

2022

Environmental, Social and Governance Report



Contents

About this Report 01

Global Reporting Initiative (GRI)	01
Cautionary Statement	01

About CMOG 02

External Initiatives	04
Message from the Chairman of the Board of Directors	05
Management Approach	06

Environment 11

Tailings	12
Reclamation	14
Biological Diversity	14
Resource Management	16
Emission Management	18
Carbon-neutral Transition	20

Employees 25

Safety	26
Occupational Health	28
Employment	29
Training and Career Development	30

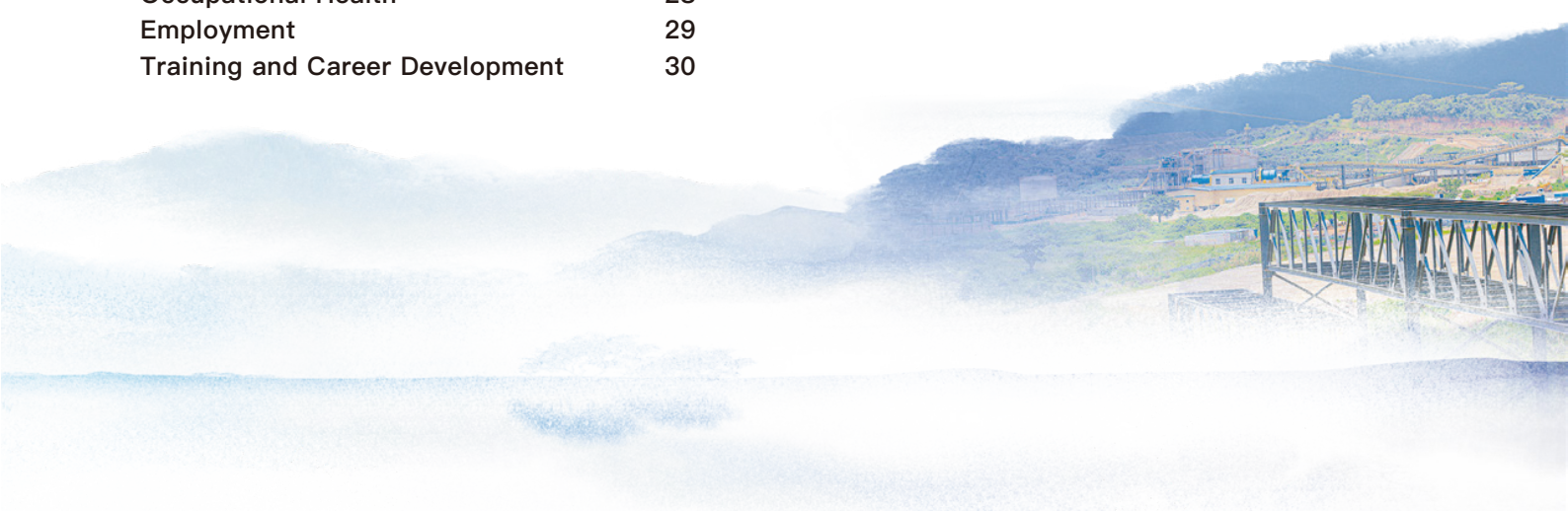
Community 32

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

Product 44

Supply Chain Management	44
Product Stewardship	47
Business Ethics and Transparency	49

Data Overview	51
Index I —ESG Content Index	54
Index II—GRI Content Index	56
Assurance Statement	59





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 2022. For more information about the company, please refer to the 2022 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 2022 Annual Report.

This report was published on March 17, 2023 following review and approval by the Board of Directors. Data and information in this report reflect the reporting period from January 1, 2022 to December 31, 2022, which is consistent with the 2022 Annual Report. Additional information that is relevant to the subject matter of this report and derived from events in 2023 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 ESG department for inquiries (603993@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, formulated a roadmap for a sustainability governance system, and established a Strategic and Sustainability Committee at the Board level. Since 2019, the company has continued to build, update, and implement this sustainable governance system in accordance with the roadmap. CMOC currently has in place 12 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*, and *Global Principles Concerning Privacy*. The company has also 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 2022, the company appointed a senior executive responsible for ESG, further improved its ESG management framework and implementation plan in line with the company’s overall strategic objectives, and established a carbon neutral strategy. 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 2021, the company continued to seek external assurance covering all three international mining sites (namely Tenke Fungurume Mining in the Democratic Republic of the Congo, CMOC Brasil in Brazil, and Northparkes Mines in Australia) and IXM. Chinese mining operations and CMOC Kisanfu Mining are not currently covered in the scope of the assurance.

In 2022, CMOC maintained its “A” rating from MSCI ESG Ratings¹.

Global Reporting Initiative (GRI)

As in 2021, 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 17, 2023, 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, Oceania, 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. Through its fully-owned subsidiary IXM, CMOC ranks among the world's top three base metals merchants. CMOC 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, world-class resources company. In order to leverage the strategic opportunities presented by the global “dual carbon” targets 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 ore project and KFM mine, with a view to doubling output and equipping company personnel with valuable expertise. This stage will also involve the introduction 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, bringing personnel and projects in line with new requirements, 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 framework 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 the company 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.

As of December 31, 2022, the company's main mining assets were located in the Democratic Republic of the Congo (DRC), China, Brazil, and Australia, and its metal trading business spanned 80 countries.

Tenke Fungurume Mining (“TFM”), located in the Democratic Republic of the Congo. CMOC holds 80% equity in TFM, the world's second largest cobalt producer and one of the world's leading copper 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.

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 resources of high–grade cobalt and copper, and is expected to create significant synergies with TFM’s operations. Construction work continued through 2022, with operations expected to commence during the first half of 2023. Accordingly, there is relatively little data available for this site compared with our other operations.

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; operational capacity has continued to increase since production resumed, and the mine stands to benefit from the recent recovery in iron ore and molybdenum prices.

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

Northparkes Copper and Gold Mine (“NPM”), located in Australia. The company also holds 80% equity in NPM, which has substantial infrastructure, and is the first mine in Australia to use a highly automated, low–cost block cave mining method to extract deposits from underground. The mine mainly produces copper concentrate, with gold and silver as byproducts.

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 nonferrous metals globally and plays a key commercial role at each stage of the metals supply chain, fueling the energy transition.

Production data for each business segment is provided below, and can also be found in the CMOC annual report.

Product	Production volume
Copper metal, TFM (tonnes)	254,286
Copper metal, NPM (based on 80% equity interest) (tonnes)	22,706
Molybdenum metal (tonnes)	15,114
Tungsten metal (tonnes)	7,509
Cobalt metal (tonnes)	20,286
Niobium metal (tonnes)	9,212
Phosphate fertilizers (HA+LA) (tonnes)	1,140,000
Gold, NPM (based on 80% equity interest) (ounces)	16,221

IXM metal trade	Trade volume
Concentrates (tonnes)	3,118,000
Refined metals (tonnes)	3,137,000



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

For the year ended December 31, 2022 (million RMB)	China	Africa	Brazil	Australia	IXM	Other countries	Total
Payment to suppliers	9,898.5	6,324.1	3,723.3	729.2	137,641.7	27.7	158,344.6
Employee wages and benefits	999.5	807.4	388.3	193.6	621.3	26.8	3,036.9
Payments to investors	3,125.5	10.3	201.9	4.6	1,403.6	45.7	4,791.7
Dividends	1,524.3	–	–	–	–	–	1,524.3
Interest	1,601.2	10.3	201.9	4.6	1,403.6	45.7	3,267.3
(Refunded) payments to governments	1,738.8	6,565.3	927.1	33.8	139.0	14.3	9,418.3
Community investments	16.7	267.8	2.8	3.1	–	–	290.4
Direct economic contributions	15,779.1	13,974.9	5,243.5	964.3	139,805.6	114.5	175,881.9

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 12,754 employees and 20,186 contractors across all business segments and corporate management sites. Of this total of 32,940 personnel, 29,626 were male and 3,314 (approximately 10%) female.

External Initiatives

CMOC is a member of the Chairing Bureau of the China Mining Association, Vice-President of the China Nonferrous Metals Industry Association, and Vice-President of the China Chamber of Commerce of Metals Minerals & Chemicals Importers & Exporters (CCCMC).

CMOC is also a sustaining member of the Cobalt Institute and has appointed a representative to serve as Chair of the Executive Committee. The Cobalt Institute is a non-profit international trade association that promotes the sustainable and responsible production and use of cobalt in all forms.

In addition, CMOC participates in the Responsible Minerals Initiative, which provides companies with tools and resources to facilitate the responsible sourcing of minerals. 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 2022, CMOC joined the United Nations Global Compact (UNGC). In this context, Group 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 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 member of the Extractive Industries Transparency Initiative – DRC (EITI-DRC) and the Lubumbashi Working Group for the Voluntary Principles on Security and Human Rights (VPSHR).



Message from the Chairman of the Board of Directors

2022 was an incredibly challenging year. The world continues to live in the shadow of the Russia-Ukraine war and great power politics. The resulting energy crisis and supply chain disruptions have dealt a major shock to commodity markets, triggering spiraling inflation and a food crisis, while creating greater uncertainty around global climate action and the energy transition. Today, the global economic recovery remains very fragile and the multiple crises triggered by the economic downturn and the Ukraine war pose a major threat to the achievement of the Sustainable Development Goals (SDGs). Under such circumstances, there is a greater reliance on companies like CMOC to take on greater responsibilities.

In 2022, no country or economy in the world was immune to the climate crisis or the humanitarian disasters it unleashed. The impact on our own operations was apparent to all: China and Europe experienced historic heat waves, our NPM mine in Australia saw historically high rainfall, and a forest fire broke out at a community near our Brazilian site during a prolonged drought. These extreme weather events only serve to highlight the urgent need for concerted global climate action.

In light of the above, in 2022, CMOC is proud to have developed a carbon neutral roadmap that sets out ambitious goals and implementation strategies for reaching peak carbon emissions by 2030 and carbon neutrality by 2050. The roadmap is consistent with the IEA's Net Zero Emissions by 2050 scenario (NZE); meets the progressive requirements of the Paris Agreement to limit global warming to 1.5 °C above pre-industrial levels; and includes short-, medium-, and long-term goals. We support absolute reduction targets and plan to achieve carbon neutrality through a series of measures focused on energy efficiency, electrification, renewable energy, and carbon capture and storage. 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.

