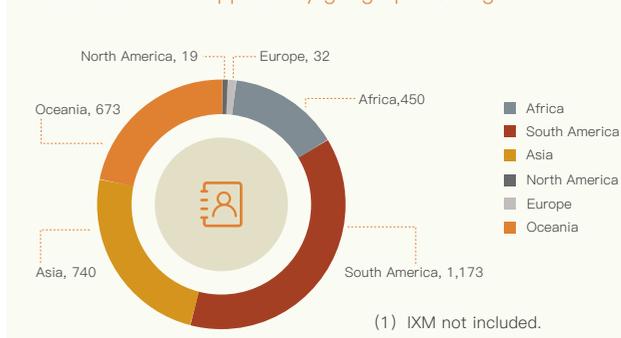
As a mining company, the risks of adverse impacts associated with extracting, handling, and sourcing minerals from conflict-affected and high-risk areas constitute material risks for our operations. We are committed to upholding international standards of diligence and conduct to mitigate these risks, and in particular, to conduct due diligence on mineral suppliers in accordance with the OECD Guidance. In 2023, we completed the development of a responsible production and sourcing management system in line with the OECD Guidance, and published our *Responsible Production and Sourcing Policy* on the company's official website in May 2023. The system includes procedures and tools to ensure the effective identification, assessment, mitigation, monitoring, and reporting of human rights, conflict-related, and financial crime risks in the supply chain.

In 2023, our Brazilian and DRC operations did not procure minerals from third parties or engage the services of upstream minerals suppliers. At our Chinese operations, we procured molybdenum concentrate from third-party suppliers in China and Peru. At our TFM and KFM operations, which are located in high-risk areas, we established a responsible production system in line with the OECD Guidance in order to identify, manage, and report OECD Guidance Annex II risks. In October 2023, TFM

published the Responsible Mineral Supply Chain Due Diligence Report; in February 2024, TFM was added to the Responsible Minerals Assurance Process (RMAP) Conformant Smelter List following the successful completion of an RMAP audit.

CMOC implements a Group-wide supplier management policy. Supplier management is overseen by the Global Supply Chain Department, which is responsible for managing the Group-wide supplier database, conducting annual supplier evaluations, and reviewing and publishing the company's list of certified suppliers. Our individual operating sites and the corporate central procurement platform are responsible at different levels for conducting routine supplier sourcing, onboarding, maintenance, performance appraisals, and annual evaluations, as well as producing a list of qualified suppliers to be reported to the Global Supply Chain Department. Supplier onboarding and evaluation criteria are used to assess performance across a range of ESG-related topics including business ethics and anti-corruption policies, environmental management, occupational health and safety, and human rights. We also use third-party platforms (such as the Chinese commercial query platform TianYanCha and the international GRC platform NAVEX) to conduct supplier vetting and due diligence, and carry out on-site assessments to evaluate the capabilities of suppliers and identify commercial risks. We inform all new suppliers and customers of and require them to comply with CMOC's *Code of Business Conduct*, *Anti-Corruption Policy*, and other compliance requirements. They also must sign and comply with our integrity pact. At the end of each year, all suppliers receive an open letter that emphasizes the Group's commitment to integrity in procurement and zero-tolerance approach to corruption, and encourages suppliers to report irregularities in CMOC's supply chain. Suppliers are informed of and encouraged to use the whistleblower channels published on the Group's website to report supplier-related risks.

Total number of suppliers by geographical region⁽¹⁾



In China, we have implemented the *Procurement Management Procedure*, *Supplier Management Procedure*, *Tender Management Procedure*, and other controls to ensure that qualified suppliers meet policy and regulatory requirements concerning commercial reputation, required professional expertise, and HSE considerations. Our Chinese operations also use a centralized procurement system to ensure appropriate supplier controls. We regard a supplier's environmental and social risks as an important factor in our assessments and strictly require those with whom we do business to comply with laws and regulations on environmental protection, employment, and operations. We regularly review and conduct annual evaluations of suppliers and pay special attention to due diligence on suppliers of hazardous chemicals and those with significant environmental impact.

At our TFM and KFM mines in the DRC, we use the NAVEX system to conduct due diligence on suppliers and contractors and screen for violations of applicable laws and CMOC policies governing anti-corruption or human rights. With respect to employment practices by contractors and suppliers, TFM and KFM pay special attention to policies pertaining to the legal

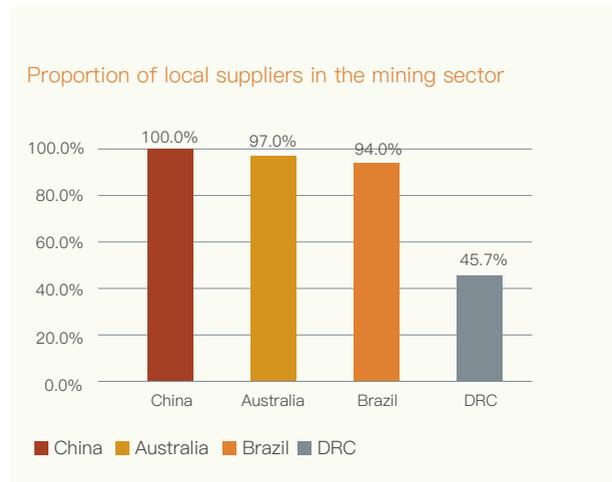
working age of their employees, and their compliance with the Labor Law of the DRC. We ensure that there is a zero-tolerance approach to underage labor through recruitment, onboarding, and training procedures.

TFM has implemented an annual assessment mechanism for on-site contractors that tracks their HSE performance, human rights, and other social indicators. In 2023, TFM's HR, HSE, administrative, engineering contract, and other departments continued to conduct regular joint inspections of on-site contractors and apply incremental penalties depending on their inspection outcome and risk exposure. Penalties include written warnings, regular corrective action, temporary suspension and corrective action, and contract termination. In 2023, our KFM site introduced the *ESG Risk Assessment for Contractors* and conducted risk assessments and follow-up monitoring to encourage contractors to improve their ESG performance in areas such as labor relations, HSE, community, and security and human rights. TFM and KFM also attach great importance to labor management and human rights training for contractors. In 2023, we stepped up human rights training for senior management, departmental managers, and contractor managers at both mining sites and distributed a human rights leaflet to raise awareness of human rights issues among all our contractors.

Our Brazilian operations have implemented a monthly supplier assessment plan. Under the plan, key contract suppliers are assessed and receive feedback on a monthly basis. These assessments draw on key environmental and social performance indicators such as a supplier's environmental and waste management capabilities, their engagement with local communities, and whether or not they support volunteering and professional qualifications. The plan aims to give public recognition to suppliers with outstanding HSE and social performance to encourage them to continue to improve their performance in these areas. With respect to supplier compliance

management, when vetting suppliers, our Brazilian operations use the Brazilian federal government's National Registry of Punished Companies (CNEP) and Registry of Ineligible and Suspended Companies (CEIS) to identify whether potential suppliers have a history of corruption, human rights abuses, or other compliance issues. After we establish cooperation with a supplier, in the event of any irregularities detected in our monthly compliance checks, the supplier will be suspended, delayed payment, or otherwise penalized according to the terms of their contract.

CMOC encourages the use of local suppliers in its global operations in order to leverage opportunities for local employment and economic development. The following table shows the use of local suppliers in CMOC's mining operations. We define local suppliers as those based in the country of operations. The proportion of local suppliers in the DRC is lower than other regions because of its level of economic development leading to limited choices of qualified local suppliers. CMOC will continue to promote the development of local economies, and in particular small and medium-sized community businesses, through methods such as tax contributions, community investment, and local tendering.



Supply Chain Management in Trading Business

As a global company involved in the trading of metals commodities around the world, IXM recognizes the risks associated with its minerals and metals supply chains and incorporates ESG factors into its business decisions to reduce risk and meet expectations of its stakeholders.

IXM commits to ethical and responsible business conduct in its supply chain and has established a responsible sourcing management system in line with international good practice described in the OECD Guidance and the Joint Due Diligence Standard for Copper, Lead, Nickel, and Zinc ("JDDS") which is derived from the OECD Guidance. IXM also adopted the RRA issued by the RMI that provides a comprehensive due diligence framework across all relevant ESG areas.

In 2023, IXM further improved its responsible sourcing management system in accordance with the continual improvement process. The two main activities that took place were the launch of *IXM Responsible Sourcing Policy* and a progressive improvement of the *Third Party Due Diligence Management Procedure*. These updates support IXM in meeting stakeholder requirements.

IXM's Responsible Sourcing Policy (publicly available on IXM website www.ixmetals.com) defines the key principles and the risk management approach that IXM applies globally. This policy is consistent with the standards set forth in the OECD Guidance and the JDDS.

To implement this policy, IXM has established robust management procedures to identify, assess, mitigate, and report on risks in its minerals and metals supply chains, following the 5-step framework for risk-based due diligence of the OECD Guidance. These procedures allow for identification and assessment of ESG-related risks, including risks listed in the Annex II of the OECD Guidance. The management approach consists of a



systematic risk-based due diligence of IXM's suppliers and is regularly supported by desktop research, supplier engagement, consultation with other stakeholders, and — depending on materiality of potential red flag — on-site visits or independent third-party audit.

IXM has made publicly available a grievance mechanism that ensures anonymous reporting of any policy violations or adverse impacts on stakeholders.

IXM Due Diligence Approach

IXM Counterparty Due Diligence (CDD) process is applicable to all commercial counterparties (suppliers/customers) globally and follows a risk-based approach where IXM is examining for these red flags below (non-exhaustive list):

- Material origin, transit, or destination is linked to Conflict-Affected and High-Risk Areas (CAHRA), or to an area neighboring CAHRA, or to an area with no/low metal resources.
- Counterpart sources material from 3rd parties operating in CAHRAs
- Counterpart is linked to serious human rights abuses, bribery and fraud, money laundering, tax evasion, or direct or indirect support to armed groups
- Counterpart is linked to adverse media or positive hits in KYC screening tools

When a red flag is identified/confirmed, IXM performs an Enhanced CDD to mitigate these risks, which can consist of:

- Screening of counterparty, shareholders, directors in KYC screening tools to check for potential hits against sanctions lists, previous legal/regulatory enforcements, political exposure, adverse media, potential affiliation with military or state-owned entities, etc.
- Submission and review of ESG questionnaire
- Identification and review of upstream suppliers of counterpart
- Identification and review of upstream suppliers of counterpart
- Verification of counterparty's countries of operation, as well as origin, transit, destination countries of material
- Review of counterparty's code of conduct, sustainability policy/report, or any policy/report related to anti-bribery & corruption, anti-money laundering, environment, community, etc.
- Desktop and/or on-site 3rd party due diligence.

IXM Sustainability Initiative

IXM has in place since 2021 a Revolving Credit Facility connected to sustainability linked performance indicators, of which IXM continuously welcomes new lenders. In 2023, IXM signed an additional sustainability-linked bilateral financing facility on top of what is already in place. These facilities include improvement targets which, upon achievement lead to interest rate discounts for IXM based on a preset scale.

One of these targets is related to IXM's ESG rating performed by EcoVadis, one of the largest business sustainability rating providers, which measures CSR performance in four key areas: Environment, Labor & Human Rights, Ethics, and Sustainable

Procurement. In 2023, IXM scored a gold rating which is a tremendous improvement from previous years. IXM was ranked in the top 3% of companies rated by EcoVadis in the metal trading industry.

In parallel, IXM continues its efforts to measure, assess, and improve its environmental footprint. IXM is able to quantify a partial scope of its upstream scope 3 GHG emissions stemming from all IXM trades except for China domestic transactions. On a monthly basis, based on IXM trades a carbon emission analysis report is received from an external carbon accounting platform, as well as trade-by-trade analysis with asset- and supplier-level performance assessment against carbon emission industry benchmarks.

IXM recognizes that small-scale and artisanal mining (ASM) provides a source of income and generates employment in many countries. IXM supports legitimate ASM formalisation efforts underpinned by strong country, mining company and supply chain governance. IXM however, takes actions in its due diligence process to stop sourcing minerals where the due diligence process identifies unacceptable risks of ASM activity in the IXM supply chain in areas defined as a conflict-affected-and high-risk area (CAHRAs). IXM and CMOC are members of the Fair Cobalt Alliance (FCA) and Better Mining. FCA and Better Mining aim to assist in the professionalization of the ASM copper-cobalt sector in the DRC to eventually facilitate the sale of ASM material to mainstream clients, and to help improve the lives in DRC mining communities.

Product Stewardship



Management systems at our international sites dealing with product stewardship address the quality, compliance, and sustainability risks associated with our products and processes, including occupational health and safety, environmental management, quality control/quality assurance, traceability, and labeling in accordance with the Globally Harmonized System of Classification and Labeling of Chemicals. These systems ultimately protect the interests of our clients and may enhance access to preferred markets for CMOC products.

In the DRC, our product assurance is largely driven by compliance needs derived from international trade, transport, and material classification schemes of the countries and regional associations through which product is transported and consumed, with special regard to cobalt hydroxide. The Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH) regulation of the European Union, for example, addresses the production and use of chemical substances and their potential impacts on both human health and the environment. REACH requirements directly drive the classification and labeling processes for our cobalt hydroxide, which also consider the requirements of up to 12 additional countries that may be involved in the transport and final disposal of our product.