To this end, in recent years we have already taken a number of steps to transition away from fossil fuels, save energy, and reduce emissions. These include establishing photovoltaic plants on closed tailings dams, investing in renewable and energy efficiency technologies such as hydropower, biofuels, and heat recovery from acid plants, developing and deploying electric-powered haulage and excavation vehicles, and building energy-efficient battery-swap stations. In 2022, renewable sources accounted for 38.8% of our overall energy consumption, putting us within reach of our goal of 40% by 2025.

In terms of governance, in 2022 we appointed an ESG Vice President and established a new ESG department. We also incorporated ESG performance into our strategic goals in order to deliver world-class ESG performance, and formulated a five-year implementation plan. In the area of occupational health and safety, we had no work-related fatalities or new reported cases of occupational illness, and our safety indicators remained stable. In order to improve personnel management, we expanded the scope of our various training programmes, delivering an increase in the percentage of employees receiving training and the average number of training hours compared with 2021. In addition, we improved training in our employee code of conduct and integrity policy in order to foster a fair and positive atmosphere for employees and support the company's overall development. With respect to our commitment to local communities, we continued to implement a proactive community investment policy, investing approximately RMB 290 million in education, healthcare, economic development, infrastructure, and resettlement projects across our various operations. Worldwide, our direct economic contributions amounted to approximately RMB 176 billion.

Responsible mining for a better world — this aspiration lies at the heart of CMOC's founding principles and mission. In 2022, we once again demonstrated our unwavering commitment to sustainable development by joining the United Nations Global Compact, under which we will implement the Ten Principles on human rights, labor standards, the environment, and anti-corruption. We will also work with all our stakeholders to address global challenges such as poverty, inequality, climate change, environmental degradation, and other issues concerning prosperity, peace, and justice. In addition to encouraging us to uphold our fundamental responsibilities to people and the planet, the sustainable business practices envisaged in the Ten Principles will also help CMOC to secure its long-term success.

Despite the myriad of challenges and threats we faced in 2022, staff at all our operations remained steadfast in their dedication to our mission, achieving success across a broad range of areas. Our staff are our greatest asset, and I am very proud of what they have achieved. To conclude, I would like to express my heartfelt thanks to all staff for contributing to the company's sustainable development; to shareholders, local governments, local communities, and NGOs for supporting our ESG work; and to our customers and partners for their continued trust. With their support, I look forward to continue working together to secure our future success.



Honglin YUAN
March 17, 2023



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 also been evolving, and we face a combination of increasingly high expectations and strict regulatory requirements on matters including the environment, tailings, health and safety, and contractor management. In 2022, we updated our ESG strategy to take account of these changing expectations and regulatory requirements.

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. Over the coming years, as part of the second phase of our growth strategy, we will be introducing a range of measures to improve ESG performance, with a focus on four key areas.

First, we will place ESG at the core of our management by developing a systematic ESG management framework, aligning with leading international benchmarks, and prioritizing ESG risks at all stages of our operations, from the planning of new sites through to production. Second, we will also incorporate ESG into our organizational culture by expanding our ESG talent pool, improving training for management-level staff, and introducing ESG KPIs to gauge performance on environmental, social, and governance topics. Third, we will encourage management practices that balance short-term performance with long-term value, continue to improve ESG performance, attach greater importance to medium and long-term forecasts, and take proactive steps to prevent and mitigate material risks. Fourth, we will improve our ESG communications strategy to raise awareness of our ESG-related initiatives, both within the company and among stakeholders.

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 align with international benchmarks, these policies reference international best practice frameworks, including the sustainable development principles of the International Council on Mining and Metals (ICMM), 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), and the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas ("OECD Guidance"). Guided by these policies, each of our sites has formulated and revised its own measures and procedures to reflect actual circumstances and material risks.

External Assurance and Audits

All our mining sites undergo recurrent third-party audits to verify their alignment with applicable certification and compliance schemes in environmental, health, and safety management, including ISO14001 and ISO45001. Our China and Brazil operations also receive regular audits of their quality management system in accordance with ISO9001 requirements.

In 2022, we continued to seek external assurance on the progressive implementation of the Responsible Minerals Initiative's Risk Readiness Assessment (RRA) at our 3 international mining sites, as well as the progressive implementation of the OECD Guidance at 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 Group Vice President of ESG and other Group senior executives, as well as with senior management staff across our various operations.

In addition, the expectations of external stakeholders have been evolving in recent years, especially in light of the growth of the renewable energy industry, resulting in increased scrutiny of sustainability risks in the cobalt supply chain. In order to make further improvements and provide more transparency for stakeholders, in 2022 TFM was audited by downstream customers against the RRA, and an action plan was drawn up following the audit.

In 2020, CMOC China's tungsten operation was audited against the Responsible Minerals Assurance Process (RMAP) of the Responsible Minerals Initiative. In December 2021, our tungsten company completed a further RMAP audit, and is currently on the list of RMAP Conformant Tungsten Smelters.

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. In August 2022, we held an alignment session for Board members entitled "Achieving world-class ESG performance in the mining industry". Among Board members, the remuneration of three directors (the Chairman of the Board and two executive directors) is linked to the company's overall performance through an equity incentive scheme, which includes ESG indicators.

The Chairman of the Board of Directors and the Group Senior Executives are based at the company headquarters in China. In 2022, we appointed a Vice President for Sustainable Development, who is responsible for a new ESG department that was established in January 2023 following approval by the Board. As a senior executive, the Vice President of ESG reports to the Group CEO and the Strategic and Sustainability Committee of the Board, and is responsible for driving Board decision-making on sustainability matters, overseeing the implementation of the company's sustainable development strategy, and monitoring and assessing sustainability-related risks at each of our operating sites. The Vice President of ESG is also tasked with 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, Legal, Global Supply Chain, Human Resources, Business Development, Commodity and Marketing, and ESG departments. Its primary role is to promote cooperation and collaboration between functional departments on key ESG topics and seek interdepartmental solutions to ESG challenges.

Amid growing focus on climate change and the transition to a low-carbon economy, in 2022 we commissioned a leading sustainability consultancy firm to formulate a carbon neutral roadmap, which sets out an ambitious path for achieving peak carbon emissions by 2030 and carbon neutrality by 2050. The roadmap is consistent with both the IEA's Net Zero Emissions by 2050 Scenario (NZE) and the 1.5°C target set out in the Paris Agreement, and includes a combination of short-term emissions targets, medium and long-term plans, and investment pledges made by the company to facilitate the transition to carbon neutrality. In March 2023, the Board of Directors reviewed and approved the carbon neutral roadmap following its submission by the Strategic and Sustainability Committee. The ESG department is responsible for formulating and implementing the relevant measures, monitoring progress of set objectives, making regular updates to the emissions reduction strategy in line with the company's growth trajectory, and providing feedback to the Strategic and Sustainability Committee of the Board. For more information on the carbon neutral roadmap, see the "Environment" section of this report.

The Board of Directors attaches great importance to and continues to enhance risk management and audit procedures. In 2022, we continued to improve these procedures through a range of focused and pragmatic measures aimed at preventing and mitigating risks. Following a re-assessment of operational and management risks for each of our business segments and operations, we made a series of updates to our annual risk control register, including risk factors, impact levels and likelihood, risk analysis, and risk categories. For example, we included new or updated existing risks related to health, safety, the environment, human rights and conflict, and financial crime. We also elevated geopolitical factors, tailings, and other key issues to material risks in order to highlight their importance and ensure effective control. We also enhanced our audit systems and procedures by strengthening routine audits before, during, and after tenders and other key processes, and by conducting special audits of construction activities and resource procurement procedures, focusing on critical processes to identify shortcomings, prevent and mitigate risks, and investigate and address fraudulent practices. In addition, we established and implemented a new *Chief Audit and Supervision Officer Management Measure*, under which the Group headquarters appoints a Chief Audit and Supervision Officer at each of the company's operating sites. The Officers are based on site and rotate after a fixed period of tenure. They report directly to the Group headquarters, which is responsible for appointments and performance assessments.

Business Ethical Values

Our *Code of Business Conduct (CBC)*, *Anti-Corruption Policy*, *Supplier Code of Conduct*, *HSE Policy*, and *Employment Policy* address CMOC positions on business ethics, including anti-corruption and conflicts of interest, as well as the promotion of safe and healthy workplaces, 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 the CBC, other 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

There are both similarities and differences in the sustainability risks that affect CMOC operations. All operations treat environmental, occupational health and safety, and social risks related to operational activities as a top priority and have taken diverse control measures to mitigate such risks. However, local sustainability risks may vary between sites due to differences in the natural, economic, social, and human environment. For example, our NPM operation is located in a developed country with effective local policies and a sound legal and regulatory framework, and is therefore exposed to fewer risks. Currently, the key challenge faced by NPM is to incorporate long-term and strategic risks into its risk management strategy. 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 DRC operations apply international standards in areas where local laws and regulations are weak or absent. However, the

level of socio-economic development and the weak infrastructure in the DRC 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 population growth within the TFM concession. The KFM site is currently under construction; its main challenges are the weaknesses in its management system and talent pool. KFM need to establish, in a relatively short timeframe, a comprehensive ESG management framework in line with international standards and good practices, the Group's policies, applicable domestic and international laws, to meet the expectations. As a metals trading company, the key challenges faced by IXM include increased scrutiny of the sustainability risks in the mineral and metal supply chain. IXM needs to strengthen the due diligence of upstream suppliers and ensure that upstream mines and process plants comply with the environmental and social criteria in IXM's *Sustainability Policy*.

CMOC headquarters and all sites have established reporting systems and risk registers to mitigate material operational risks, including sustainability risks, 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 management practices, including important ESG topics such as workplace safety, environmental protection, local communities, and security. In addition, quarterly reports submitted to the Board by the management feature a dedicated chapter on safety, environment and ESG performance. 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. For example, during a review of carbon neutrality goals in March 2023, the Board set out its expectations and requirements for long-term emissions reductions and corresponding investment pledges.

In addition, the Group headquarters participates directly in the management of our operating sites, and offers 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 2022, the Group ESG department provided extensive support to our new KFM site to facilitate the development of effective management and environmental protection strategies. At our TFM site in the DRC, where human rights management and illegal artisanal and small scale mining (ASM) are of material importance, the Group headquarters worked with the local ESG team to conduct human rights due diligence assessment and implement a baseline study and a management system around illegal ASM risks.