Our operation in the DRC also has a set of special responsibilities related to product stewardship associated with the sustainability of its supply of cobalt hydroxide to global markets. The DRC hosts a large number of unregulated artisanal miners as well as customers for their product, a situation that has led to high-profile international concerns around the risks of child labor, workplace health and safety, and human rights in the cobalt supply chain from that country. The TFM operation manages this risk through a set of product control and custody procedures to ensure that it mines, processes, and sells only those minerals that originate from its mining concessions and that are mined by its own operations.

These procedures are in turn guided by the requirements of responsible and sustainable management as described in this report. TFM does not purchase or process ore from any other source. These procedures include specific actions to dispose of illegally mined ore confiscated by government authorities within the TFM concession. After being confiscated by mines police, the company stores, reports, and periodically buries illegally mined ore in waste rock piles. These burial sites are unmarked and cannot be identified by any other means, ensuring that the ore cannot be recovered for another purpose. TFM has a complete system to track the copper and cobalt products produced at its operations through the points of transfer and to the ultimate point of delivery to its customers. Due to the importance of monitoring and maintaining these procedures while managing TFM's mineral supply chain, TFM regularly undertakes independent assurance of the company's product control and custody procedures (see "Assurance Statement").

Due to the small size and complete enclosure of the KFM mining site, there is currently no risk of artisanal mining. In addition, the minerals mined, processed, and sold by KFM are sourced exclusively from industrial mining processes within KFM's own mine. CMOC operates a zero-tolerance policy on child or forced labor, employing only people who have reached the legal working age. In 2023, we found no violation of any laws or regulations regarding child or forced labor.

We strongly believe that higher transparency along the value chain will increase the sustainability of the cobalt supply, which is essential for the battery industry. In order to achieve this goal, in 2019 CMOC and its trading company IXM joined Glencore and ERG in the ReSource consortium, which uses a blockchain platform to trace the origins of battery materials and ensure responsible procurement. The ReSource consortium has received support from other companies in the materials sector including

Umicore, as well as the Responsible Mining Initiative and the Cobalt Institute. In 2023 ReSource completed a proof-of-concept cobalt traceability project and presented the first Battery Passport pilots with the Global Battery Alliance at the World Economic Forum. Since 2023 CMOC started to track 100% of its produced cobalt at TFM and KFM mines using ReSource platform.

At our operations in China, quality and safety issues related to our products satisfy various national regulations, as well as the ISO 9001 Quality Management System scheme. In addition, as tungsten is covered by regulations related to "conflict minerals" in the United States and the European Union, in 2021 the CMOC tungsten operation was audited against the RMAP of the RMI. At the time of issuing the report, our tungsten company was on the list of RMAP Conformant Tungsten Smelters.

At our operations in Brazil, procedures are in place to manage health, safety, environmental, and quality risks associated with a suite of 28 distinct phosphate products consumed domestically, as well as ferroniobium products that are exported. The Brazil operations are also certified to ISO 9001 quality standards. At IXM, the company is committed to quality assurance; all sales contracts specify the elemental composition used to determine a blend plan, and the company must guarantee to provide customers with mixed concentrate that is consistent with that plan.

No breaches linked to our products in terms of health and safety, environment, labeling, or social matters were reported in 2023 that resulted in impacts to CMOC.

Business Ethics and Transparency



CMOC is committed to ethical business practices in its operations and supply chain. We affirm our commitment to act with integrity at all times and to respect the laws and regulations of wherever we do business. In 2023, CMOC continued to implement its *Code of Business Conduct*, *Anti-Corruption Policy*, *Anti-Money Laundering Policy*, and other policies and relevant laws, with application to the entire group. As stated in our *Code of Business Conduct*, “Corruption and bribery will not be tolerated and will result in disciplinary action, including termination, as well as possible civil and criminal consequences for the offending individual(s)”. CMOC requires employees and contractors to abide by international and local laws and regulations in the field of business ethics. This includes laws such as the United States Foreign Corrupt Practices Act, the United Kingdom Bribery Act, and the Criminal Law, Anti-Unfair Competition Law, and Anti-Money Laundering Law of the People’s Republic of China. The company strictly prohibits bribery of government officials and other individuals, and all employees who may be exposed to potential corruption risks are required to undergo training. Employees, contractors, and other stakeholders across our operations have access to CMOC’s whistleblower channel and site-level grievance systems to report any suspected cases of bribery or corruption.

The Group Anti-Corruption Department is responsible for investigating and dealing with cases of bribery, abuse of power, dereliction of duty, and other misconduct, as well as formulating anti-corruption policies and providing training on professional ethics and discipline. In 2023, we opened a dedicated “honesty account” for employees to transfer funds received as gifts or bribes. We also standardized rules for the acceptance of gifts and gratuities and continued to implement a series of anti-corruption and business ethics policies, including regulations for critical positions, requiring employees to sign a personal commitment to

integrity, and a supplier integrity agreement. Through these actions, we have reinforced the importance of professional conduct among employees, including clear anti-corruption policies and measures to protect the company’s trade secrets, require the reporting of conflicts of interest, and prevent improper business dealings. In addition, the company has published a Chief Auditor policy, under which the Group’s Anti-Corruption and Internal Control and Audit departments appoint a Chief Auditor at each of the company’s operating sites to conduct routine inspections and monitor compliance with the company’s integrity policies in relation to key positions and processes with a heightened risk of corruption, such as tender and procurement processes for major construction projects.

In 2023, we continued to improve our comprehensive anti-corruption framework, including reporting mechanisms, the launch of a new anti-corruption portal on our office system, regular awareness campaigns, and anti-corruption training for all staff. We have also established a global anti-corruption whistleblowing system, which is published on the company website and offers numerous channels for reporting alleged wrongdoing. The company undertakes to receive, register, hold, and investigate all such reports in strict confidence; this includes protecting the identity of whistleblowers and witnesses, as well as any data or supporting evidence which they may provide. The company also prohibits any form of retaliation against whistleblowers and witnesses. All internal and external reports of misconduct are investigated, assessed, and handled by the Anti-Corruption Department. We conduct unscheduled visits and spot checks to investigate and reduce the risk of fraud and misconduct throughout the company and our various business units. For confirmed cases of fraud or misconduct, we take appropriate disciplinary action and refer any suspected criminal activity to the relevant judicial authorities. We have also reformed our staff

incentive and disciplinary policies in order to establish a clear link between performance and professional ethics and stipulate sanctions for conduct which violates the company’s integrity policy, such as disciplinary warnings, withholding performance-related bonuses, demotion, reducing pay, and dismissal. When investigating cases of misconduct, we also identify potential risks to our operations and take remedial action to mitigate their impact. In addition to imposing disciplinary measures on the responsible individuals, we also attempt to recover economic losses and address deficiencies in our management system. In 2023, the Anti-Corruption Department organized 11 training sessions on business ethics and integrity, and arranged an online assessment for all staff at our global headquarters, as well as all Chinese employees based at our various mining sites.

During the reporting period, the Group Anti-Corruption Department investigated six cases of employee misconduct, which resulted in the disciplining or dismissal of seven employees. Five cases were referred to the Chinese judicial authorities, who have imposed coercive measures on six employees involved in the case.

In terms of compliance management, the Group Legal Compliance Department conducted continuous and targeted monitoring of country-specific compliance risks across our various business units and global business partners, focusing on areas such as sanctions and anti-money laundering measures. In view of the global nature of our operations, the Legal Compliance Department conducted in-depth research to develop a universal code of ethics based on the principles of cultural and cognitive diversity, and designed country-specific training modules on compliance and anti-corruption measures. In 2023, we continued to provide online compliance training for employees based at our Group headquarters, as well as at our DRC and Brazilian operations.

At all of these locations, employees received training in our “Ethics and Code of Conduct” and “Global Anti-Bribery and Corruption” modules, as well as other country-specific training modules tailored to local needs and circumstances, such as “Diversity, Equity, and Inclusion”, “Cybersecurity”, and “Workplace Harassment”. A total of 4,239 employees participated in training, including 2,062 employees at our TFM operation, 540 employees at our KFM operation, 1,546 employees at CMOC Brasil, and 91 employees at the Group headquarters. In addition, we organized a compliance training session for 39 executive staff, and held six offline compliance training courses for newly hired staff.



In November 2023, the company held a compliance training session for all members of the executive management team. During the session, participants studied a number of criminal cases to learn about the importance of compliance, integrity, and professional ethics in CMOC’s operations.

In China, we have set up a dedicated disciplinary and integrity inspection department to monitor compliance with the company’s integrity and professional ethics policies. Our Chinese operation has introduced a series of anti-fraud and anti-corruption policies, which aim to enhance surveillance of key decision-making processes, critical projects, key appointments, and major spending, as well as mitigate associated risks. In 2023, the new online education portal developed by the Group Anti-Corruption Department was promoted in our Chinese operations to improve employees’ awareness of business ethics and integrity.

At TFM, policies such as *Bribery and Extortion Policy*, *Charitable Donations Policy*, *Regulations on Business Travel Support for Government Officials*, and *the Regulations on Administrative Fees* clearly define rules for the acceptance of gifts, dining and entertainment, charitable donations, and direct support for government officials. The Legal Compliance Department regularly conducts compliance audits of the company’s administrative expenses, issues reports and advice, and informs the CEO of the company. In addition, TFM continues to be a member of the Extractive Industry Transparency Initiative (EITI) at the national level, and submits information on payments to the national treasury and other government agencies each year in accordance with EITI-DRC requirements. TFM also continues to disclose taxation payments and information on the company’s operations on a quarterly basis. A TFM representative is a member of the

EITI-DRC National Committee, which represents industry concerns and participates in EITI reporting projects and disclosure work.

Our KFM site has issued 7 compliance policies and procedures in accordance with Group compliance and sustainability policies, including the *Policy on the Acceptance of Gifts, Dining and Entertainment*, and *the Charitable Donations Policy and Procedure*, as well as a series of supplementary regulations such as the *Grievances Reporting Regulations*, *Supplier Code of Conduct*, and *the Legal, Regulatory and Compliance Framework*. In 2023, we organized multiple training sessions for employees from across the company to raise awareness of the aforementioned policies. In the second quarter of 2023, KFM started to publish quarterly reports with details of tax payments and operational developments in order to provide greater transparency to internal and external stakeholders.

IXM is committed to complying with the United States Foreign Corrupt Practices Act, the United Kingdom Bribery Act, and other anti-corruption laws applicable to the jurisdictions in which it operates. All stakeholders can report suspected cases of corruption anonymously via a designated email address.

In 2023, there were no criminal, administrative, or civil proceedings brought against CMOC pertaining to corruption, bribery, blackmail, fraud, or money laundering.

Data Overview

Employment	2023	2022	2021	2020	2019	2018	2017
Total number of employees	11,995	12,754	11,472	10,956	10,850	10,900	11,226
Total number of contractors	20,640	20,186	13,222	10,684	8,048	7,686	
Number of employees and contractors by gender							
Female	3,196	3,314	3,081	3,025	2,838	2,971	
Male	29,439	29,626	21,613	18,615	16,060	15,615	
Number of employees and contractors by age							
Under 30 years old	9,972	8,033	6,049	3,760			
30~50 years old	18,444	20,128	14,761	14,574			
Over 50 years old	4,219	4,779	3,884	3,306			
Number of employees and contractors by region							
China	5,494	5,914	6,054	6,368			
Australia	400	385	431	467			
Brazil	4,764	4,467	4,303	3,880			
DRC	21,499	21,668	13,478	10,541			
IXM	478	506	428	384			
Turnover rate							
Turnover rate of employees	7.3%	5.9%	8.1%	24.2%			
Turnover rate of contractors	36.7%	22.5%	22.4%				
Turnover rate of employees and contractors by gender							
Female	13.4%	12.0%	10.7%	9.3%			
Male	29.7%	16.5%	17.1%	26.6%			
Turnover rate of employees and contractors by age							
Under 30 years old	28.6%	21.0%	25.8%	16.4%			
30~50 years old	30.2%	15.1%	13.4%	19.7%			
Over 50 years old	18.1%	10.9%	9.8%	6.9%			

Turnover rate of employees and contractors by region							
China	7.6%	5.9%	7.6%	3.8%			
Australia	12.9%	23.0%	19.7%	14.8%			
Brazil	21.6%	30.5%	16.2%	32.1%			
DRC	33.8%	14.8%	19.8%	37.2%			
IXM	22.4%	13.8%	10.6%	12.0%			

Safety	2023	2022	2021	2020	2019	2018	2017
Fatalities	3	0	0	2	0	3	1
Total recordable injuries	72	57	41	52	70	60	58
TRIR	0.85	0.76	0.74	1.25	1.62	1.39	
Total lost time injuries	24	13	6	12	14		
LRIR	0.28	0.17	0.11	0.29	0.32		

Training	2023	2022	2021	2020	2019	2018	2017
Rate of employees and contractors trained	93.9%	90.3%	82.5%	91.4%			
Rate of employees and contractors trained by gender							
Female	84.5%	80.7%	75.0%	86.0%			
Male	94.9%	91.4%	83.5%	92.3%			
Rate of employees and contractors trained by job category							
Senior management	83.7%	81.1%	40.0%	60.3%			
Middle management	91.2%	97.1%	82.5%	84.0%			
Staff	94.2%	89.4%	82.9%	91.9%			
Training hours of employees and contractors							
Training hours of employees and contractors	23.4	22.7	20.9	28.8			
Training hours of employees and contractors by gender							
Female	23.8	22.8	38.9	13.1			
Male	23.3	22.7	18.3	31.4			