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 semi-annual review 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 annually presented to the Audit and Risk Committee of the Board for deliberation.

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 and efforts are made to implement the due diligence framework envisaged by the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas ("OECD Guidance"). In 2022, IXM performed a gap analysis on IXM's alignment with the OECD Guidance, which was used to formulate an action plan to progressively close gaps.

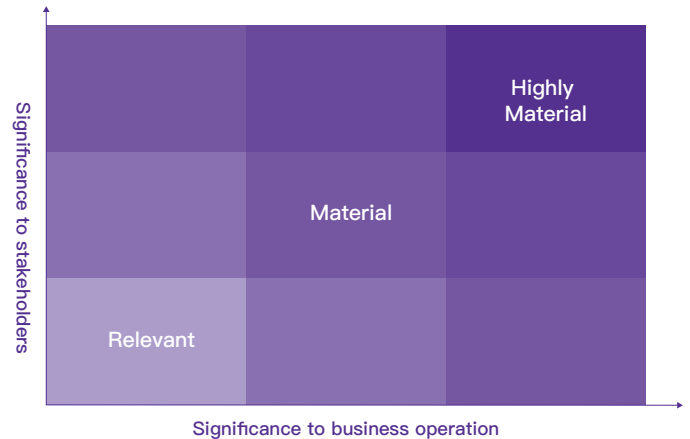
Our materiality assessments, stakeholder engagement, grievance mechanisms, risk registers, and due diligence procedures help to inform us of our key material issues and areas of risk, and to prioritize risk management activities.

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 and human rights-focused NGO associations, as identified in the table below. We also considered professional recommendations from 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. In 2022, considering the direct impact that mining companies' operations have on the environment and their inextricable link to society, human rights, and other factors, and also due to the fact that CMOC is undergoing a period of rapid development in which several sites are expanding their business footprint, we elevated environmental management to a highly material issue to ensure that environmental topics are given due attention and receive an appropriate response.

Highly Material	Material
Business ethics & transparency	Economic value generated
Health & safety	Closure planning/reclamation
Human rights	Biodiversity
Product stewardship	Water
Environmental management	Energy
Tailings management	Climate change
Community relations	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 business—es 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 Career development Protection of human rights 	<ul style="list-style-type: none"> Meetings with union representation Safety and compliance meetings Internal communications channels Human rights due diligence Collective bargaining agreements Training and capacity building Grievance procedures
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 Site visits and inspections Permit applications Meetings on compliance matters Direct meetings
Investors and financial institutions	<ul style="list-style-type: none"> Protecting the rights and interests of shareholders Timely disclosures of relevant and accurate information Improving corporate governance Conducting business in compliance with laws and regulations Climate Change 	<ul style="list-style-type: none"> Shareholders' meetings Press releases and announcements External reporting Company website Investor meetings and site visits 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 Focus group meetings Notices of procurement opportunities Employment notices Grievance procedures 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 Systematic communications Customer visits to operating sites Participation in trade associations Sustainability reporting 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, community investment, 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. At the Group level, complaints are tracked, logged, and resolved by the compliance team, anti-corruption department, or ESG 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, the community, and other stakeholders, which are then tracked through the various stages of being addressed and resolved.

In Australia, residents of the Northparkes Mine community can provide feedback via phone, email, text message, and social networks. In the DRC, the TFM operation manages a community grievance system operated by members of the Community Liaison group, while employee grievances are handled through multiple channels of the compliance team, HR department, and local unions. In 2022, the TFM site enhanced procedures for managing employee grievances and provided additional training to employees and contractors to raise awareness of existing grievance mechanisms. All community members, including TFM employees, may present grievances related to the impacts of our operations in the DRC. In addition, community members can take part in the resolution of grievances through an independent mediation committee. In 2022, the KFM site in the DRC launched a new employee grievance system, under which the General Secretariat, HR team, and ESG department are involved in the handling of complaints and recording them in 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. For more complex complaints, community representatives are also involved in the resolution process. 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. 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 2022, our mining and trading operations received a total of 790 grievances, of which 346 were closed, and 82% were associated with TFM's operations. Roughly 46% of the complaints received by TFM were in the resettlement category, while 27% were associated with property damages. The increase in complaints can be primarily attributed to the expansion of the TFM activities and the corresponding increase in its business footprint, which now affects a larger area. In addition, the closure rate was also relatively low due to limited resources. In light of the challenges, the TFM community team has decided to establish a dedicated grievance response group to liaise with various functional departments and expedite the handling of complaints. This year, we also added a new "harassment/unfair treatment" category to support the establishment of a fair and healthy workplace. According to our data, complaints of this nature have been reported to varying degrees across all our operating sites, especially at our Brazilian and TFM operations. At the end of 2022, the Group Compliance department launched two new training modules entitled "Workplace harassment" and "Diversity, tolerance and fairness" at CMOC Brasil and TFM to improve employees' awareness of these issues.

Reported grievances

Site	Resettlement	Environment	Employment	Damages	Social/ community	Health/ safety	Human rights	Security	Land	Harassment, Discrimination & Injustice	Other	Total
China	0	0	0	0	0	0	0	0	0	0	0	0
NPM	0	1	0	0	0	0	0	0	0	2	0	3
Brazil	0	14	11	1	5	0	0	2	0	33	52	118
TFM	296	124	1	173	1	3	4	3	0	31	8	644
KFM	0	2	4	7	3	0	0	0	6	0	0	22
IXM	0	0	0	0	0	0	0	0	0	0	0	0
HQ	0	0	0	0	0	0	0	0	0	0	3	3
Total	296	141	16	181	9	3	4	5	6	66	63	790



Environment

In 2022, 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 planning 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 raise production efficiency and reduce our environmental impact. In 2022, CMOC spent around RMB 379 million on environmental protection.

All of our 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 of all employees and contractors on environmental objectives and procedures.

CMOC aligns itself with international trends and continuously monitors and improves its environmental performance by setting long-term strategies and short-term 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 and sulfur oxide, the proportion of renewable energy and the proportion of reused water.

In 2022, under the guidance of the Climate Change Vision, CMOC worked with an internationally-renowned sustainable development consultancy to develop the CMOC Carbon Neutral Roadmap, which defines strategic goals and specific action plans for peaking carbon emissions by 2030 and achieving carbon neutrality by 2050. The roadmap is consistent with the IEA's Net Zero Emissions by 2050 scenario (NZE); meets the progressive requirements of the Paris Agreement to maintain the global temperature increase below 1.5°C; and includes short-, medium-, and long-term goals. CMOC expects to spend a minimum of US\$1.5 billion on the implementation of the Carbon Neutral Action Plan before 2050.

- **Short-term goals (before 2030):** Progressively implement energy efficiency measures in our routine operations, reduce our emissions intensity (per tonne of processed ore) by 15%, and reach peak emissions by the year 2030.
- **Medium-term goals (2030–2040):** Roll out extensive energy efficiency, electrification, and renewable energy measures in order to deliver a 38% reduction in our emissions by 2040 compared with the 2030 peak.
- **Long-term goals (2041–2050):** Continue to implement energy efficiency, electrification, renewable energy, and carbon capture and storage projects in order to deliver a 67% reduction in emissions by 2045 compared with the 2030 peak, and achieve carbon neutrality by 2050.

For more information about the Carbon Neutral Roadmap, please refer to the “Carbon-neutral transition” section of this report. CMOC will continuously review the implementation of these objectives. In terms of the company's progress towards its four environmental performance targets, solid progress was made toward achievement of the clean energy and recycled water targets. However, the air emissions intensity increased in 2022 compared to 2020 (the baseline year), mainly driven by the increase in gasoline and diesel consumption due to higher stripping volumes in our DRC open pit mines. We believe the company is still well positioned to meet the four performance targets by 2025 with continued adoption of energy efficient technologies and a significant increase in our processing capacity.



Tailings

At our mine operations, ore with valuable minerals is processed and broken into smaller pieces to recover the economic mineral. Any residual material that is left after the treatment and dressing of the ore — which involves crushing, milling, separation, screening, and flotation — is referred to as tailings. Tailings are composed primarily of non-ore bearing rock particles (typically fine sand and silt) along with process water with residual reagents. Most commonly, the tailings slurry is passed through a thickener or filter system to recover process reagents and water, before being hydraulically or mechanically transported to an engineered tailings storage facility (TSF). TSFs vary greatly in design, capacity, operation, and other factors, but are intended to safely and efficiently 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 keenly aware of the history of TSF failures and the catastrophic consequences for the public, the environment, and mining businesses involved, and understands that responsible tailings management is essential to preventing such catastrophes in the future. CMOC is also aware that changing climate and weather patterns require TSF governance and management to adopt an increasingly vigilant and safety-conscious approach to TSFs. CMOC maintains and continues to improve engineering, safety, and environmental programs to minimize the risks associated with tailings management for 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 our Chinese operations, we operate and maintain TSFs in strict accordance with their design and safe operating procedures, perform routine inspections and regular monitoring, and effectively mitigate any hazards identified. We entrust a third party to perform annual quality checks on storm water drainage systems and disclose information about contractors and their responsible personnel. This helps to establish accountability for safety and ensures the safe operation of storm water drainage systems at TSFs throughout their life cycle. We have also increased investment in safety equipment, ensured adequate stocks of flood protection equipment, maintained the integrity of communications infrastructure, dam access roads, and lighting and alarm systems, and deployed satellite phones in key locations to ensure emergency response capabilities.

In China, we have established a robust monitoring system that tracks important metrics in real time and alerts users of issues. We have also installed video surveillance systems near discharge pipelines, rivers, villages, residential areas, and other key locations surrounding TSFs. In addition, we have established an online monitoring system for decant towers that uses GPS positioning, high-definition video cameras, turbidity meters, and image processing technology to create dynamic 3D models of tower displacement and settlement, track structural damage to towers, and monitor the turbidity of decanted water. This system enables the comprehensive monitoring of decant tower safety and effectively improves our early-warning and emergency response capabilities at TSFs.



■ In China, key TSF metrics are tracked online in real time to provide early warning of potential hazards.