Training hours of employees and contractors by job category							
Senior management	13.6	17.1	4.0	13.0			
Middle management	32.7	22.0	25.8	57.2			
Staff	22.7	22.9	20.8	27.6			

Emissions and discharges	2023	2022	2021	2020	2019	2018	2017
Total greenhouse gas emissions(thousand tonnes)	1,590	1,320	920	1,030	970	980	990
Intensity of total GHG emissions(tonnes per tonne of processed ore)	0.028	0.028	0.020	0.025			
GHG emissions– scope1	1,070	760	360	530	480	470	500
GHG emissions– scope2	520	560	560	500	490	510	490
Total NO _x emissions (thousand tonnes)	3.1	2.6	2.3	1.8	1.5	1.9	1.2
Total SO _x emissions (thousand tonnes)	2.6	2.9	3.0	2.4	3.0	3.5	3.6
Total PM emissions (thousand tonnes)	8.7	7.0	6.8	5.4	4.4	4.8	4.9
Total emissions of hazardous waste (thousand tonnes)	27.0	27.0	26.0	7.0	7.0	4.0	5.2
Intensity of hazardous waste (tonnes per tonne of processed ore)	4.787x10 ⁻⁴	5.634x10 ⁻⁴	5.717x10 ⁻⁴	1.667x10 ⁻⁴			
Total emissions of non-hazardous waste (thousand tonnes)	24.0	20.0	21.0	19.0	16.0	11.4	15.3
Intensity of non-hazardous waste (tonnes per tonne of processed ore)	4.255x10 ⁻⁴	4.174x10 ⁻⁴	4.617x10 ⁻⁴	4.524x10 ⁻⁴			
Total amount of tailings and waste rock (million tonnes)	381.0	309.0	175.0	150.0	136.0	116.0	120.0
Waste rocks	332.0	264.0	132.0	111.0	98.0	78.0	82.0
Tailings	49.0	45.0	43.0	39.0	38.0	38.0	38.0

Water consumption	2023	2022	2021	2020	2019	2018	2017
Total water consumption (million cubic meters)	180.0	126.0	133.0	128.0	128.0	127.0	121.0
Intensity of water consumption (cubic meters per tonne of processed ore)	3.191	2.629	2.924	3.048			

Energy consumption	2023	2022	2021	2020	2019	2018	2017
Total energy consumption (MWh)	5,800,000	4,230,000	3,800,000	3,290,000	3,170,000	3,080,000	2,874,000
Intensity of energy consumption (MWh per tonne of processed ore)	0.103	0.088	0.084	0.078			

Community spending	2023	2022	2021	2020	2019	2018	2017
Total (RMB millions)	295.6	290.4	194.9	156.4	207.5	308.4	166.2

Supply chain management	2023	2022	2021	2020	2019	2018	2017
Total number of suppliers	3,087	4,642	5,434	4,009			
Number of suppliers by region							
Asia	740	839	794	648			
Africa	450	1,329	1,835	1,582			
South America	1,173	1,365	1,464	814			
North America	19	303	419	420			
Europe	32	104	171	152			
Oceania	673	702	751	393			

Standards and methodologies used in calculation:

1、Greenhouse gases include carbon dioxide, hydrofluorocarbons, perfluorocarbons, methane, nitrous oxide, HFCS, perfluorocarbons and sulfur hexafluoride. The data calculation was based on the *Greenhouse Gas Emission Accounting Methodology and Reporting Guidelines for Mining Companies (for Trial Implementation)* issued by the National Development and Reform Commission of China, the *Greenhouse Gas Equivalencies Calculator* issued by the U.S. Environmental Protection Agency, the *National Greenhouse and Energy Reporting Scheme* issued by the Australian Department of Environment and Energy, and the *2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories* issued by the United Nations Intergovernmental Panel on Climate Change.

Scope 2 GHG is calculated by region based on the average CO₂ emission factors of China's regional power grids published by the National Development and Reform Commission of China, the *National Greenhouse and Energy Reporting Scheme* published by the Australian Department of Environment and Energy, and the average CO₂ emission factors published by the Brazilian Ministry of Science, Technology, Innovation and Communication.

2、NOx, SOx, PM data sources were monitoring systems installed or third-party commissioned for monitoring. The calculation was based on factors from the *EMFAC-HK Vehicle Emission Calculation* issued by the Hong Kong Environmental Protection Department, the *Technical Air Pollution Resources* issued by the U.S. Environmental Protection Agency, the *National Pollutant Inventory* issued by Australia and the DRC, and the *2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories* issued by the United Nations Intergovernmental Panel on Climate Change.

3、The Hazardous waste was classified according to "hazardous waste" as stipulated in the *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal* as mentioned in the *Guidelines on Reporting of Environmental Key Performance Indicators* published by the HKEX. The data sources were the relevant records and ledgers.

4、The non-hazardous waste was all waste that does not fall within the definition of "hazardous waste" of the *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal*. The data sources were the relevant records and ledgers.

5、Water consumption: the data sources were monitoring systems installed or third parties commissioned for monitoring.

6、Energy consumption: the calculation was based on purchased electricity and fuel consumption, with relevant conversion factors provided by the *National Greenhouse and Energy Reporting Scheme* issued by the Australian Department of Environment and Energy and those issued by the International Energy Agency.

ESG Content Index

HKEX ESG Reporting Guide	Description	Location/Remarks
A.Environment		
Aspect A1 Emission		
General Disclosure	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	Environment
KPI A1.1	The types of emissions and respective emissions data	Environment
KPI A1.2	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)	Environment
KPI A1.3	Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility)	Environment
KPI A1.4	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility)	Environment
KPI A1.5	Description of emission target(s) set and steps taken to achieve them	Environment
KPI A1.6	Description of how hazardous and non-hazardous wastes are handled, and a description of reduction target(s) set and steps taken to achieve them.	Environment
Aspect A2: Use of Resources		
General Disclosure	Policies on the efficient use of resources, including energy, water and other raw materials Note: Resources may be used in production, in storage, transportation, in buildings, electronic equipment, etc.	Environment
KPI A2.1	Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in '000s) and intensity (e.g. per unit of production volume, per facility)	Environment
KPI A2.2	Water consumption in total and in intensity (e.g. per unit of production volume, per facility)	Environment
KPI A2.3	Description of energy use efficiency target(s) set and steps taken to achieve them.	Environment
KPI A2.4	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.	Environment

KPI A2.5	Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced.	Not mentioned: this is not a material issue for CMOC.
Aspect A3: The Environment and Natural Resources		
General Disclosure	Policies on minimising the issuer's significant impact on the environment and natural resources	Environment
KPI A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them.	Environment
Aspect A4: Climate Change		
General Disclosure	Policies on identification and mitigation of significant climate-related issues which have impacted, and those which may impact, the issuer.	Environment
KPI A4.1	Description of the significant climate-related issues which have impacted, and those which may impact, the issuer, and the actions taken to manage them.	Environment

B Social

Aspect B1: Employment

General Disclosure	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. Total workforce by gender, employment type, age group and geographical region.	Employees
KPI B1.1	Total workforce by gender, employment type, age group and geographical region	About CMOC; Employees
KPI B1.2	Employee turnover rate by gender, age group and geographical region	Employees; Data Overview

Aspect B2: Health and Safety

General Disclosure	Information on: (a) policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards.	Employees
KPI B2.1	Number and rate of work-related fatalities occurred in each of the past three years including the reporting year.	Data Overview
KPI B2.2	Lost days due to work injury.	Employees

KPI B2.3	Description of occupational health and safety measures adopted, how implemented and monitored	Employees
Aspect B3: Development and Training		
General Disclosure	Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities	Employees
KPI B3.1	Percentage of employees trained by gender and employee category (e.g. senior management, middle management)	Employees
KPI B3.2	Average training hours completed per employee by gender and employee category	Employees; Data Overview
Aspect B4: Labour Standards		
General Disclosure	Information on: (a) policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour	Employees; Product
KPI B4.1	Description of measures to review employment practices to avoid child and forced labour	Employees
KPI B4.2	Description of steps taken to eliminate such practices when discovered	Employees
Aspect B5: Supply Chain Management		
General Disclosure	Policies on managing environmental and social risks of the supply chain	Product
KPI B5.1	Number of suppliers by geographical region	Product
KPI B5.2	Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how implemented and monitored	Product
KPI B5.3	Description of practices used to identify environmental and social risks along the supply chain, and how they are implemented and monitored.	Product
KPI B5.4	Description of practices used to promote environmentally preferable products and services when selecting suppliers, and how they are implemented and monitored.	Product
Aspect B6: Product Responsibility		
General Disclosure	Information on: (a) 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	Product

KPI B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons	Not mentioned: this is not a material issue for CMOC.
KPI B6.2	Number of products and service-related complaints received and how dealt with	Not mentioned: this is not a material issue for CMOC.
KPI B6.3	Description of practices relating to observing and protecting intellectual property rights	Not mentioned: this is not a material issue for CMOC.
KPI B6.4	Description of quality assurance process and recall procedures	Product
KPI B6.5	Description of consumer data protection and privacy policies, how implemented and monitored	Not mentioned: this is not a material issue for CMOC.
Aspect B7: Anti-corruption		
General Disclosure	Information on: (a) 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	About CMOC; Product
KPI B7.1	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	Product
KPI B7.2	Description of preventive measures and whistle-blowing procedures, how implemented and monitored	Product
KPI B7.3	Description of anti-corruption training provided to directors and staff	Product
Aspect B8: Community		
General Disclosure	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	Community
KPI B8.1	Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport)	Community
KPI B8.2	Resources contributed (e.g. money or time) to the focus area	Community

GRI Content Index

Statement of Use	CMOC has reported in accordance with the GRI Standards for period 1 January 2023 to 31 December 2023
The Use of GRI 1	GRI 1: Foundation 2021
The Use of GRI Industry Guidelines	Not applicable

GRI Guidelines	Disclosure	Disclosure	Location/Remarks
GRI 1: Foundation 2021			
GRI 2: General Disclosures 2021			
1. The organization and its reporting practices			
2-1	Organizational details	About this Report	
2-2	Entities included in the organization's sustainability reporting	About CMOC; HKEx: 2023 Annual Report	
2-3	Reporting period, frequency and contact point	About this Report	
2-4	Restatements of information	No restatements of information	
2-5	External assurance	About this Report; Assurance Statement	
2. Activities and workers			
2-6	Activities, value chain and other business relationships	About CMOC; Product	
2-7	Employees	About CMOC; Employees	
2-8	Workers who are not employees	About CMOC; Employees	
3. Governance			
2-9	Governance structure and composition	Management Approach; HKEx: 2023 Annual Report	
2-10	Nomination and selection of the highest governance body	HKEx: Articles of Association; HKEx: 2023 Annual Report	
2-11	Chair of the highest governance body	HKEx: 2023 Annual Report	
2-12	Role of the highest governance body in overseeing the management of impacts	Management Approach; HKEx: 2023 Annual Report; Company Website: Detailed Working Rules of the Strategic and Sustainability Committee	
2-13	Delegation of responsibility for managing impacts	Management Approach; Company Website: Detailed Working Rules of the Strategic and Sustainability Committee	
2-14	Role of the highest governance body in sustainability reporting	Management Approach; Company Website: Detailed Working Rules of the Strategic and Sustainability Committee	
2-15	Conflicts of interest	HKEx: 2023 Annual Report	

2-16	Communication of critical concerns	Management Approach
2-17	Collective knowledge of the highest governance body	Management Approach
2-18	Evaluation of the performance of the highest governance body	Management Approach
2-19	Remuneration policies	Management Approach, Employees; HKEx: 2023 Annual Report
2-20	Process to determine remuneration	HKEx: 2023 Annual Report
2-21	Annual total compensation ratio	Confidential information
4. Strategy, policies and practices		
2-22	Statement on sustainable development strategy	About this Report
2-23	Policy commitments	Management Approach
2-24	Embedding policy commitments	Management Approach; Product
2-25	Processes to remediate negative impacts	Management Approach
2-26	Mechanisms for seeking advice and raising concerns	Management Approach
2-27	Compliance with laws and regulations	Management Approach
2-28	Membership associations	About CMOC
5. Stakeholder engagement		
2-29	Approach to stakeholder engagement	Management Approach
2-30	Collective bargaining agreements	Employees
GRI 200: Economic		
GRI 201: Economic Performance 2016		
201-1	Direct economic value generated and distributed	About CMOC
201-2	Financial implications and other risks and opportunities due to climate change	Environment
201-4	Financial assistance received from government	HKEx: 2023 Annual Report
GRI 203: Indirect Economic Impacts 2016		
203-1	Infrastructure investments and services supported	Community
203-2	Significant indirect economic impacts	Community
GRI 204: Procurement Practices 2016		
204-1	Proportion of spending on local suppliers	Product

GRI 205: Anti-corruption 2016		
205-1	Operations assessed for risks related to corruption	Product
205-2	Communication and training about anti-corruption policies and procedures	Product
205-3	Confirmed incidents of corruption and actions taken	Product
GRI 300: Environment		
GRI 301: Materials 2016		
301-1	Materials used by weight or volume	Not mentioned: this is not a material issue for CMOC.
GRI 302: Energy 2016		
302-1	Energy consumption within the organization	Environment
302-3	Energy intensity	Environment
GRI 303: Water and Effluents 2018		
303-1	Interactions with water as a shared resource	Environment
303-3	Water withdrawal	Environment
GRI 304: Biodiversity 2016		
304-2	Significant impacts of activities, products, and services on biodiversity	Environment
GRI 305: Emissions 2016		
305-1	Direct (Scope 1) GHG emissions	Environment
305-2	Energy indirect (Scope 2) GHG emissions	Environment
305-4	GHG emissions intensity	Environment
305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	Environment
GRI 306: Waste 2020		
306-1	Waste generation and significant waste-related impacts	Environment
306-2	Management of significant waste-related impacts	Environment
306-3	Waste generated	Environment
GRI 308: Supplier-Environmental-Assessment 2016		
308-1	New suppliers screened using environmental criteria	Product
308-2	Negative environmental impacts in supply chain and actions taken	Product