At TFM, we carry out routine operation, maintenance, and monitoring of TSFs in strict accordance with design standards and company procedures. Our TSF management priorities for 2022 included ensuring regular EoR communication and independent third-party audits. With the lifting of pandemic restrictions, TFM resumed biweekly meetings with EoRs, published regular TSF inspection reports, recorded and prioritized existing problems, allocated resources for remedial work, and implemented a closed-loop management strategy. We also accepted an independent third party review, performed gap analysis against recognized international standards, and formulated an improvement plan.

At our TSFs in Brazil, we installed microseismic monitoring systems to enable continuous displacement monitoring. 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. At our niobium operation, we conducted geophysical tests on TSFs and used test data to build 3D groundwater and engineering geological models. In March and September, we also engaged external consultants to conduct independent safety reviews and evaluate the conformity and operability of the dam emergency action plan. 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.



CMOC Brasil installed microseismic monitoring systems at TSFs to enable continuous displacement monitoring.

At the NPM mine in Australia, our daily discharge of tailings is concentrated in the Escort TSF. We installed a third discharge pipe to enable faster rotation between discharge points and reduce uneven settling. One major challenge we faced in 2022 was abundant rainfall, which increased the volume of water flowing in to tailings ponds. We used stormwater drainage pumps to redirect rainwater from tailings ponds to the E22 open-cut void, where it will be stored for future use at the dressing plant, helping to boost water-use efficiency. The EoR conducted an annual review of tailings management and gave a satisfactory opinion. During the construction of phase three of the Escort TSF, we upgraded the monitoring system to support real-time online monitoring. In the future, we will continue to improve monitoring instruments and approaches at other 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 CMOCs operating sites have TSF emergency response plans, assess and monitor community risks, and make local communities a key priority for emergency preparedness and evacuation drills.

In China, we completed an emergency response drill in 2022 for tailings dam failure. The drill, which was sponsored by the Henan Provincial Government and the National Mine Safety Administration, further improved the operability of emergency and on-site response plans, and won recognition from competent national and provincial authorities. Before the flood season, CMOC distributed informational leaflets to residents downstream of TSFs. These contained flood safety tips, and ensured that residents were aware of early-warning systems, evacuation routes, and emergency contacts. According to emergency plans, we will increase emergency duty shifts and the frequency and scope of safety inspections during heavy rainfall as necessary. Where hazards are identified, community evacuation plans will be launched in a timely manner to transfer all people downstream of tailings ponds to a safe area.

CMOC Brasil updated its Mining Dam Risk Management Program and organized emergency action plan training for mining dams. The training course targeted emergency response teams listed in the action plan, as well as the local community, public institutions, media outlets, and other participants. The course covered preventive safety, media support, the High Rescue Zone, community support, environmental and legal obligations, and other technical content and theory. Time was also set aside for a discussion among participants. In December 2022, we conducted an emergency evacuation drill for all employees in the High Rescue Zone in partnership with municipal, fire, and other local departments.

At TFM, the company is planning an emergency drill for dam failure, for which the environment team, fire team, and community department have developed an action plan in coordination with affected communities. We will conduct emergency drills as appropriate to test the integrity and effectiveness of the action plan, and identify and address areas for improvement.



In China, we completed an emergency response drill in 2022 for tailings dam failure and informed residents about early-warning systems, evacuation routes, and emergency contacts.

Reclamation

In 2022, CMOC continued its practice of applying sustainability principles to the design, development, operation, and closure of our mining operations. Identifying strategies and planning for the closure of a mining or processing facility is of material importance for CMOC and the communities in which we operate, to ensure public safety, protection of environmental quality, and optimal land uses in the post-operations phase. Where practicable, we pursue progressive reclamation during the operational phase to reduce environmental impact. Actions to progressively revegetate disturbed surfaces at our operations help to reduce erosion and dust emissions.

At the Sandaozhuang mine, we have adopted a phased approach to reclamation and formulated plans tailored to local conditions. We revegetated the permanent slope to reduce the exposed post-mined area and planted protective forest belts around slag piles to control wind erosion. Beneath this tree cover, we planted easy-rooting, fast-spreading shrubs and grasses to improve soil quality. We also planted crops such as corn and potatoes in the reclamation area to boost soil fertility and activity. In addition, we planted kudzu vines on the upper part of the slope and Japanese ivy on the lower part to achieve vertical greening and create a stable, layered, and mixed population of plants. In 2022, we restored 226,000 square meters of vegetation at the Sandaozhuang molybdenum mine and 61,500 square meters of vegetation at the Shangfanggou molybdenum mine. In August 2022, both mines were recertified as “National Green Mines”.



■ Photo of a reclaimed area in China 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, in the future 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 internationally recognized practice strategies for managing areas of potential environmental sensitivity and high biodiversity value identified as being impacted by our operations. The environmental impact assessment process is key to ensuring that the effects of our activities on biological diversity are appropriately recognized and mitigated. These programs are founded on baseline assessments of biological resources in the areas of planned operations, which are described in terms of species composition and species of concern, as well as supporting habitats at local, regional, and if appropriate, global levels. Baseline descriptions allow accurate identification of impacts anticipated from greenfield or brownfield project development. 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 operations are also governed by individual site environmental policies and procedures that recognize biodiversity risk.

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 the copper flora as part of biodiversity conservation work in the mining area. Together with the University of Lubumbashi, we have also carried out in-depth research on the copper flora, including conservation methods and suitable growing conditions. Our pioneering work on heavy-metal-tolerant plants and their conservation has greatly improved scientific understanding in this field. In 2022, TFM continued its biodiversity programs and cultivated more than 2,500 plants, part of which contributed to the program to claim areas for progressive revegetation, and another part donated to local communities during various festivities.

In Brazil, our operations are located in the Cerrado savannah biome and the Atlantic Forest biome, areas which are particularly rich in biodiversity. In accordance with legal requirements, we continue to carry out biodiversity conservation actions embedded within an active reforestation program linked to the use of biomass at the Catalão site in the state of Goiás. CMOC has reforested 1,448 hectares of land, and between 2019 and 2022 planted over 89,000 saplings. Our environmental control plan contains specific provisions for the monitoring of animal and plant populations, including migratory, terrestrial, and aquatic animals. We have established 34 biodiversity monitoring sites around the mine. In 2022, CMOC Brasil invested a total of R\$370,000 in biodiversity efforts.

At our NPM site in Australia, the Kokoda Biodiversity Offset Project was completed in 2021 following eight years of planning. In accordance with NPM's *Biodiversity Management Plan*, we established a monitoring program to assess the success of ongoing management and improvement strategies, in particular focusing on the regeneration potential of Grey Box Grassy Woodlands.



■ CMOC Brasil operates in an area with extremely rich biodiversity, and we monitor plant and animal populations in accordance with our environmental control program.

Resource Management



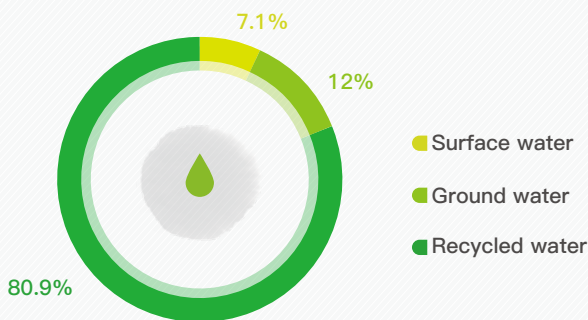
CMOC is committed to the responsible use and management of resources and the minimization of waste generation. We recognize the value of responsible stewardship of these elements to our business and the communities in which we operate. In 2022, we continued to improve production management in line with our stated goals of promoting energy transition and higher recycled water rates across our operations.

Water

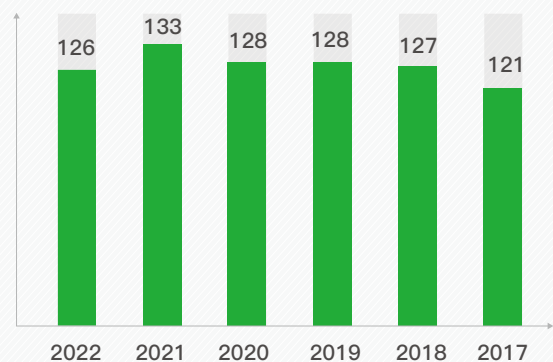
Water is an essential resource for the mining and processing of ores, and sustainable water sourcing is a basic strategic need common to our businesses and the surrounding communities. We use water for mineral processing, environmental protection, and supplying drinking water. The efficient management of water resources is critical to our business. In 2022, we used a total of 126 million cubic meters of water. Most of the water we use on our sites is recycled water from our own operations. Our other main water sources include groundwater, surface water, and a small amount of municipal water. In 2022, our total water use intensity was 2.629 cubic meters per tonne of processed ore, a 10.1% reduction compared to 2021.

Under the company’s expansion plan, our goal is to encourage water-saving practices and reduce water use intensity. We will also continue to encourage the use of recycled water, which should reach 83% of total water usage by 2025. In 2022, recycled water accounted for 80.9% of our total water consumption.

Water consumption by source (%)



Total water consumption (million cubic meters)



Sourcing water for each operation varies according to regional availability and climate. Collectively, most of our water is recycled, and supplemented in order of volume by groundwater, surface water, and a small amount of municipal water. All of our mines recycle their water. We build water storage facilities where possible, including by using retired mine pits to collect and store rainwater and recycled water. We also install water reuse systems at our TSFs to return clear water for use in front-end processes, and do our best to improve water recovery in mineral processing.

The company is committed to the protection of local surface and groundwater systems. Each of our operations employs a variety of techniques and strategies for water management with the primary objective of complying with applicable laws and regulations and the minimization of impact. These strategies may include the use of technological innovation to increase water resource utilization, water monitoring programs, lined surface impoundments, stormwater controls, and other physical or procedural systems to reduce fresh water usage and protect surface and/or ground water resources.

At our China operations, we installed and commissioned facilities to treat and reuse wastewater from sulfuric acid smelting processes, and an integrated membrane bioreactor (MBR) plant to treat and reuse waste water and sewage. At our operations in Brazil, we built a water collection and pumping system for the sulfuric acid plant and ancillary facilities. Recycled water is used to keep sulfur piles moist and prevent the suspension of particulate matter. In addition, recycled water is also used in production at the phosphoric acid plant. CMOC Brasil also organizes a variety of events including Water Day and Environmental Protection Week to strengthen employee awareness of water conservation. The TFM and KFM mines in the DRC regularly monitor the level and quality of surrounding water bodies to prevent water contamination from operations.

In 2022, the region where NPM is located in Australia experienced abundant rainfall. NPM has strived to increase its water storage capacity and use existing storage facilities more effectively. In 2022, externally supplied water decreased by 8% on the previous year.



■ NPM makes full use of various storage facilities to manage rainwater and reduce externally supplied water.

Energy

Large-scale mining and metallurgy require significant amounts of energy. We obtain energy directly through the burning of diesel, natural gas, and biofuels, as well as indirectly through purchased electricity generated by hydropower, the burning of coal and natural gas, and from renewable sources. In addition, our mining areas take advantage of every feasible opportunity to improve their energy security and safeguard the availability of affordable and reliable energy by increasing their energy efficiency and using more renewable and low-carbon energy.

As a result of business expansion, CMOC's total energy consumption increased from 3,800,000 MWh in 2021 to 4,230,000 MWh in 2022, an increase of 11.3%. Total energy intensity was 0.088 MWh per tonne of processed ore, an increase of 5.7%. Direct energy consumption from diesel constituted 58.4% and renewable sources 13.4%. Renewable sources such as hydropower and solar power accounted for 63.2% of our indirect energy consumption.

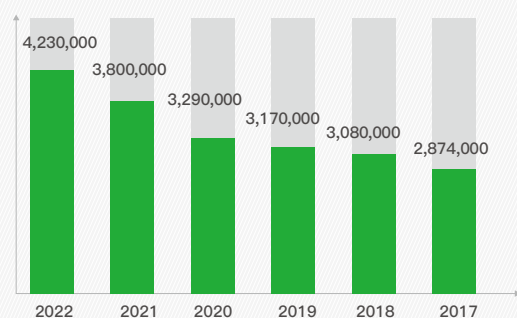
Under the company's expansion plan, our energy goal is to use more energy-efficient production methods to reduce energy intensity per unit of processed ore. We will ensure that at least 40% of our overall energy consumption is sourced from renewables by 2025, both by promoting the use of clean energy sources such as solar and hydropower, and by retrofitting our mining machinery. In 2022, renewable sources accounted for 38.8% of overall energy consumption.



■ The Liushuigou TSF solar power generation project installed 9,000 solar panels on a closed tailing pond, with an installed capacity of 12 MW. The project will gradually be connected to the grid and is expected to generate 19.87 million kWh of electricity each year.

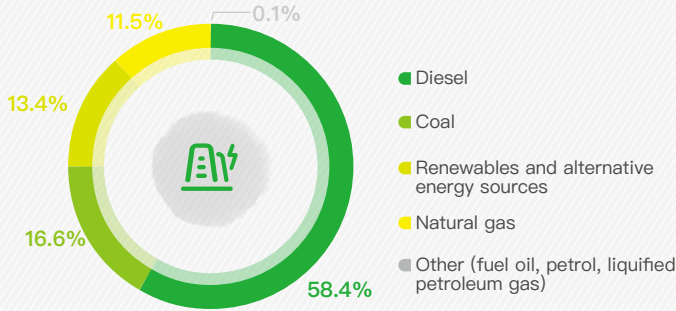
CMOC is committed to promoting the energy transition through technological innovation and the use of renewable energy. In 2022, a number of equipment and process upgrades were carried out at sites in China, generating total energy savings of around 5,600 MWh. At present, our China operations have a total of 92 electrified mining trucks, accounting for 85% of the fleet. This year, China operations also built a battery swap station that can swap out batteries in just 3.5 minutes, increasing vehicle transportation efficiency by 40%. In China, we have built distributed solar power generation projects on closed TSFs, reaching an installed capacity of 18 MW in 2022. These projects generate renewable energy while saving land, and will gradually be connected to the grid.

Total energy consumption (MWh)

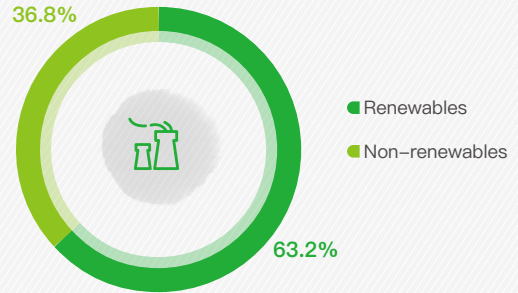


NPM has replaced a large proportion of its mining and production equipment with electric equipment and is actively transitioning from traditional energy sources to electric power. At our operations in the DRC and Brazil, we use waste heat recovered from sulfuric acid plants to generate electricity, producing a total of 64 GWh and 61 GWh of power respectively in 2022. KFM, which is still under construction, will be equipped with solar street lights and a variety of electric vehicles to reduce consumption of traditional energy sources.

Direct energy consumption by source (%)



Indirect energy consumption by source – Purchased electricity (%)



Emission Management



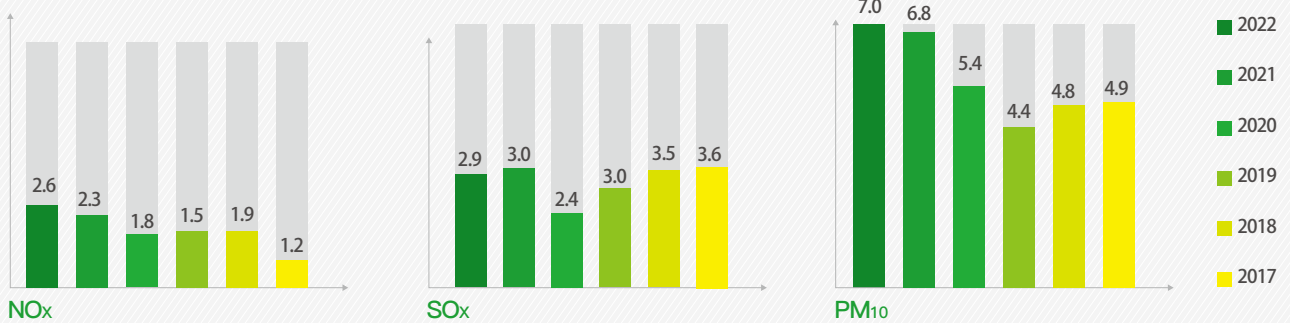
CMOC is committed to reducing air pollutant emissions and the environmental impact of emissions by continuously improving its environmental management system. We implement appropriate control measures for exhaust emissions and waste discharge to ensure compliance with applicable environmental standards. In addition, our systems are designed to comply with relevant laws and regulations in the countries where we operate, as well as international laws.

In 2022, we received two environmental penalties, both of which were for minor violations at our Brazilian operations: one was for the illegal discharge of sewage into a river; the other was for differences between the volume of declared forest products subject to the Document of Forest Origin and the balance of products in the official control system (IBAMA). The total environmental penalties received by the company in 2022 amounted to RMB 210,000.

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.

Total airborne emissions (kilotonnes)



The main concern at our mining operations is the emission of particulate matter. 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 limiting to minimize the generation of dust. Due to business expansion, total emissions of nitrous oxides, sulfur oxides, and particulate matter in 2022 were slightly higher than in 2021.

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. Due to the increase in gasoline and diesel consumption driven by higher stripping volumes in our DRC open pit mines, in 2022 the emissions intensity (tonnes per tonne of processed ore) was 0.543×10^{-4} for nitrous oxides and 0.605×10^{-4} for sulfur oxides, both increased compared to 2020. We will continue to adopt energy efficient technologies and increase our processing capacity to improve our performance.

In 2022, we continued to take measures to manage air pollution at our Chinese operations. A new automated vehicle spraying system was installed that effectively removes dust from mine trucks. We also upgraded the dust removal system and increased the filtration area for dressing processes, delivering significant improvements in dust control. In addition, our smelting facilities were fitted with activated carbon adsorption and electrostatic precipitator systems, which reduced the concentration of particulate emissions to 4 mg/cubic meter. We now also incinerate waste gases from ore-dressing plants in the smelting rotary kiln to prevent VOC emissions.

NPM is an industry leader in air quality management across NSW mines. The mine has leaned into its farming roots by planting a barley crop at TSFs to effectively manage fugitive dust from tailings. Our experience since 2015 shows that growing barley is a tried and trusted method for dust control that is low cost and simple to implement.

At our Brazil operations, hydroseeding is used to vegetate mining dump and mitigate dust lift-off. In addition, online monitoring is used to optimize the operation of water trucks and better control mine dust. In the DRC, the TFM mine sprays unpaved roads with water or dust suppressants and limits vehicle speed to reduce road dust, and has continuously monitored ambient air quality in the operating area and other sensitive surrounding areas for several years. In 2022, TFM upgraded its on-site PM_{10} monitoring equipment to enable automatic, online monitoring in real time.



Our NPM mine in Australia successfully established a barley crop on a tailings storage facility. This offers a low-cost, simple, and effective way to suppress dust.



In 2022, TFM upgraded its on-site PM_{10} monitoring equipment to enable automatic, online monitoring in real time.



Waste management

Our main waste product is tailings and waste rock from processing and mining activities. In 2022, our global operations generated 45 megatonnes of tailings and 264 megatonnes of waste rock. Both figures are up from 2021, mainly due to year-to-year changes in mining plans. 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.

CMOC champions the circular economy and actively explores ways to recycle tailings and reduce the impact of tailings storage on the environment. For example, the phosphate beneficiation process at our operations in Brazil produces tailings that contain phosphorus pentoxide and active iron. In order to recycle these waste materials, we partnered with a research institution that biologically treats the phosphate tailings with fungi and bacteria to produce organic fertilizer. In 2022, more than 70,000 tons of tailings were recycled in this way. In addition, CMOC collaborates with Chinese universities and research institutes to find new uses for tailings, and has launched an ecological pilot project that uses a mixture of tailings and cement to build roads, thus improving resource utilization while protecting the environment.



In China, mine tailings are used as construction material for roads.

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 both treat waste on site with approved equipment, and also transport it off site for recycling, storage, or disposal. In 2022, CMOC generated 20.0 kilotonnes of non-hazardous waste, of which 38.8% was recycled; and 27.0 kilotonnes of hazardous waste, of which 83.9% 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.