GRI 400: Social		
GRI 401: Employment 2016		
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	Employees
GRI 402: Labor Management Relations 2016		
402-1	Minimal notices regarding operational changes	Employees
GRI 403: Occupational Health and Safety 2018		
403-1	Occupational health and safety management system	Employees
403-2	Hazard identification, risk assessment, and incident investigation	Employees
403-3	Occupational health services	Employees
403-5	Worker training on occupational health and safety	Employees
403-6	Promotion of worker health	Employees
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Employees
403-8	Workers covered by an occupational health and safety management system	Employees
403-9	Work-related injuries	Employees
GRI 404: Training and Education 2016		
404-1	Average hours of training per year per employee	Employees
404-2	Programs for upgrading employee skills and transition assistance programs	Employees
GRI 405: Diversity and Equal Opportunity 2016		
405-1	Diversity of governance bodies and employees	HKEx: 2023 Annual Report
GRI 406: Non-discrimination 2016		
406-1	Incidents of discrimination and corrective actions taken	Management Approach
GRI 407: Freedom of Association and Collective Bargaining 2016		
407-1	Operations and suppliers where the right to freedom of association and collective bargaining may be at risk	Employees
GRI 408: Child Labor 2016		
408-1	Operations and suppliers at significant risk for incidents of child labor	Employees; Product
GRI 409: Forced or Compulsory Labor 2016		
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	Employees; Product

GRI 410: Security Practices 2016		
410-1	Security personnel trained in human rights policies or procedures	Community; Product
GRI 411: Rights of Indigenous Peoples 2016		
411-1	Incidents of violations involving rights of indigenous peoples	No such incidents
GRI 413: Local Communities 2016		
413-1	Operations with local community engagement, impact assessments, and development programs	Community
GRI 414: Supplier Social Assessment 2016		
414-1	New suppliers screened using social criteria	Product
414-2	Negative social impacts in supply chain and actions taken	Product
GRI 415: Public Policy 2016		
415-1	Political contributions	No political contributions
GRI 416: Customer Health and Safety 2016		
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	Product
GRI 417: Marketing and Labeling 2016		
417-1	Requirements for product and service information and labelling	Product
417-2	Incidents of non-compliance concerning product and service information and labelling	Product

ASSURANCE STATEMENT: Product Control and Custody at TFM

The management of Tenke Fungurume Mining S.A. (TFM) asked Corporate Integrity Ltd to review product control and custody procedures at the TFM concession in the Democratic Republic of Congo (DRC) and to provide assurance over the following statement:

“Tenke Fungurume Mining S.A. (TFM), an industrial copper and cobalt mine in southeastern DRC and an affiliate of CMOC, is committed to apply a duty of care in product stewardship commensurate with the concerns of its customers in the international minerals supply chain.

TFM implements robust product control and custody procedures to ensure that it mines, processes and sells only those minerals that originate within its mining concession and that are mined by its own operations. These procedures include specific actions to dispose of illegally mined ore confiscated by government authorities within the TFM concession. TFM does not purchase or process ore from any other source. TFM maintains a system to track the copper and cobalt products produced at its operations through the points of transfer, and to the final point of delivery to its customers.

TFM is implementing policies and procedures to meet the requirements of the Responsible Minerals Initiative’s Risk Readiness Assessment (RRA) and OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict–Affected and High–Risk Areas Annex 1 and 2 (OECD DD). This implementation is a demonstration of the company’s commitment to a responsible mining operation and supply chain, further aligning with other international good practice frameworks that seek elimination of child labor, forced labor and gross violations of human rights.

Due to the importance of monitoring and maintaining these procedures in managing TFM’s mineral supply chain, TFM engages independent assurance of the company’s product control and custody procedures.”

Our review was based on a site visit in January 2024, which included the following activities.

- Review of procedures in place at the operation for control, custody and tracking of product;
- Review of procedures in place at the operation for the confiscation and disposal of illegally mined ore in the area;
- Interviews with relevant personnel at the site;
- Visit to the confiscated product storage and disposal site;
- Reviews of trends in rates of confiscation and disposal; and
- Review of samples of documents used for recording and reporting the control, custody and tracking of product from the mine concession area.

Our Findings

Based on our review, its scope and limitations, nothing has come to our attention that prevents us from concluding that TFM’s assertions in the above statement are fair and reasonable.

Limitations of the Work Performed

This work has been carried out by checking samples of information and documents that have been made available during the period of assurance activity by TFM. Our evidence gathering procedures have been designed to obtain a limited level of assurance on which to base our conclusions. Corporate Integrity excludes any liability, including liability for negligence, for any loss, including indirect or consequential damages arising from or in relation to the use of the information contained in this report.

Statement of Independence

The independence of our team has been reviewed and none of the Corporate Integrity Ltd. assessors involved in this project presents a conflict of interest to the integrity of this assurance statement.

Standard Applied to This Engagement

International Standard on Assurance ISEA3000 (revised) – Assurance Engagements other than Audits & Reviews of Historical Financial Information’ issued by the International Auditing and Assurance Standards Board (IAASB).

David Shirley (Director) and Raj Aseervatham (Director)

18th March 2024

*corporate*INTEGRITY

ASSURANCE STATEMENT: Product Control and Custody at TFM

The CMOC Environmental Social and Governance (ESG) Report for 2023 has been prepared by the management of CMOC Group Limited (CMOC), who are responsible for the collection and presentation of this information.

Scope

Corporate Integrity Ltd., in accordance with CMOC management’s instructions, was asked to perform:

- 1.A review of policies and systems in place at the CMOC’s international operations in relation to CMOC’s commitment to align with the Responsible Minerals Initiative’s Risk Readiness Assessment (the RRA).
The operations covered by this review were the TFM and KFM operations in the Democratic Republic of Congo, the Northparkes operations in Australia, the CMOC Brasil operations and IXM’s operations; and
- 2.A review of statements in relation to the above operations made in the CMOC ESG Report covering the 2023 reporting year.

This included a remote review of selected corporate activities relating to the above sites. All other operations are excluded from the scope of this assurance statement.

Key Findings

Based on our review, its scope and limitations, nothing has come to our attention which causes us to believe:

- That the policies and systems in place at the international operations are not in material alignment with the RRA; and
- That the statements reported relating to the international operations in the CMOC ESG Report for 2023 and the related have been materially mis-stated.

Methodology

The assurance process involved selective reviews of documents submitted for each international operation and corporate, physical site visits, including interviews with management, employees, contractors and community stakeholders and interviews with corporate personnel. The process included:

- Site visits to the TFM and KFM operations, DRC in January 2024;
- A site visit to CMOC Brasil operations in November 2023;
- A site visit to the Northparkes operation in Australia in August 2023; and
- A limited document review of IXM responsible sourcing policies and procedures.

The assurance activity focused specifically on:

- A review of CMOC policies and their coverage of and alignment with the RRA;
- A review of processes in place to identify and prioritise ESG risks and opportunities during the reporting period, and the results of that process;
- A review of the systems and approaches that CMOC is using to manage its identified material ESG risks and opportunities; and
- A review of statements and assertions made in the CMOC ESG Report for 2023.

Limitations of the Work Performed

This work has been carried out by checking samples of statements and documents that have been made available during the period of assurance activity by CMOC. Where such statements were deemed independently verified by other third parties commissioned by CMOC, this was not subjected to re-verification by Corporate Integrity Ltd. Our procedures have been designed to obtain a limited level of assurance upon which to base our conclusions, and our assurance findings are conditional upon fact-checking at sites. Corporate Integrity excludes any liability, including liability for negligence, for any loss, including indirect or consequential damages arising from or in relation to the use of the information contained in this report.

Statement of Independence

The independence of our team has been reviewed and none of the Corporate Integrity Ltd. assessors involved in this project presents a conflict of interest to the integrity of this assurance statement.

Standard Applied to This Engagement

International Standard on Assurance ISEA3000 (revised) – Assurance Engagements other than Audits & Reviews of Historical Financial Information’ issued by the International Auditing and Assurance Standards Board (IAASB).

David Shirley (Director) and Raj Aseervatham (Director)

18th March 2024

corporateINTEGRITY

CMOC Task Force on Climate-related Financial Disclosures (TCFD) Report 2023

As a multinational company with diversified operations and world-class resources, CMOC is acutely aware of the profound impacts of climate change on the environment and society. The climate crisis not only poses challenges to our own operations, but could also threaten the global food supply, disrupt industrial production, and create humanitarian problems. In recent years, across the countries and regions where we operate, China and Europe have encountered extreme weather events, while communities near our Brazilian sites have grappled with forest fires sparked by drought. These events underscore the urgent and critical need for global collaboration on climate action, as well as the responsibility and mission that a mining company must shoulder in this regard.

In January 2022, the Board discussed and approved the Group's Climate Change Vision. The vision incorporated climate change into CMOC's ESG governance framework, which is monitored by the Strategic and Sustainability Committee of the Board. This marked the start of our efforts to create a top-down management system for addressing climate change. In order to deliver on this vision, in 2023 CMOC developed a carbon neutral roadmap that defined ambitious targets and implementation strategies for reaching peak carbon emissions by 2030 and carbon neutrality by 2050. In January 2024, CMOC internally released the *CMOC 2030 Peak Carbon Emissions Implementation Plan (2023 Edition)*, taking a significant step toward achieving carbon neutrality.

To further advance climate action and enhance transparency in climate-related disclosures, CMOC has undertaken specific initiatives in line with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). This section outlines the methods employed by CMOC to identify, assess, and address climate-related risks and opportunities. It also highlights the company's progress and outlines future plans aimed at strengthening the climate resilience of our business. The table below presents the disclosure status and corresponding sections of key TCFD recommendations in this report, accompanied by an explanation of pending steps for areas where full disclosure has not yet been achieved.

TCFD Disclosure Index

	TCFD recommendations	2023 disclosure status	Index
Governance	a) Board's oversight of climate-related risks and opportunities.	Disclosed	1. Governance
	b) Management's role in assessing and managing climate-related risks and opportunities.	Disclosed	1. Governance
Strategy	a) The climate-related risks and opportunities the organization has identified.	Disclosed	2.2 Analysis of climate-related risks and opportunities
	b) The impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	Disclosed	2.2 Analysis of climate-related risks and opportunities
	c) The resilience of the organization's strategy.	Partially disclosed	2.1 Scenario analysis 2.2 Analysis of climate-related risks and opportunities Quantitative assessments of financial impact: CMOC plans to conduct quantitative assessments of financial impact for significant climate-related risks, and will further integrate climate considerations into financial planning.
Risk Management	a) The organization's processes for identifying and assessing climate-related risks.	Disclosed	2.1 Scenario analysis 3.1 Climate-related risk identification and assessment process
	b) The organization's processes for managing climate-related risks.	Disclosed	3.2 Climate-related risk and opportunity management practices
	c) How processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	Disclosed	3.1 Climate-related risk identification and assessment process 3.2 Climate-related risk and opportunity management practices
Metrics and Targets	a) The metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	Partially disclosed	4. Metrics and Targets Formulation of metrics and targets: CMOC plans to increase the disclosure of climate-related metrics and targets, aligning them with the quantitative assessments of financial impact.
	b) Disclose greenhouse gas (GHG) emissions and the related risks.	Disclosed	Environment chapter of the ESG report
	c) The targets used by the organization to manage climate-related risks and opportunities and performance against targets.	Disclosed	4. Metrics and targets Environment chapter of the ESG report

1 Governance

CMOC has incorporated climate-related responsibilities into the company's ESG governance framework. Within our three-tier ESG management framework, we have clearly defined specific responsibilities, communication frequencies, and mechanisms for the Board, executive management, and individual operating sites. This ensures comprehensive management and effective execution from the top down.

CMOC Climate Governance Framework

Board of Directors	Board oversight	
	<p>Strategic and Sustainability Committee Frequency: Annual Responsibilities:</p> <ul style="list-style-type: none"> Overall supervision of climate change-related matters, including the identification, assessment, and management of climate-related risks and opportunities Formulating climate resilience strategies based on internal and external circumstances, reviewing and periodically assessing relevant management methods, and providing recommendations for improvement Monitoring and supervising progress in climate-related metrics and targets 	<p>Audit and Risk Committee Frequency: Annual Responsibilities:</p> <ul style="list-style-type: none"> Regularly reviewing, monitoring, and managing climate-related risks in business operations Integrating climate-related risks into the organization's comprehensive risk management processes
Executive management	<p>Group Vice President in charge of ESG: Fully responsible for the company's sustainability, including overseeing the development and execution of the climate-related policies and strategies; also presides over the Sustainability Executive Committee.</p>	
	<p>Sustainability Executive Committee Frequency: Quarterly Composition:</p> <ul style="list-style-type: none"> Members are drawn from the Board Office, HSE, Internal Control and Audit, Legal and Compliance, Global Supply Chain, Human Resources, Business Development, Commodity and Marketing, Anti-Corruption, and ESG departments <p>Responsibilities:</p> <ul style="list-style-type: none"> Facilitating communication and collaboration among various functional departments on material ESG issues, including climate-related matters, and seeking cross-departmental solutions 	<p>ESG Department Frequency: Daily Responsibilities:</p> <ul style="list-style-type: none"> Formulating and implementing measures related to climate change, coordinating across functional departments, and advancing the climate resilience strategy according to established timelines and milestones Regularly monitoring and tracking the progress of climate-related targets at the Group and operating site levels; periodically updating strategic emission reduction plans in response to actual developments; reviewing the compliance, feasibility, and effectiveness of workflows; and offering suggestions for improvement as needed Providing feedback to the CEO and the Strategic and Sustainability Committee
<p>Operating sites: Each individual operating site implements the Group's climate-related policies and strategies</p>		

ESG and climate change are crucial topics for routine review and decision-making by the Board of Directors. The Strategic and Sustainability Committee reports annually to the Board, ensuring that the latter is regularly informed about the progress of climate-related affairs. This ensures the timely integration of climate considerations into the company's strategic planning, business models, and other decision-making processes.

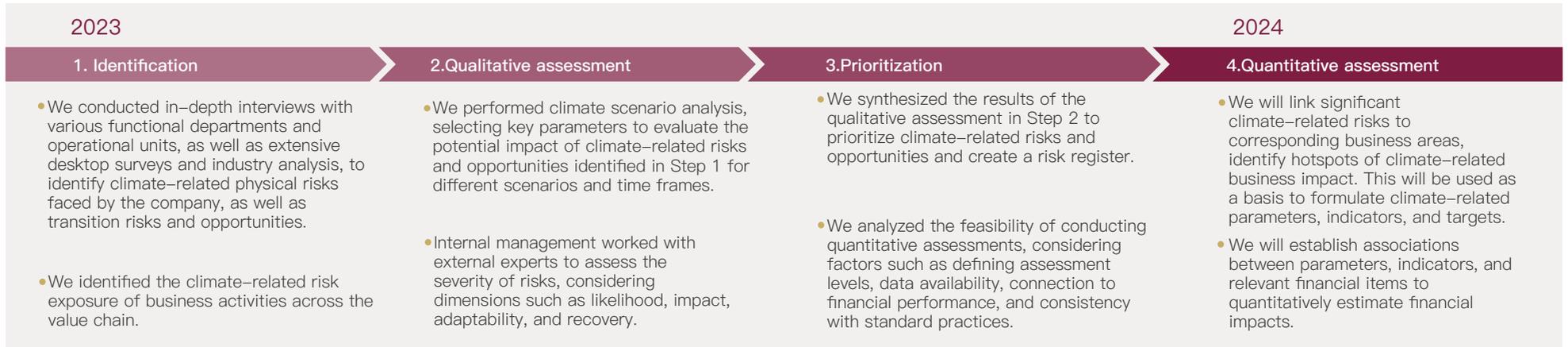
Record of Board Deliberations on Climate Change-related Issues

Date	Management Level	Agenda	Conclusion
January 2022	Board of Directors	Climate Change Vision	Board approval and release of the Climate Change Vision
January 2023	Board of Directors	Establishment of ESG Department	Board approval for the establishment of the ESG Department
March 2023	Board of Directors	Carbon neutrality	Board approval of the Carbon Neutral Roadmap and Action Plan
March 2024	Board of Directors	Risk register	Board review of risk register (including for climate-related risks)
March 2024	Board of Directors	TCFD report	Board review of the 2023 TCFD report

2 Strategy

CMOC recognizes that it is crucial to clearly identify climate-related risks and opportunities and their potential impact on the business to effectively address the challenges of climate change. In 2023, we engaged a globally renowned consulting firm to assist us in a comprehensive examination of the correlation between the types of climate-related risks and opportunities outlined by the TCFD and our company's operations. Using scientifically sound climate scenario models and parameters, we identified, assessed, and prioritized these climate-related risks and opportunities. Building on the insights of this analysis, our internal management collaborated with external experts to explore climate response strategies, with a view to incorporating climate-related considerations into our strategic planning and business models.

We took the following steps to evaluate the potential impact of climate change on our business:



2.1 Scenario analysis

The impacts of climate change are uncertain over various time frames. Scenario analysis helps us to thoroughly assess how climate-related risks and opportunities might affect our business. This, in turn, allows for a more accurate formulation of climate strategies and risk management measures. By utilizing publicly available climate scenario data, CMOC conducted forward-looking analyses on identified climate-related risks and opportunities in the short, medium, and long term, describing the relationship and trends between our business and climate-related risks and opportunities through a combination of qualitative and quantitative methods.

Scenario analysis principles

Time horizon	Consistent with time horizons for strategic carbon neutrality targets and action plans developed by CMOC: Short-term (by 2030); Medium-term (2030–2040), Long-term (2040–2050).
Scope	The included entities are consistent with the 2023 annual report.
High contrast	To fully consider the physical and transition risks arising from climate change, we chose two highly contrasting scenarios. The higher emissions scenario brings higher physical risks, while the low-carbon scenario entails higher transition risks.
Balanced	The formulated scenarios take into account socio-economic impacts, and the impact on entities.
Science-based	Scenarios utilize the following publicly available data sources: <ol style="list-style-type: none"> Network for Greening the Financial System (NGFS) – Climate Scenarios for central banks and supervisors – Phase IV International Energy Agency (IEA) – <i>World Energy Outlook 2023 (WEO 2023)</i> climate scenario data. Intergovernmental Panel on Climate Change (IPCC) – Sixth Assessment Report (AR6) – Shared Socioeconomic Pathways (SSPs).

Scenario formulation

Based on the aforementioned principles, CMOC developed two sets of climate scenarios for comparative analysis, tailored to the company's specific circumstances:

Scenario category	Low emissions scenario	High emissions scenario
Temperature rise	<ul style="list-style-type: none"> Below 1.5°C 	<ul style="list-style-type: none"> Above 2.4°C
Scenario description	<ul style="list-style-type: none"> The international community takes urgent and ambitious actions to reduce emissions, so as to transition to a zero-carbon economy and realize the ambitious goal of the Paris Agreement, namely to limit global warming to 1.5°C above pre-industrial levels. Incentive policies are actively implemented and carbon pricing mechanisms developed to promote continuous growth in market demand for low-carbon products and services. 	<ul style="list-style-type: none"> A business-as-usual scenario, where global climate actions are largely limited to the current policy framework, and greenhouse gas emissions continue to rise. This results in sustained global warming, significantly increasing exposure to physical climate risks. Businesses will experience more severe impacts of climate change, including direct asset losses and indirect effects such as disruptions in the supply chain.
Transition risk assessment scenarios	<ul style="list-style-type: none"> IEA Net Zero Emissions by 2050 (NZE) Scenario NGFS Net Zero 2050 Scenario 	<ul style="list-style-type: none"> IEA Stated Policies Scenario (STEPS) NGFS Current Policies Scenario
Physical risk assessment scenarios	<ul style="list-style-type: none"> IPCC SSP1-2.6 	<ul style="list-style-type: none"> IPCC SSP5-8.5

2.2 Analysis of climate-related risks and opportunities

Building upon the chosen climate scenarios and recognized categories of climate-related risks and opportunities, CMOC pinpointed key parameters for scenario analysis. These were chosen with consideration to the company's operational nature and geographic context. We integrated the findings of the climate-related risk review and scenario analysis to thoroughly evaluate and prioritize the primary climate-related risks and opportunities identified for CMOC. Based on this information, we created a Group climate-related risk and opportunity register. The register encompasses 1) transition risks and opportunities related to the transition to a low-carbon economy, and 2) physical risks linked to the physical impacts of climate change.

2.2.1 Transition risks and opportunities

The following table outlines the scenario parameters used to evaluate climate-related transition risks and opportunities for CMOC, along with the reasons why they were chosen:

Scenario parameters - Transition risks and opportunities

Parameter	Reason for selection
Carbon price	The carbon price stands as a core factor in measuring future carbon emission costs, directly influencing a company's financial decisions, particularly in terms of costs and benefits in a low-carbon economy. This parameter trended upward in both scenarios, with an acceleration trend over time. According to the latest data from IEA WEO2023, carbon prices in emerging market and developing economies (including China, Brazil, and South Africa) are projected to reach USD 200 per tonne of carbon dioxide by 2050 in the NZE Scenario.
CO ₂ intensity of GDP	CO ₂ intensity of GDP directly reflects the relationship between economic activities and carbon emissions. As the entire value chain moves toward a low-carbon economy, this parameter will reflect changes in policy, economic structure, and other factors. This parameter declined in both scenarios, accelerating over time.
CO ₂ intensity of electricity generation	Given that energy consumption is a major source of carbon emissions, strengthened global carbon reduction policies are expected to drive the adoption of clean energy, reducing carbon emissions in the electricity sector. This parameter declined in both scenarios, accelerating over time. According to the latest data from IEA WEO2023, the global electricity sector is expected to achieve zero carbon emissions by 2045 in the NZE Scenario.
Per capita CO ₂ intensity	With increasing awareness of climate change and the promotion of sustainable development goals, per capita carbon emission intensity reflects the growing demand for low-carbon products and services. This parameter declined in both scenarios, with a sharper decrease under the low emissions scenario.

Parameter		Reason for selection
Transition risks and opportunities	Non-fossil energy investment	The scale of investment in non-fossil energy is directly related to the adoption of low-carbon technologies in the global energy market. As low-carbon transition technologies become more prevalent and mature, related investment pressures are expected to gradually ease. According to the latest data from NGFS, non-fossil energy investment declined on a yearly basis in the Current Policies Scenario, while in the Net Zero 2050 Scenario, investment peaked in 2030 before decreasing annually.
	Share of electricity in transport energy consumption	The share of electricity used in the transportation sector has a direct bearing on carbon emission levels and energy usage patterns, and also indicates the degree of electrification in that sector. This parameter increased in both scenarios, with the latest data from IEA WEO2023 indicating that the share of electricity consumption in the transportation sector will exceed 50% in the Net Zero Emissions Scenario by 2050.
	Share of oil in the global energy supply	As global demand for renewable energy increases and energy markets fluctuate, changes in the global oil supply will directly impact the cost of energy for production and operations. This parameter exhibits a decreasing trend in both scenarios, with a sharper decline in the low emission scenario. According to the latest data from IEA WEO2023, the share of oil in the global energy supply is expected to be below 8% by 2050 in the NZE Scenario.
	Renewable energy capacity	The increase in installed renewable energy capacity reflects the expansion of the global renewable energy market, which provides opportunities for companies to participate and invest in renewable energy projects. This parameter shows an upward trend in both scenarios, with a sharper increase in the low emissions scenario.
	Share of renewables in electricity	The share of renewable energy in total electricity generation reflects the evolution of the global energy landscape, which influences a company's strategic positioning and development trajectory in future energy markets. This parameter shows an upward trend in both scenarios, with a sharper increase in the Low Emissions Scenario. According to the latest data from IEA WEO2023, the share of total electricity generation from renewable energy sources will exceed 70% by 2050 in the NZE Scenario, compared to only about 30% in the STEPS Scenario.

By calculating the differences between key parameters over specific time horizons for low emissions scenario and high emissions scenario, and subsequently applying correlation weightings, we determined the risk levels of various transition risks and opportunities. The table below shows the identified transition risks and opportunities for CMOG and their respective impacts on the business in the short, medium, and long term.

Transition risk and opportunity register

Risk and opportunity type	Details		Impact		
			Short-term	Medium-term	Long-term
Transition risks	Policies and legal	T1: Enhanced climate disclosure requirements	High	High	High
		T2: Strengthened emission reduction policies and regulatory efforts	Low	High	High
	Technology	T3: Cost of investments in low-carbon technologies	Medium	Low	Low
	Market	T4: Consumer trend toward low-carbon products and services	Low	Medium	Medium
		T5: Uncertainty in market signals	Medium	High	High
		T6: Increased costs of raw materials	Low	Low	Medium
		T7: Low-carbon transition pressures from supply chain partners	Low	Medium	Medium
	Reputation	T8: Increased concern and feedback from stakeholders	Low	Low	Low
Opportunities	Energy source	O1: Development of renewable energy projects	Low	Medium	Medium
	Products and services	O2: Consumer trend toward low-carbon products and services	Medium	Medium	High
	Resilience	O3: Energy substitution/diversification	Medium	High	High

*T=Transition risk; O=Opportunity Risk impact: ■ Low ■ Medium ■ High Opportunity impact: ■ Low ■ Medium ■ High

The following section provides detailed descriptions of each of the transition risks and opportunities listed in the register. This comprehensive analysis explores the driving factors behind risks and opportunities, their potential strategic impacts, and measures adopted by CMOC in response. Its goal is to provide substantial support for the company in crafting more precise and effective climate risk management strategies moving forward.