Waste	2022 amount (kilotonnes)	Density (tonnes per processed unit of ore)	Recycling rate	Waste category
Non-hazardous waste	20.0	4.174×10^{-4}	38.8%	Scrap metal; household waste (disposable goods, kitchen waste, office paper, etc.); swill; ferromolybdenum slag; coal cinder; calcium slag
Hazardous waste	27.0	5.634×10^{-4}	83.9%	Used oil, hydrocarbon/water emulsion; ground phosphate rock; acid sludge; mud; spent catalysts; waste oil drums

Carbon-neutral Transition



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 for managing 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.

Risks and opportunities of climate change

The primary impacts of climate change on CMOC’s operations include physical risks, transition risks, and the opportunities arising from the increased demand for our product in the renewable energy sector. Material physical risks include the increased probability and intensity of extreme weather events, which primarily include intense rainfall, storms, and drought. In addition to affecting the ecosystems at our mining sites, these physical risks also pose a threat to our production capacity and health and safety of our employees. Major transition risks include changes in policies and regulations, and the cost of transitioning to low emission technologies.

The risk of climate change also presents opportunities for our business. Climate change is accelerating the global energy transition and has led to unprecedented growth in the renewable energy sector. In the long term, this will increase the demand for certain metals such as copper, cobalt, and nickel.

Across all our operations, we will continue to improve response mechanisms to mitigate the impact of climate change. At the same time, we will meet our environmental responsibilities commensurate with our stage of development, strive to improve the efficiency of our global operations, and use cleaner, renewable forms of energy to reduce our carbon footprint. We will also work to ensure a clean, reliable, and responsible supply of metals for the sustainable energy sector in order to meet the needs of the global energy transition.

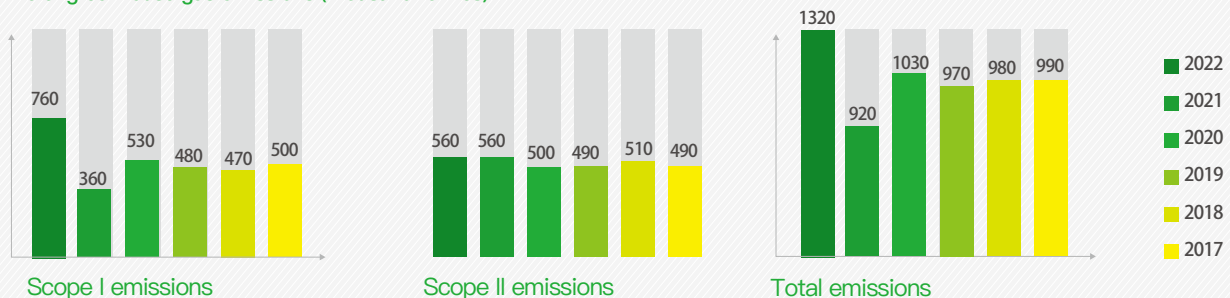
Greenhouse gas emissions

In 2022, our total greenhouse gas emissions measured on a CO₂-equivalent basis were approximately 1,320,000 tonnes, or 0.028 tonnes per tonne of processed ore.

Our Scope I direct GHG emissions, which are primarily generated from diesel, coal, and natural gas, were approximately 760,000 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 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, the extended operating times of mining machinery, and the consumption of coal at our quicklime plant, our Scope I direct GHG emissions increased significantly compared with 2021.

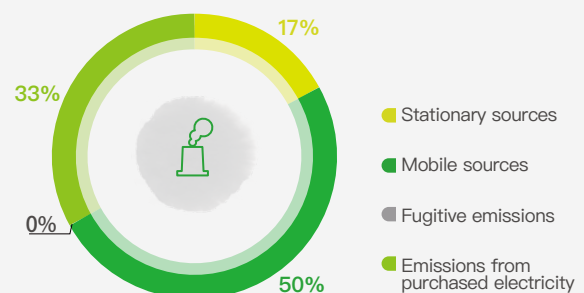
Our Scope II indirect greenhouse gas emissions are primarily attributable to purchased electricity. In 2022, our total Scope II emissions amounted to 560,000 tonnes, approximately the same level as in 2021. The majority of these emissions are from our Chinese and NPM sites due to the structure of the local electricity grid, while our Brazil and DRC operations significantly benefit from large-scale hydropower.

Total greenhouse gas emissions (thousand tonnes)



In 2022, mobile sources (primarily gasoline, diesel, and other fossil fuels used to power our excavation, loading, and haulage machinery) accounted for approximately 50% of our total greenhouse gas emissions, while stationary sources accounted for 17%. 33% of greenhouse emissions were attributable to purchased electricity, primarily at our Chinese and NPM operations which use a significant amount of electric-powered excavation and smelting equipment. Emissions from purchased electricity are caused by fossil fuel power stations which are connected to the local electricity grid.

Breakdown of greenhouse gas emissions in 2022 (by source)



For IXM, quantifying the climate impact and risks in our supply chains was crucial and the first step required in the process of reducing carbon emission intensity in our trading activity. IXM turned to CarbonChain and their AI-powered platform solution for support and in 2021, a carbon accounting pilot project was launched, starting with measuring the upstream Scope 3 carbon footprint of a sample of trades in copper, aluminum, cobalt, zinc and lead. Following a successful pilot, IXM continued to use CarbonChain's platform for ongoing emissions tracking across its entire commodity trade portfolio.

IXM is now able to quantify a partial scope of its upstream scope 3 GHG emissions stemming from all IXM trades except for its China domestic transactions. It allowed IXM to gain access to sustainability-linked financing facilities with some of its key banks and to develop emission intensity reduction targets after pinpointing intensity hotspots and reduction opportunities. This project will help IXM (and CMOC) manage the transition risk to a low-carbon economy.

CMOC's carbon neutral roadmap

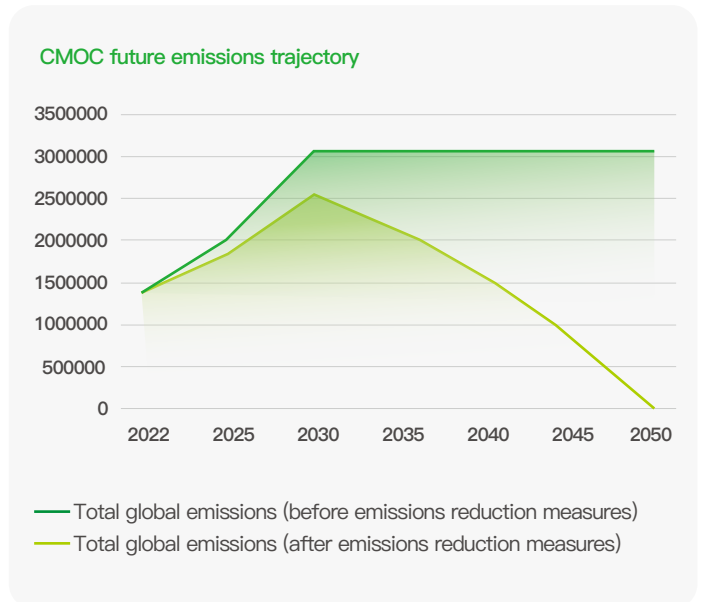
Guided by our Climate Change Vision, in 2022 we collaborated with a leading international sustainability consultancy to produce a carbon-neutral roadmap, which was approved by the Board in March 2023. Based on our historical emissions, our future growth strategy, and the Net Zero Emissions vision laid out by the International Energy Agency (IEA), we forecast the future trajectory of our carbon emissions and defined our strategic goals and action plan. For more information on our carbon neutral roadmap, please refer to the *CMOC Carbon Neutral Roadmap Research Report*, which is published separately by the company.

Emissions forecasts

As upstream demand for critical metals continues to grow in the wake of increased global interest in renewable energy, we are optimistic about our future growth prospects. With respect to our future operations, we have formulated a growth plan that is consistent with the IEA's vision to limit the global temperature rise to 1.5 °C, and which also aims to meet the needs and expectations of the renewable energy sector, other associated sectors, and society as a whole.

Based on our growth plan, we produced a forecast of our future emissions trajectory with reference to the 1.5 °C vision proposed by the Intergovernmental Panel on Climate Change (IPCC), the IEA's Sustainable Development Scenario (SDS) and Net-Zero Emissions by 2050 Scenario, and factors such as the location of our mining assets, the processes we employ, and our various product categories.

Taking 2021 as the base year, and assuming that no emissions reduction measures are implemented, our greenhouse gas emissions are forecast to increase continuously before reaching a peak in 2030, after which they are expected to stabilize at just over twice the level of 2021.



Carbon neutral strategy

Based on the aforementioned forecasts, we formulated a carbon-neutral strategy comprising the following commitments:

01

To support the goals of the *Paris Agreement*, namely to limit global warming to 1.5 °C above preindustrial levels.

02

To achieve peak Scope I and Scope II emissions by 2030.

03

To achieve net-zero Scope I and Scope II emissions by 2050.

04

To reduce our Scope III greenhouse emissions.

Carbon neutral action plan

The carbon emissions produced by our operations primarily originate from the use of fossil fuels by fixed and mobile excavation machinery and vehicles. Leveraging a combination of 3 technical solutions and 15 emissions reduction trajectories, we have established an ambitious emissions reduction strategy to fundamentally reduce our reliance on fossil fuels. Our top priority is to transition away from fossil fuels and increase energy efficiency by converting to electric-powered, energy-efficient production machinery and vehicles. Another priority is to reduce our Scope II emissions by ensuring that renewable energy can meet the overwhelming majority of electricity needs across all our operating sites.

Our carbon neutral action plan encompasses a comprehensive range of measures across four key areas: energy efficiency, electrification, renewable energy, and carbon capture and storage. Specifically, we have set the following short-, medium-, and long-term goals to ensure the phased implementation of our carbon neutral strategy:

- Short-term goals (before 2030): Progressively implement energy efficiency measures in our routine operations, launch pilot electrification and renewable energy projects, reduce our emissions intensity (per unit of processed ore) by 15%, and reach peak emissions by the year 2030.
- Medium-term goals (2030–2040): Roll out extensive energy efficiency, electrification, and renewable energy measures (including solar, hydro, and wind energy) in order to deliver a 38% reduction in our emissions and 60% reduction in our emissions intensity by 2040 compared with the 2030 peak.
- Long-term goals (2041–2050): Continue to implement energy efficiency, electrification, renewable energy, and carbon capture and storage projects in order to deliver a 67% reduction in emissions by 2045 compared with the 2030 peak, and achieve carbon neutrality by 2050.
- We plan to invest at least 1.5 billion dollars up to the year 2050 in order to deliver on our carbon neutral action plan.

As we work toward this key milestone, we will conduct regular reviews of our carbon neutral plan and adopt a flexible approach to incorporate major advances in emissions reduction technologies.

Responsibility for carbon neutral roadmap

The Strategic and Sustainability Committee of the Board is responsible for the general oversight of the implementation of our carbon neutral roadmap. The ESG department is responsible for coordinating between functional departments, ensuring implementation at set time frames and milestones, conducting annual appraisals to track the progress of our carbon neutral strategy, and reporting outcomes to the Strategic and Sustainability Committee of the Board.

At all our operations, we employ dedicated members of staff to monitor energy consumption and emissions data, implement our carbon neutral strategy, and report to the ESG department on a regular basis. At each site, the ESG department conducts periodic reviews to monitor implementation, assess compliance with as well as the feasibility and effectiveness of existing workflows, and identify deficiencies. Our energy consumption and emissions database will continue to expand in line with our future growth, enabling us to make further progress in reducing and managing emissions.

Emissions reduction measures

CMOC's carbon neutral action plan envisages a comprehensive range of measures across four key areas: energy efficiency, electrification, renewable energy, and carbon capture and storage.

Energy efficiency

- Optimization of mining processes: Prioritize efficient mining technologies such as combined open-pit and underground mining, block cave mining, and smart GPS/BeiDou fleet management; optimize mining parameters such as stripping ratios, transportation routes, and operational coordination to continuously reduce carbon emissions per tonne of ore mined.
- Optimization of beneficiation processes: Use a variety of efficient beneficiation technologies, such as crushing ore more finely to reduce milling, phased milling and dressing, SABC milling circuits, and the earlier separation of tailings to continuously reduce carbon emissions per tonne of ore processed.
- Optimization of smelting processes: Adopt efficient smelting technologies such as bioleaching, hydrometallurgy, autogenous smelting, and short-process methods to continuously reduce carbon emissions.
- Efficient use of equipment and machinery: Prioritize more efficient, energy-saving technologies when selecting and upgrading equipment and machinery for various processes, and ensure high levels of operational efficiency through regular monitoring and servicing.

- **Monitoring of energy efficiency:** Improve the management of energy resources to increase energy efficiency levels; monitor energy consumption to promptly identify wasted energy; introduce energy–efficiency labelling, KPIs, score–cards, and other clear metrics to raise awareness of energy efficiency; and implement real–time monitoring, predictive analytics, and other automated technologies to optimize the monitoring of energy consumption in our mining operations.

Electrification

- Electric equipment and machinery can be used throughout our mining and processing operations. This includes electrified excavators, haul trucks, and drilling rigs; electric auxiliary facilities; and supporting infrastructure, such as charging piles and battery swap stations. Electric equipment is highly efficient and consumes less energy, which is of great importance for achieving our strategic goal of carbon neutrality.
- Electrification measures generally help to improve the efficiency of mining and processing operations. In recent years, our China operations and NPM site have partially electrified their extraction and transportation equipment. In China, we now have 92 electrified mining trucks, accounting for 85% of the whole fleet. This has cut costs by more than RMB 100 million, while considerably reducing carbon emissions.
- In addition to electrification, we also use unmanned machinery and smart mining technologies to further reduce our energy consumption and carbon emissions. For example, our Chinese sites and NPM mine use unmanned electric mining machinery equipped with devices such as cameras and millimetre–wave radar to enable safe, 24–hour unmanned operation.

Renewable energy

- Solar power is an ideal source of alternative energy that offers considerable potential for the mining sector: it produces little to no pollution, provides an unlimited supply of energy, and can be generated on land used for agriculture and animal husbandry.
- Wind power is ideally suited to mountainous and hilly terrain, and offers numerous benefits including short construction times, flexible capacity, and low operational and maintenance costs. This form of energy is also well suited to the topography of our mining sites.
- Hydropower offers enormous potential in terms of installed capacity, reliability, energy storage, and flexibility. The natural water cycles of rivers can be harnessed to build cascading systems of hydropower plants, which can be deployed on a large scale in the DRC and Brazil.
- Bioenergy is energy made from renewable biofuels such as biodiesel, bioethanol, and biomass. Biofuels have a promising future, and are already used extensively at our Brazilian operations.

Carbon capture and storage

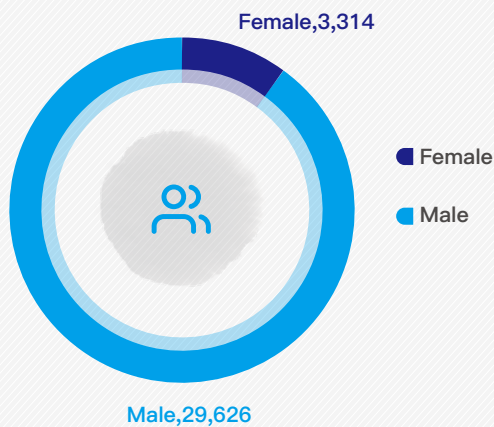
- Carbon capture and storage involves collecting carbon dioxide at source from lime plants, coal–fired boilers, and other emission sources, and then storing it using various methods to prevent its release into the atmosphere. At our mining sites, carbon dioxide can be sequestered beneath mining shafts or pits.
- We will implement reclamation projects at our tailings storage facilities, waste rock piles, and other areas of our mining sites in order to create carbon sinks that absorb carbon dioxide from the atmosphere.



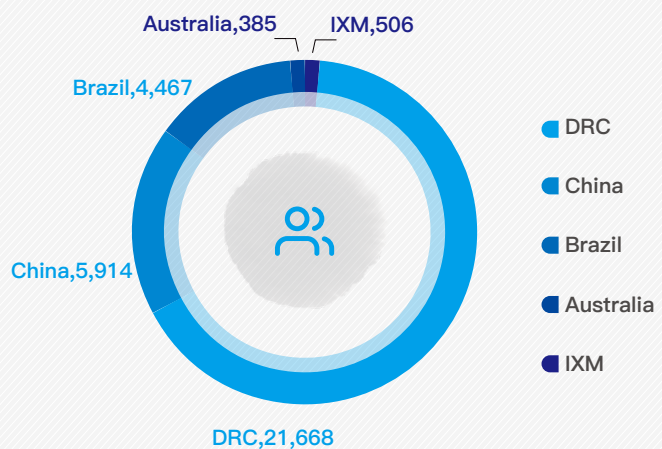
Employees

At the close of the 2022 reporting period, CMOC had 12,754 employees across its operating sites and management offices, as well as 20,186 contractors. Compared with the previous year, this represents a 33.4% increase in the entire workforce and a 52.7% increase in contractors, primarily due to construction activities at the TFM and KFM sites. Approximately 10.1% of the workforce was female. Approximately 24.4% of the workforce was under the age of 30, 61.1% was aged between 30 and 50, and 14.5% was over 50. 63.2% of CMOC employees were employed in production, 6.7% in quality control and R&D, 9.9% in management and administration, and 20.2% in finance and sales roles.

Number of employees and contractors by gender

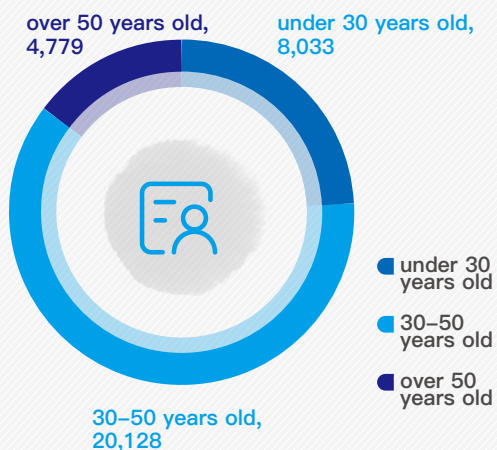


Number of employees and contractors by region⁽¹⁾

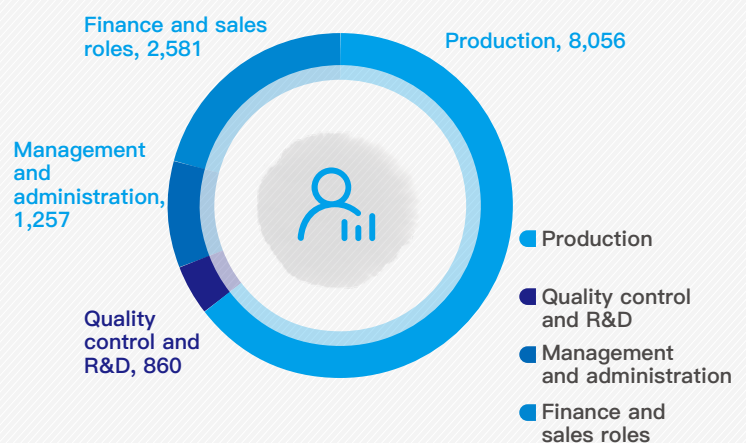


(1) IXM is active throughout the entire network of the global metals and minerals industry, including teams based in Geneva, Shanghai, Johannesburg, and Connecticut, and also offices in major Latin American producing countries such as Mexico, Peru, and Chile.

Number of employees and contractors by age



Number of employees by job category



In January 2022, the company published the *Employment Policy*, which 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 12,754 employees in our worldwide operations have the right to freedom of association and collective bargaining. In 2022, 6,376 members of our global workforce (50%) 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 2022, there were no strikes or work stoppages at any of our global operations.

In 2022, we stepped up recruitment efforts to support our growing overseas operations. In addition to recruiting young talent, we expanded our team of management trainees and introduced other measures to consolidate the company's talent pool. We also incorporated cross-cultural communication skills into our key capacity building areas in order to improve integration between Chinese and international staff.