Policies and legal											
<p>As the world moves toward adopting low-carbon practices, CMOC is poised to confront a growing array of mandatory and voluntary regulatory demands. Notably, the increasingly prevalent global carbon pricing mechanisms stand out as the foremost influential factor. Although CMOC currently isn't impacted directly by these mechanisms, given its status as a globally operating mining enterprise, there is the potential for future trends to increase our carbon emission costs. There is also the possibility that partners pass along their elevated costs to the supply chain. Concurrently, some regions are implementing tax schemes that encompass not only the company's self-generated emissions, but also levy taxes on imported goods and services.</p> <p>The changes in these regulations and policies could have a substantial impact on CMOC's operations and cost structure. Hence, it is imperative to closely scrutinize and implement appropriate measures to adeptly respond to regulatory shifts, while ensuring the effective execution of the company's compliance strategy.</p>											
Drivers	Strategic impacts	Mitigation measures	Impact assessment								
T1: Enhanced climate disclosure requirements	<ul style="list-style-type: none"> The ongoing strengthening of emission reporting standards by regulatory bodies is expected to raise management and disclosure costs for both the Group and its subsidiaries, while also posing a potential reputational threat. 	<ul style="list-style-type: none"> While implementing carbon initiatives, take additional steps to enhance emission monitoring, improve data collection, management, and disclosure capabilities, and thoroughly assess carbon footprints across the entire product lifecycle through a phased approach. 	<table border="1"> <thead> <tr> <th></th> <th>Short-term</th> <th>Medium-term</th> <th>Long-term</th> </tr> </thead> <tbody> <tr> <td>T1</td> <td>High</td> <td>Medium</td> <td>Low</td> </tr> </tbody> </table>		Short-term	Medium-term	Long-term	T1	High	Medium	Low
	Short-term	Medium-term	Long-term								
T1	High	Medium	Low								
T2: Strengthened emission reduction policies and regulatory efforts	<ul style="list-style-type: none"> Due to the global nature of CMOC's operations, disparities in climate policies and regulations across regions will present diverse compliance challenges. In the future, CMOC could come under the purview of carbon emission trading regulations. Such inclusion could potentially lead to heightened costs from carbon emission fees. 	<ul style="list-style-type: none"> Closely monitor changes to climate-related policies in our operational regions and promptly identify risks. Formulate a global compliance strategy to effectively navigate diverse regulatory environments. Monitor carbon pricing mechanisms globally, and especially in regions where our assets are located. Actively engage in industry discussions, explore potential involvement in carbon markets, and assess and plan for the anticipated impacts of carbon emission costs. 	<table border="1"> <thead> <tr> <th></th> <th>Short-term</th> <th>Medium-term</th> <th>Long-term</th> </tr> </thead> <tbody> <tr> <td>T2</td> <td>Medium</td> <td>High</td> <td>Medium</td> </tr> </tbody> </table>		Short-term	Medium-term	Long-term	T2	Medium	High	Medium
	Short-term	Medium-term	Long-term								
T2	Medium	High	Medium								

Risk impact: Low Medium High

Technology											
<p>Technological upgrades and innovation are key drivers for mining companies to reduce emissions along the value chain. During the low-carbon transition process, CMOC will face various technological challenges, requiring us to put more effort in assessing and managing risks. The technological challenges mainly include the increase in costs while adopting low-carbon technologies, the uncertainties and instabilities associate with rapid technological evolution, and the inability to keep up with the continuously evolving environmental regulations resulting from rapidly changing technological landscape.</p>											
Drivers	Strategic impacts	Mitigation measures	Impact assessment								
T3: Cost of investments in low-carbon technologies	<ul style="list-style-type: none"> The opportunity for iterative improvements in CMOC's traditional mining and smelting processes is limited. The utilization of low-carbon technologies is confined to energy sources, logistics, and warehousing, leading to elevated investment costs for the replacement of equipment and facilities. 	<ul style="list-style-type: none"> Continuously monitor the development of low-carbon technologies and carefully evaluate their cost-effectiveness. Only adopt mature and economically viable technologies, so as to avoid dependence on potentially unstable innovations. 	<table border="1"> <thead> <tr> <th></th> <th>Short-term</th> <th>Medium-term</th> <th>Long-term</th> </tr> </thead> <tbody> <tr> <td>T3</td> <td>Medium</td> <td>High</td> <td>Medium</td> </tr> </tbody> </table>		Short-term	Medium-term	Long-term	T3	Medium	High	Medium
	Short-term	Medium-term	Long-term								
T3	Medium	High	Medium								
	<ul style="list-style-type: none"> In certain regions where our assets are located, such as the DRC, geographical constraints contribute to unreliable power supplies and limited energy alternatives. This increases the difficulty of transitioning to low-carbon technologies, resulting not only in increased costs but also investment risks. 	<ul style="list-style-type: none"> Thoroughly assess the status of all assets and introduce targeted and cost-efficient technologies for reducing carbon emissions. This includes initiating renewable energy projects and implementing energy conservation and carbon reduction measures. Internally, in 2023, we outlined short-term carbon reduction projects (to be completed by 2030) and established implementation timelines for all operating sites. 									

Risk impact: Low Medium High

Market

With the global spotlight on climate change, there is a growing market demand for environmentally friendly and low-carbon products, which could potentially constrain demand for traditional high-carbon products. This shift in market preferences could impact the operational costs and profitability of CMOC's businesses. Specifically, we anticipate that growing pressures for carbon reduction, driven by demand for low-carbon products, will be transmitted to us through various stages of the supply chain. Therefore, a thorough assessment of market dynamics is imperative. It is essential to flexibly adjust our product portfolio to align with evolving market trends, thereby mitigating the adverse effects of market risks on our operations.

Drivers	Strategic impacts	Mitigation measures	Impact assessment								
T4: Consumer trend toward low-carbon products and services	<ul style="list-style-type: none"> While the carbon footprint of CMOC's products and its strategic focus on critical metals align with market trends, a rapid transition to low-carbon consumption behavior is expected to squeeze the profit margins of both low-carbon and critical mineral products. 	<ul style="list-style-type: none"> Stay vigilant to market signals, including evolving trends in the renewables sector, and nimbly adjust supply chain, production, and market strategies. Give precedence to environmentally friendly production methods. Accelerate the implementation of energy-saving and carbon reduction initiatives, including the adoption of electrification and alternative fuels across all operating sites, so as to deliver carbon reduction while securing a dependable energy supply. 	<table border="1"> <thead> <tr> <th></th> <th>Short-term</th> <th>Medium-term</th> <th>Long-term</th> </tr> </thead> <tbody> <tr> <td>T4</td> <td style="background-color: #f4cccc;">Low</td> <td style="background-color: #fce4d6;">Medium</td> <td style="background-color: #f4cccc;">Low</td> </tr> </tbody> </table>		Short-term	Medium-term	Long-term	T4	Low	Medium	Low
	Short-term	Medium-term	Long-term								
T4	Low	Medium	Low								
T5: Uncertainty in market signals	<ul style="list-style-type: none"> The evolution of metal recycling and the circular economy are expected to decrease demand for primary minerals. As a supplier of primary mineral products, this shift may affect CMOC's overall sales. <p>Critical minerals (copper, cobalt, nickel, lithium, etc.)</p> <ul style="list-style-type: none"> As the renewables sector (which includes electric vehicles) matures, growth in demand for raw materials is expected to moderate. Uncertainties about the prospects of battery technologies introduce risks of potential product substitution. <p>Phosphate fertilizers</p> <ul style="list-style-type: none"> The impact of extreme temperatures and frequent weather events on agriculture could lead to a decrease in demand for the phosphate fertilizers in CMOC Brazil. 	<ul style="list-style-type: none"> Integrate climate-related factors, including resources, policies, and carbon emission limitations, thoroughly into the deliberations for the development and construction of new projects. 	<table border="1"> <thead> <tr> <th></th> <th>Short-term</th> <th>Medium-term</th> <th>Long-term</th> </tr> </thead> <tbody> <tr> <td>T5</td> <td style="background-color: #fce4d6;">Medium</td> <td style="background-color: #fce4d6;">Medium</td> <td style="background-color: #fce4d6;">Medium</td> </tr> </tbody> </table>		Short-term	Medium-term	Long-term	T5	Medium	Medium	Medium
	Short-term	Medium-term	Long-term								
T5	Medium	Medium	Medium								
T6: Increased costs of raw materials	<ul style="list-style-type: none"> Price volatility for the energy sources (electricity, natural gas, diesel, etc.) and materials (chemicals, sulfur, maintenance materials for facilities and equipment, etc.) required in CMOC's operations could lead to an increase in costs. 	<ul style="list-style-type: none"> Monitor price fluctuations for those resources essential for operations, such as energy and materials, and anticipate and proactively mitigate cost increases. 	<table border="1"> <thead> <tr> <th></th> <th>Short-term</th> <th>Medium-term</th> <th>Long-term</th> </tr> </thead> <tbody> <tr> <td>T6</td> <td style="background-color: #fce4d6;">Medium</td> <td style="background-color: #fce4d6;">Medium</td> <td style="background-color: #fce4d6;">Medium</td> </tr> </tbody> </table>		Short-term	Medium-term	Long-term	T6	Medium	Medium	Medium
	Short-term	Medium-term	Long-term								
T6	Medium	Medium	Medium								
T7: Low-carbon transition pressures from supply chain partners	<ul style="list-style-type: none"> Supply chain demands on the lifecycle carbon footprint of products could result in increased management costs for CMOC. 	<ul style="list-style-type: none"> Curb carbon emissions across product lifecycles, work with partners to promote a green industrial chain, and actively disclose relevant information such as the carbon footprint of our products to the public. All of the above can become CMOC's competitive strengths. 	<table border="1"> <thead> <tr> <th></th> <th>Short-term</th> <th>Medium-term</th> <th>Long-term</th> </tr> </thead> <tbody> <tr> <td>T7</td> <td style="background-color: #fce4d6;">Medium</td> <td style="background-color: #fce4d6;">Medium</td> <td style="background-color: #fce4d6;">Medium</td> </tr> </tbody> </table>		Short-term	Medium-term	Long-term	T7	Medium	Medium	Medium
	Short-term	Medium-term	Long-term								
T7	Medium	Medium	Medium								

Risk impact: Low Medium High

Reputation

The expectations of stakeholders regarding corporate climate initiatives, transparency in information disclosure, and overall maturity continue to rise. If CMOC falls short of achieving its predetermined climate objectives within anticipated time frames or fails to align with leading climate initiatives, it may impact the trust of key stakeholders such as investors, customers, and talent. This could potentially lead stakeholders to collaborate with other entities that demonstrate a better climate performance. Hence, it is imperative to ensure that our climate targets and initiatives remain in line with societal expectations. Through prompt and transparent information disclosure, CMOC aims to underscore its leadership position and dedication in the realm of climate action, thereby safeguarding and bolstering our reputation.

Drivers	Strategic impacts	Mitigation measures	Impact assessment								
T8: Increased concern and feedback from stakeholders	<ul style="list-style-type: none"> Interest in climate issues varies across stakeholders in the regions where CMOC's assets are situated. This may require the company to invest more time and resources in communication efforts to prevent the spread of misleading information and negative messaging. Failure to meet quantitative carbon emissions benchmarks required by stakeholders such as banks could lead to increased financing costs. The increasing frequency of extreme weather events may result in higher insurance premiums for CMOC's various operations. To ensure the timely achievement of publicly disclosed carbon reduction targets, there could be a rise in costs associated with adopting low-carbon technologies and equipment. A lack of effective climate risk management may impact CMOC's ability to attract and retain talent, thereby limiting the company's sustainable development. 	<ul style="list-style-type: none"> Enhance communication with internal and external stakeholders by establishing diverse channels such as the official website, ESG reports, and TCFD reports. This will boost transparency and accuracy in information disclosure, fostering understanding and trust in CMOC's climate impact and actions Actively participate in recognized ESG ratings to boost performance. Also consider initiatives such as issuing green bonds to project a positive image of environmental and social responsibility. Clearly outline carbon reduction plans for each operating site in line with CMOC's publicly stated carbon neutrality targets. Gradually transform the value chain to mitigate carbon emission risks. Promote internal awareness of climate issues at CMOC. Step up training and awareness campaigns to encourage widespread participation in carbon neutrality initiatives. 	<table border="1"> <thead> <tr> <th></th> <th>Short-term</th> <th>Medium-term</th> <th>Long-term</th> </tr> </thead> <tbody> <tr> <td>T8</td> <td style="background-color: #fce4d6;">Medium</td> <td style="background-color: #fce4d6;">Medium</td> <td style="background-color: #fce4d6;">Medium</td> </tr> </tbody> </table>		Short-term	Medium-term	Long-term	T8	Medium	Medium	Medium
	Short-term	Medium-term	Long-term								
T8	Medium	Medium	Medium								

Risk impact: Low Medium High

Opportunities

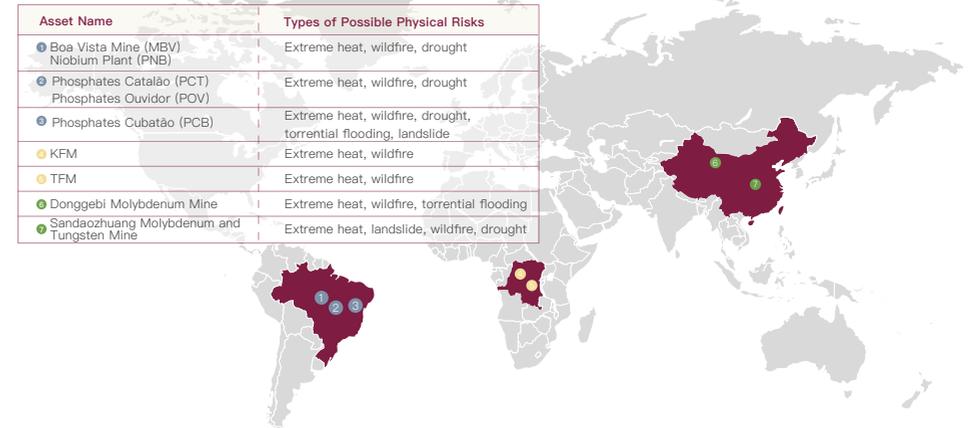
With the growing global demand for renewable energy and low-carbon technologies, CMOC is well-positioned to play a key role in areas like renewable energy and electric transportation. By actively offering low-carbon and renewable energy related products, as well as by participating in renewable energy projects, we not only enhance our own sustainable development but also take a leadership role in the global climate transition. This will help us to shape a more environmentally friendly industry landscape.

Opportunity category	Drivers	Strategic impacts	Mitigation measures	Impact assessment
Energy source	O1: Development of renewable energy projects	In a context where the market and industry are actively transitioning to low-carbon practices, utilizing low-emission energy solutions brings multiple benefits. This includes not only lower energy costs, but also a decreased sensitivity to carbon emission costs. Additionally, this approach may appeal to consumers and investors, thereby boosting market competitiveness.	Coordinate across operating sites to actively explore economically viable renewable energy solutions. This approach can further reduce carbon footprint of products, helping to maintain a competitive advantage.	
Products and services	O2: Consumer trend toward low-carbon products and services	CMOC has made critical minerals such as copper, cobalt, nickel, and lithium a strategic focus. As market demand for low-carbon products and services increases, this could spur rapid development and construction in various industries, from wind power and photovoltaic projects to alternative fuel vehicles and ultra-high-voltage power grids. Such a growth surge would require the extensive utilization of critical minerals, which could drive the performance of our business.	Strengthen monitoring and forecasting for the renewable energy market and its associated technological applications. Keep abreast of market trends and adapt product categories and production capacity flexibly based on evolving trends in relevant markets. Continuously enhance product quality while ensuring current standards are maintained. Deliver higher-specification critical metals to the market to meet the needs of cutting-edge renewable energy technologies.	
Resilience	O3: Energy substitution /diversification	As extreme weather events intensify worldwide, the market is likely to experience energy shortages and considerable price volatility. By increasing the versatility and synergy of different alternative energy sources, we can reduce the impact on production and operations, thereby enhancing resilience and stabilizing costs.	We actively seek diversified renewable energy solutions according to the actual situation of different operating units, and increase the resilience of the overall business against various types of uncertainties through the use of digital systems to monitor the energy use, thereby achieving cost and revenue stability. We have formulated a carbon neutrality action plan based on carbon emission forecasts for the years 2022–2050. Our commitment is to continuously enhance climate resilience over different time frames. For detailed information, please refer to the CMOC Carbon Neutral Roadmap and Action Plan published on our official website.	

Risk impact: Low Medium High

2.2.2 Physical risks

As global climate change intensifies, occurrences such as extreme heat, floods, droughts, and wildfires pose potential risks to CMOC. These include damage to equipment and facilities, production interruptions, supply chain disruption, and even adverse effects on employee safety and community relations. Identifying, evaluating, and managing the potential physical risks specific to each mining site is a top priority in CMOC's climate risk management strategy. In January 2024, the company conducted a comprehensive assessment of physical risks for its seven major mining assets situated in China, Brazil, and the DRC.



For our physical risk assessment, we employed ten key parameters, encompassing extreme heat, drought, storm surge, river flood, rainfall flood, typhoons, landslides, wildfires, snowmelt, and sea level rise. The table below provides details on the parameters and detailed metrics used in the assessment:

Scenario Parameters - Physical Risks

Parameter		Metric	Data source
Acute	River flood	Water depth (m)	GPM, TRMM, CMIP5/6, CCSM4, Hadgem2, Microwave Satellite Datasets, etc.
	Storm surge	Water depth (m)	Meteorological Center Datasets, MERIT DEM, etc.
	Rainfall flood	Water depth (m)	GPM, TRMM, CFSR
	Typhoon	Wind speed (km/h)	IBTrACS, CMIP, CMIP5/6
	Landslide	Annual landslide frequency (times/yr.)	NOAA, GPM, CMIP5/6, MODIS Slope etc.
	Wildfire	Fire Weather Index (FWI)	AR5, AR6
Chronic	Extreme heat	Temperature (°C)	CHESLA, MEERA, CMIP5/6 etc.
	Drought	Standardized Precipitation Index (SPI)	GPM, TRMM, CFSR
	Snowmelt	Snowmelt quantity 10 ⁻⁶ (Kg·m)	AR5, AR6
	Sea level rise	Sea level rise (m)	IGCM(IPCC), MERRIT DEM

Initially, we used climate model data to conduct a comparative analysis of historical occurrences of physical risk. This involved evaluating and adjusting estimates of our degree of asset exposure to various climate-related disasters. Using 2020 as the base year, we performed simulations to estimate the extent of physical risks our assets might be exposed to in the medium-term and long-term, under both the high emissions scenario (SSP5-8.5) and low emissions scenario (SSP1-2.6). Subsequently, we applied asset value weightings to draw up a comprehensive Group-level register of physical risks.

The table on the right presents the physical risks identified for CMOC across different scenarios and time frames, and their business impact. The table below shows the major physical risks across countries.

Risk type	Details	2020	2030		2050		
		Baseline	SSP1-2.6	SSP5-8.5	SSP1-2.6	SSP5-8.5	
Physical risks	Acute	River flood	Extremely low				
		Storm surge	Extremely low				
		Rainfall flood	Low	Low	Low	Low	Low
		Typhoon	Extremely low				
		Landslide	Low	Low	Low	Low	Low
		Wildfire	Medium	Medium	Medium	Medium	Medium
		Extreme heat	Medium	Medium	Medium	Medium	Medium
Chronic		Drought	Low	Medium	Low	Medium	Low
		Snowmelt	Extremely low				
		Sea level rise	Extremely low				

Risk impact: Extremely low Low Medium High Extremely high

Distribution of Major Physical Risks by Country

Risk type	2020	2030		2050		Trend analysis	Risk impact		
	Baseline	SSP1-2.6	SSP5-8.5	SSP1-2.6	SSP5-8.5				
Rainfall flood	•Brazil	•Brazil	•Brazil	•Brazil	•Brazil	Due to local topography, some of CMOC's mining sites in Brazil and China currently face low risks from Rainfall flood (specifically our Cubatão chemical plant in Brazil and Donggebi Molybdenum Mine in China) and landslides (specifically our Cubatão chemical plant in Brazil and the Sandaozhuang Molybdenum and Tungsten mine in China). Based on the calculations in our model, the anticipated impact of these risks is expected to rise in the medium to long term, especially under high-emission scenarios. However, it consistently remains within the low-risk category.	If Rainfall flood or landslides occur, they could have diverse consequences for our production operations and local communities, such as: •Endangering the health and safety of employees and local residents •Causing damage to facilities and equipment •Escalating management costs for tasks like facility maintenance, wastewater treatment, and landslide monitoring •Operational interruptions.		
	•China	•China	•China	•China	•China				
Landslide	•Brazil	•Brazil	•Brazil	•Brazil	•Brazil				
	•China	•China	•China	•China	•China				
Wildfire	•DRC	•DRC	•DRC	•DRC	•DRC			Currently the main physical risks faced by CMOC are related to extreme heat and wildfires and we expect that these will persist in the future. The anticipated impact of these risks is expected to rise in the medium to long term, particularly under high-emission scenarios. Nevertheless, the overall risk level consistently remains within the medium range.	The escalating frequency and severity of extreme weather events, such as global heatwaves, and associated disasters like wildfires, could pose diverse threats to our operations, including: •Endangering the health and safety of employees and local residents •Causing damage to facilities and equipment •Escalating management costs for tasks like facility maintenance and firefighting management •Operational interruptions.
	•Brazil	•Brazil	•Brazil	•Brazil	•Brazil				
	•China	•China	•China	•China	•China				
Extreme heat	•DRC	•DRC	•DRC	•DRC	•DRC				
	•Brazil	•Brazil	•Brazil	•Brazil	•Brazil				
	•China	•China	•China	•China	•China				
Drought	•DRC	•DRC	•DRC	•DRC	•DRC	At present, CMOC's overall drought risk is moderate. The drought risk at the TFM and KFM mines in the DRC is projected to rise from the current low level to a moderate level under low-emission scenarios. Furthermore, in the future, CMOC's drought risk in Brazil may potentially increase to high or extremely high levels under both emission scenarios.	As a mining company, we rely heavily on resources such as water and electricity. Diminishing rainfall caused by worsening global drought conditions may present considerable challenges for both our production processes and community relations, including: •Increases in community conflict •Aggravation of fugitive road dust •Scarcity of process water •Power shortages and higher electricity prices •Aggravation of fugitive road dust		
	•Brazil	•Brazil	•Brazil	•Brazil	•Brazil				
	•China	•China	•China	•China	•China				

Taking into account the evaluation outcomes for physical risks across our operating sites, we anticipate that global warming will have a growing impact on CMOC's operations, presenting ever greater challenges to our business and assets. The distinct trends observed for each operating site under various time frames and climate scenarios underscore the importance of proactive adaptation to evolving climate patterns, so as to safeguard the sustainability of our business.

In response to the current physical risks, CMOC has already established comprehensive measures for risk management and mitigation. The company will continue to enhance its risk prevention capabilities in response to projected trends. Given the substantial differences in climatic and natural conditions across sites where our assets are located, the following sections will elaborate on the primary physical risks faced by each site and the corresponding measures taken to mitigate them.

DRC

Physical Risk Register for KFM in the DRC

Risk type – KFM	Risk	2020	2030		2050		
		Baseline	SSP1–2.6	SSP5–8.5	SSP1–2.6	SSP5–8.5	
Physical risks	Acute	River flood	Extremely low				
		Storm surge	Extremely low				
		Rainfall flood	Extremely low				
		Typhoon	Extremely low				
		Landslide	Extremely low				
		Wildfire	Medium	Medium	Medium	Medium	Medium
		Extreme heat	Medium	Medium	Medium	Medium	Medium
	Chronic	Drought	Low	Medium	Low	Medium	Low
		Snowmelt	Extremely low				
		Sea level rise	Extremely low				

Physical Risk Register for TFM in the DRC

Risk type – TFM	Risk	2020	2030		2050		
		Baseline	SSP1–2.6	SSP5–8.5	SSP1–2.6	SSP5–8.5	
Physical risks	Acute	River flood	Extremely low				
		Storm surge	Extremely low				
		Rainfall flood	Extremely low				
		Typhoon	Extremely low				
		Landslide	Extremely low				
		Wildfire	Medium	Medium	Medium	Medium	Medium
		Extreme heat	Medium	Medium	Medium	Medium	Medium
	Chronic	Drought	Low	Medium	Low	Medium	Low
		Snowmelt	Extremely low				
		Sea level rise	Extremely low				

Risk impact: ■ Extremely low ■ Low ■ Medium ■ High ■ Extremely high

Our risk assessment for the DRC encompassed the TFM and KFM sites. The results showed that assets at both sites faced similar material physical risks and impact levels. The climate in the DRC is generally favorable and stable and the likelihood of extreme weather events is relatively low. Nevertheless, the prolonged dry season exposes both mines to medium-risk levels, including wildfires and extreme heat. Furthermore, model predictions suggest that the drought risk in the DRC may rise to a medium level under the low emissions scenarios. To effectively mitigate the impact of these physical risks and enhance resilience, the TFM and KFM sites have implemented various response measures. Both sites have utilized dust suppressants and water spraying to address dust issues during the dry season, minimizing the impact on road transport. Steps have also been taken to increase water recycling and conservation, and water storage facilities have been constructed to relieve stress on water resources during the dry season. At the same time, advances in open-pit mine and tailings storage designs, the reinforcement of emergency plans and drills, and a heightened focus on routine monitoring and inspections all work together to bolster the overall readiness of our operating sites to respond to climate-related emergencies.

Brazil

Physical Risk Register for Operations in Brazil

Risk type – Brazil	Risk	2020	2030		2050		
		Baseline	SSP1–2.6	SSP5–8.5	SSP1–2.6	SSP5–8.5	
Physical risks	Acute	River flood	Extremely low	Extremely low	Extremely low	Extremely low	Extremely low
		Storm surge	Extremely low	Extremely low	Extremely low	Extremely low	Extremely low
		Rainfall flood	Low	Low	Low	Low	Low
		Typhoon	Extremely low	Extremely low	Extremely low	Extremely low	Extremely low
		Landslide	Low	Low	Low	Low	Low
	Chronic	Wildfire	Low	Low	Medium	Low	Medium
		Extreme heat	Medium	Medium	Medium	Medium	Medium
		Drought	Medium	Medium	Extremely high	High	High
		Snowmelt	Extremely low	Extremely low	Extremely low	Extremely low	Extremely low
		Sea level rise	Extremely low	Extremely low	Extremely low	Extremely low	Extremely low

Risk impact: ■ Extremely low ■ Low ■ Medium ■ High ■ Extremely high

We divided CMOC’s operating sites in Brazil into three groups by geographical location, and applied asset value weightings to each: 1) Boa Vista Mine (MBV) and Niobium Plant (PNB); 2) Phosphates Catalão (PCT) and Phosphates Ovidor (POV); and 3) Phosphates Cubatão (PCB). According to the assessment, the main physical risks faced by our operating sites in Brazil include extreme heat, drought, and wildfires. Additionally, the PCB plant faces a relatively low risk of rainfall flood and landslides. Over the long term, drought may shift from a low to relatively high risk, and under the high emissions scenarios, could escalate to an extremely high risk in the medium term. To address water scarcity caused by drought, we are actively advancing initiatives to enhance water recycling, construct water storage facilities, and assist local communities in maintaining springs to supplement groundwater. Furthermore, given Brazil’s reliance on hydropower, drought can result in electricity supply shortages and price hikes. To mitigate these issues, we are accelerating energy substitution and diversification efforts to alleviate power supply concerns. Additionally, we have entered into long-term electricity price agreements with local governments to mitigate price volatility.

In 2022, as a result of elevated temperatures and drought, a significant forest fire erupted in the vicinity of one of CMOC’s sites in Brazil. We quickly deployed personnel and resources to respond to the emergency, and fortunately, it had no adverse effects on our production operations. Following the wildfire, CMOC Brasil strengthened temperature monitoring protocols at its operating sites and nearby forests. Satellite systems are now used to deliver real-time monitoring and alerts to ensure timely and effective responses to fire threats.

China

Physical Risk Register for the Sandaozhuang Molybdenum and Tungsten Mine in China

Risk type – Sandaozhuang	Risk	2020	2030		2050		
		Baseline	SSP1–2.6	SSP5–8.5	SSP1–2.6	SSP5–8.5	
Physical risks	Acute	River flood	Extremely low				
		Storm surge	Extremely low				
		Rainfall flood	Extremely low				
		Typhoon	Extremely low				
		Landslide	Low	Low	Low	Low	Low
	Chronic	Wildfire	Low	Low	Low	Low	Low
		Extreme heat	Medium	Medium	Medium	Medium	Medium
		Drought	Low	Low	Low	Low	Low
		Snowmelt	Extremely low				
		Sea level rise	Extremely low				

Risk impact: ■ Extremely low ■ Low ■ Medium ■ High ■ Extremely high

The main physical risks faced by the Sandaozhuang Molybdenum and Tungsten Mine in China include landslides, wildfires, drought (low risk), and extreme heat (medium risk). In light of water stress caused by drought and local water demand, we have taken steps to reduce fresh water usage, including by increasing the water recycling rate and monitoring water resources. With concern to landslide risks in the mining area, we have reinforced and upgraded open-pit slopes and tailings storage facilities to meet higher standards. We regularly revise emergency plans, conduct emergency drills, and continuously enhance the monitoring and inspection of relevant metrics to ensure the safety and regularity of operations. We have also deployed unmanned systems to minimize the impact of extreme heat on manual operations.

Physical Risk Register for the Donggebi Molybdenum Mine in China

Risk type – Donggebi	Risk	2020	2030		2050		
		Baseline	SSP1–2.6	SSP5–8.5	SSP1–2.6	SSP5–8.5	
Physical risks	Acute	River flood	Extremely low				
		Storm surge	Extremely low				
		Rainfall flood	Low	Low	Low	Low	Low
		Typhoon	Extremely low				
		Landslide	Extremely low				
	Chronic	Wildfire	Extremely low				
		Extreme heat	Medium	Medium	Medium	Medium	Medium
		Drought	Low	Low	Low	Low	Low
		Snowmelt	Extremely low				
		Sea level rise, height (m)	Extremely low				

Risk impact: Extremely low Low Medium High Extremely high

In addition to the Sandaozhuang Molybdenum and Tungsten Mine, we have also assessed the physical risks for the Donggebi Molybdenum Mine in China. We intend to integrate the assessment findings into the mine's overall design and construction plans to enhance its resilience to physical risks. The primary physical risks confronting the Donggebi mine include extreme heat, rainfall flood, and drought. Extreme heat consistently presents a medium risk across different time frames, potentially affecting the operational efficiency of mining equipment and posing a threat to the health and safety of employees. Therefore, this risk type requires particular attention and management. The Donggebi mine continues to face a low risk of drought that could result in water shortages. In addition, owing to its low-lying location, there is also a low possibility of flooding during extreme rainfall events.

Other business activities

The diversified and global nature of CMOC's operations mitigates the overall impact of a singular extreme weather event on its business. The company's extensive supply chain network further minimizes the impact of such events on logistics and warehousing processes. Historically, the company has not encountered significant operational or supply chain disruptions resulting from extreme weather events. In addition to evaluating the physical risks for fixed mining assets, CMOC has also analyzed the physical risks and possible mitigation measures for various non-mining business activities.

Drivers	Impact	Mitigation measures
Typhoon	<ul style="list-style-type: none"> May result in losses or delays in sea transportation of goods and materials, particularly affecting IXM's product sales and fulfillment. Increased packaging and fastening requirements for goods, as well as shifting to air transportation, causing a rise in costs. 	<ul style="list-style-type: none"> Develop more thorough contingency plans for transportation and inventory management. Optimize insurance plans to ensure maximum coverage.
Rainfall flood	<ul style="list-style-type: none"> Frequent floods along the South African coast during the rainy season may damage port warehouse facilities, cause congestion, or slow customs clearance, resulting in denial of access, loss, or damage to cargo, possibly resulting in project construction delays. 	<ul style="list-style-type: none"> Evaluate potential disaster-prone areas (ports, warehouses) and formulate emergency plans for logistics and warehousing. Raise floors or shelving in warehouses susceptible to flooding.
Extreme heat	<ul style="list-style-type: none"> Prolonged extreme heat can significantly impact equipment operation and employee health. Operating sites in China, Brazil, and Europe may have to pay heat stress compensation, incurring additional costs. Persistent high temperatures impact agricultural production, curbing demand for CMOC's phosphorus fertilizers, leading to revenue loss. Data transmission and storage equipment are susceptible to power interruptions caused by extreme heat, fires, and other such events. 	<ul style="list-style-type: none"> Deploy unmanned systems in mining areas to reduce the impact of extreme weather on operations. Our mines in Brazil can use satellites to monitor weather conditions in real-time and adjust output promptly in case of a high-temperature alert, so as to minimize losses. Consider climate-related factors in the selection of data center locations and deployment of IT systems. Install disaster recovery systems to ensure timely recovery after power outages. Conduct data recovery drills every six months.

Based on a thorough analysis of climate-related risks and opportunities, CMOC acknowledges the critical importance and urgency of enhancing both business and strategic resilience to climate factors. We will leverage the results of our thorough assessments of climate-related risks and opportunities to continuously refine and improve company mechanisms for climate change mitigation and adaptation. Our goal is to adeptly and promptly seize the potential opportunities arising from the low-carbon transition. In doing so, we can actively contribute to global climate change mitigation efforts and sustainable development, while also fostering the sustainable growth of our business.

3 Risk Management

CMOC incorporates climate-related risk management into the Group's comprehensive risk management processes. This includes conducting climate risk identification, assessment, and management every six months. This process helps us to identify significant climate-related risks and opportunities for the company, as well as their potential scale and scope. Our goal is to better understand climate-related impacts and incorporate them into strategic business considerations. This enables us to timely develop and implement effective risk response measures to enhance climate resilience and seize climate opportunities.

3.1 Climate-related risk identification and assessment process

Climate-related risk identification

We employ a methodical approach involving systematic research and cross-departmental collaboration to pinpoint climate risks. Key steps include:

- Engaging external experts to conduct industry-level risk reviews and performing desktop investigations into climate policies and regulations specific to the countries/regions of operation.
- Facilitating discussions with management personnel from Group functional departments and subsidiaries to gain valuable insights. At the Group level, this encompasses the ESG, Board Office, Internal Control and Audit, Commodity and Marketing, Project Development, Business Development, Production and Technology, Finance, Treasury, Global Supply Chain, and IT departments. At the subsidiary level, this includes IXM, our Chinese and Brazilian operations, and the TFM and KFM mines.
- Reviewing NGFS Phase 4 climate scenario data and IEA WEO 2023 climate scenario data to assist in identifying and evaluating transition risks.
- Reviewing the IPCC Atlas database to aid in the identification and evaluation of physical risks.

This integrated risk identification process, combining both internal and external elements, ensures a comprehensive understanding of various climate risks for CMOC. We consider factors from diverse functional areas and operational aspects, while consulting the latest information from globally recognized databases, resulting in the creation of a list of climate-related risks for prioritization.

Climate-related risk assessment and prioritization

To better understand the relative importance of climate risks, we conduct comprehensive assessments of identified climate risks. Utilizing criteria such as likelihood, impact, adaptability, and recovery, we score and prioritize each type of climate risk in two scenarios and across different time frames. Chaired by the Vice President in charge of ESG, the ESG Department coordinates the scoring process, which involves management from key functional departments and operating units. This collaborative effort ensures the objectivity and comprehensiveness of the assessment results, while building internal consensus on the primary climate risks to the business. Such consensus serves as the foundation for the effective implementation of climate risk response strategies.

The results of climate risk prioritization are submitted to the Board for review. In addition, the Board annually formulates climate risk management-related strategies, policies, and mechanisms based on the assessment results. These are communicated to the management, with the ESG Department responsible for formulating and implementing specific response measures, and overseeing and tracking the progress of established objectives.

3.2 Climate-related risk and opportunity management practices

Within our existing comprehensive risk management framework, we have defined climate change risks as a specific subset of ESG risks. These are comprehensively assessed and controlled alongside other major strategic risks, such as corporate governance and business transformation. By covering the entire Group's risk register and reporting system, we identify and measure the relative importance of climate risks relative to other risks. This approach enables us to formulate targeted response strategies based on the urgency and severity of climate risks, ensuring the timely and effective implementation of relevant control measures.

<p>Risk register</p>	<ul style="list-style-type: none"> ● In 2023, we formally included "Climate Change Risks" as a subcategory in the risk register for both the headquarters and operating sites. This was done to gain a comprehensive perspective on the operational significance of climate-related risks and measures implemented. It explicitly incorporates climate risk management into operational management processes. ● Group-level functional departments and subsidiaries conduct semi-annual reviews of the risk register, during which they update risk levels, along with corresponding action plans and procedures. ● The Group's risk register is compiled and updated by the Internal Control and Audit Department and reported annually to the Group CEO and the Audit and Risk Committee of the Board.
<p>Reporting system</p>	<ul style="list-style-type: none"> ● In their monthly reports to the Group's senior management, each operating unit includes detailed information on significant ESG-related issues based on their specific circumstances. ● Quarterly reporting materials from management to the board also encompass ESG-related issues.

In 2024, we plan to further quantify the financial impacts of material climate risks and opportunities by integrating climate-related factors more comprehensively into our strategic, financial planning, and risk management processes.

4 Metrics and Targets

In 2023, we worked with a globally renowned sustainable development consultancy to develop a carbon neutral roadmap. This defines strategic targets and specific action plans for peaking carbon emissions by 2030 and achieving carbon neutrality by 2050. The roadmap is consistent with the IEA's NZE scenario; meets the progressive requirements of the *Paris Agreement* to limit global warming to 1.5 °C above pre-industrial levels; and encompasses short-term emission reduction targets, medium and long-term planning, as well as the company's investment commitments toward achieving carbon neutrality. With the carbon neutrality roadmap at the forefront of its strategy, CMOC is committed to driving comprehensive emission reduction initiatives across the Group so as to strengthen operational resilience and climate adaptation capacity. For more information on the carbon neutrality roadmap, please refer to the *CMOC Carbon Neutral Roadmap and Action Plan*, which is published on our website.

Selecting appropriate metrics and targets is crucial for CMOC when it comes to gauging and managing climate-related risks and opportunities. As we deepen our efforts to disclose climate-related information, we will progressively incorporate additional metrics and targets beyond those related to greenhouse gas emissions, water usage, and energy consumption. This expansion will involve incorporating metrics and targets related to our products or finances. We will consistently monitor progress and enhance transparency in disclosure, providing a more comprehensive representation of the company's performance in addressing climate-related challenges and opportunities.

Key Climate-Related Metrics and Targets for CMOC

Category	Metric	Target
Greenhouse gas emissions	<ul style="list-style-type: none"> Total greenhouse gas emissions (scope 1 & scope 2) (kilotonnes) Greenhouse gas emission intensity (scope 1 & scope 2) (tonnes per tonne of processed ore) Direct greenhouse gas emissions (scope 1) Indirect greenhouse gas emissions (scope 2) 	<ul style="list-style-type: none"> Short-term target (by 2030): Achieve a 15% reduction in carbon intensity, so as to reach peak carbon emissions by 2030. Medium-term goal (2030–2040): Achieve a 38% reduction in peak carbon emissions by 2040 on 2030 levels. Long-term goal (2041–2050): Achieve a 67% reduction in carbon emissions by 2045 on 2030 levels, and achieve carbon neutrality by 2050.
Energy	<ul style="list-style-type: none"> Total energy consumption (MWh) Energy intensity (MWh/tonne of processed ore) Share of renewable energy 	<ul style="list-style-type: none"> The share of renewables should be at least 40% by 2025.
Water	<ul style="list-style-type: none"> Total water use (million cubic meters) Water use intensity (cubic meters per tonne of processed ore) 	<ul style="list-style-type: none"> The share of recycled water should be at least 83% by 2025.
Waste	<ul style="list-style-type: none"> Total hazardous waste emissions (kilotonnes) Intensity of hazardous waste emissions (tonnes per processed unit of ore) Total non-hazardous waste emissions (kilotonnes) Intensity of non-hazardous waste emissions (tonnes per processed unit of ore) 	<ul style="list-style-type: none"> Continuously improve waste recycling rates, reduce environmental impact, and promote the circular economy.

This ESG report provides detailed disclosure on selected climate-related key metrics and targets, including their definitions and calculation methods. For more information, please refer to the Environment and Data Overview chapters of the report.

CMOC 洛阳钼业