The company offers a diverse range of incentive schemes including operational, equity, project-based, and long-term incentives. In 2022, we launched innovative incentive schemes tailored to the specific needs of each operation, including a KPI-based incentive scheme at the Group headquarters and our NPM operation, a profit-sharing plan at our Chinese operations, production-based bonuses at our TFM operation, and a cost-saving incentive scheme at CMOC Brasil. We also introduced a milestone-based incentive scheme at our KFM operation and other sites with ongoing construction or expansion projects in order to motivate employees and encourage them to develop solutions to intractable challenges.

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 2022, the overall turnover rate among CMOC staff and contractors was 16.0%. Among staff, the turnover rate was 5.9%, and was highest among staff employed by the Group headquarters, primarily due to changes in our organizational structure. Among contractors, the turnover rate was 22.5%, similar to the rate from the previous year.

Safety



CMOC's occupational health and safety policies reflect our commitment to preventing harm to employees and reducing negative impacts on the environment and local communities. In 2022, no work-related fatalities or new cases of occupational illness were reported. Both the lost time injury rate (LTIR) and total recordable incident rate (TRIR) remained stable.

We have continued to improve the scope and efficiency of our HSE systems, both at the Group level and across our various operations. Under the leadership of the Group HSE Committee, we identified key priorities, designed corresponding procedures to ensure effective management, and reformed our HSE systems to reflect the Group's overall strategy and the global nature of our operations. In 2022, we issued and updated a series of procedural documents to consolidate our existing HSE management framework, including the *Group HSE Handbook* and the *Emergency Response Measures*.

Based on these new and updated documents, we implemented a range of measures to improve management of HSE risks. At the beginning of the year, the Group HSE Committee set out its priorities and plan of action for the coming year. Based on the updated version of the *Regulations for Managing HSE Accidents and Incidents*, we reported, investigated, and analyzed HSE-related incidents, enabling us to gain insights into previous failures and take effective measures to prevent their reoccurrence. We also strengthened our communication channels, both vertically (between the Group and its subsidiaries) and horizontally (between subsidiaries), with a view to building a learning organization. In another important development, we used a combination of internal and external resources to conduct comprehensive audits and targeted inspections of the HSE systems in place at each of our operations, providing us with the tools to gauge and monitor key fundamentals. We also introduced a visible, felt leadership model, which aims to improve leadership in HSE-related matters and encourage our operating sites to quantify leadership performance and strengthen on-site implementation.



At our Chinese operations, we installed the IBIS ArcSAR radar system to complement our existing slope surveillance system and improve our slope safety and alert mechanisms.

At our Chinese operations, we continued to engage with our overseas holdings to exchange best practices, align our standards, and consolidate our HSE systems. We recognize the value of external independent audits, and engage third-party specialists to evaluate our HSE systems and priorities and drive continuous improvements. As part of our commitment to improving intrinsic safety standards through the use of cutting-edge technology, we have deployed IT systems to transfer some operating personnel away from hazardous working conditions to a more comfortable office environment, enabling us to reduce employees' exposure to occupational hazards and increase productivity levels. In addition, our HSE policies are constantly evolving in accordance with on-site needs. For example, we revised the *Ten Safety Principles* to enhance their function as a deterrent and improve their effectiveness. This year, we also launched a new pilot project to encourage front-line teams at our various subsidiaries to develop strategies for improving safety standards. A number of effective strategies have been proposed, and as a next step, we plan to refine best practices and roll out similar measures across our Chinese operations to improve safety standards for front-line workers. The safety management system in China is certified in accordance with ISO 45001 requirements.

At our TFM operation, 2022 was a year of unprecedented challenges in terms of safety management. These challenges included accommodating ongoing construction activities alongside existing operations, the large geographical area of the mining site, significant numbers of new staff, and frequent simultaneous operations. TFM is committed to applying the same standards and requirements to all new and existing projects. This includes controlling access to the premises by employees, contractors, and equipment, and monitoring areas which are critical to construction work and existing operations, as well as key processes and high-risk activities.

In view of the aforementioned challenges, we implemented a range of measures to improve our safety management capabilities. For example, all new employees are required to complete training in safety-related modules, followed by a post-training assessment. For construction activities, we strictly implement existing safety protocols, conduct thorough analysis of safety risks before commencing work, and issue licenses for high-risk jobs in strict accordance with the relevant procedures. We also take appropriate disciplinary action against employees and contractors who violate our zero-tolerance policy. In 2022, TFM commissioned a number of external independent audits. Where deficiencies were identified, we formulated an action plan and implemented a closed-loop management strategy. We also encourage exchanges between industry peers. In November, a team of three TFM employees visited our NPM operation to learn about best practices and identify ways in which they could be incorporated into TFM's HSE management system. In 2022, TFM's safety management system was certified in accordance with ISO 45001 requirements.

In 2022, CMOC Brasil also commissioned numerous audits of its HSE system, including an ISO 45001 audit, the results of which have confirmed the effectiveness of existing management framework. One of the greatest safety challenges at our Brazilian operations is the risk of injury from old equipment. In light of these risks, we recruited a number of internal and external experts in structural integrity and corrosion protection to investigate the structural safety and integrity of the facilities in our chemical processing plant, identify critical hazards, and formulate an action plan to ensure their effective mitigation. We also completed a comprehensive inspection and upgrade of the chemical plant's fire protection system in order to better protect critical assets. In addition, we stepped up efforts to foster a culture of safety by implementing our felt leadership model across all levels of management. Under this model, senior managers are encouraged to engage with front-line staff and conduct on-site visits.



The CEO of CMOC Brasil demonstrating felt leadership by engaging with front-line staff.



In 2022, HSE professionals from across our global operations visited the Northparkes mine site to exchange best practices.

Our NPM mine in Australia has a comprehensive HSE system, which meets ISO 450001 standards, and also complies with the more stringent requirements of local health and safety legislation. The system is modeled on the zero-harm policy that NPM has been implementing since 2012. In 2022, NPM incorporated the zero-harm policy into the KPIs of middle to senior management staff, and conducted monthly appraisals to monitor compliance. We also invited colleagues from other CMOC operations to visit the NPM site and exchange best practices. We commenced work on developing a series of critical control standards and protocols for mitigating material safety and environmental risks. Emergency response measures are another important component of our zero-harm policy. In 2022, the Northparkes emergency response team received third place in the Victorian Mine Rescue Competition. In the individual categories, the team received excellent results for breathing apparatus, first aid, and the fire, ropes, and underground search and rescue categories.

At our KFM site in the DRC, 2022 was a period of peak construction activity. The safety risks at this site are constantly evolving as the project progresses through its various stages, from civil construction work through to the installation and commissioning of machinery. In response, KFM has revised and reviewed its safety priorities for each stage of the project. Much like our TFM operation, the KFM site also faces the twin challenges of large numbers of new employees and frequent simultaneous operations. To address these challenges, we require new employees to complete a comprehensive safety induction, provide training to improve employees' safety skills and awareness of safety issues, and conduct frequent on-site inspections. Meanwhile, we are preparing for the official start of operations by establishing a HSE system in line with international standards and best practices.

IXM has also formulated and implemented its own HSE policy, which defines key risks associated with its warehousing business and stipulates corresponding mitigation measures. In addition, IXM has established a series of tailored risk management protocols and signed agreements with partners to clarify safety management responsibilities.

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 2022, CMOC reported 57 recordable incidents from a total of 75,251,502 hours worked, equating to a TRIR of 0.76 per million hours worked. There were 13 lost time injuries, equating to an LTIR of 0.17 per million hours worked. There were also 233 lost days due to work injury. No work-related fatalities occurred at any of the company's global operations.

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, adopting engineering measures to eliminate or mitigate occupational health hazards at source, requiring employees to work in shifts to reduce exposure times, mandating the use of personal protective equipment, and monitoring 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. To reduce employees' exposure to harmful dust, some of our mitigation efforts include the wetting or sealing of roads, the installation of dust collection systems next to dust-producing machinery and processes, technical controls such as increasing automation in ore transportation, crushing, and packaging to minimize employees' exposure to dust, and requiring employees to wear personal protective equipment such as dust respirators while working in open-pit or underground mines or other environments with a high risk of dust exposure. All employees undergo regular occupational health checks to monitor their state of health, which is recorded in an occupational health file. In the case of processes which produce toxic or hazardous gases, employees are given appropriate respirators to prevent exposure.

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



■ In 2022, the HSE department at our TFM operation designed large safety posters in collaboration with the process plant and publicity department. The posters are displayed throughout the process plant and helps operating personnel to visualize which types of personal protective equipment are required in different work areas.

Employment



We are 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 working hours and holidays, in accordance with local labor laws and ILO conventions. At CMOC, we 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 comprehensive 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 apply in the relevant jurisdiction. Employees have access to internal grievance mechanisms through which they can report and resolve workplace complaints or concerns. Our Employment Policy recognizes our employees' rights to freedom of association and collective bargaining.

We make continuous improvements and seek innovative approaches aimed at enhancing labor relations. At our TFM site in the DRC, workers are represented by 10 major DRC trade union organizations. We maintain close contact with union representatives by providing dedicated onsite mailboxes for unions to report employee concerns and grievances, and by holding monthly and quarterly meetings to discuss employee and company concerns.

In 2022, our NPM operation was awarded the "Workforce and Workplace Relations Innovation Award" by the Australian Resources & Energy Employer Association (AREEA). The award was granted in recognition of NPM's coordinated efforts to re-deploy and re-train its workforce across surface processing and underground production following the early completion of the E26L1N project this year.

At our Chinese operations, we opened a new staff recreation center at No. 1 Tungsten Company in coordination with the local union. The center provides a relaxing environment for staff to interact with colleagues, and is equipped with numerous facilities including a first aid station, a book and magazine counter, entertainment facilities, a mental health counselling station, and shower facilities.

Equal employment

In keeping with the principle of equal employment, CMOC recruits and hires personnel through various means including open recruitment and competitive employment, 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 employment 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 where everyone is entitled to fair treatment. We practise 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. In the DRC, which suffers from a high rate of unemployment, we prioritize community-based recruitment to help local people find stable employment opportunities. For example, 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 require our contractors to conduct community recruitment, as stipulated in our company procedures. In 2022, the TFM community department helped 1,396 local residents to find stable employment.



In 2022, KFM organized a large community recruitment fair, which was attended by more than 300 residents from around a dozen local villages.



TFM employee Dorothee Masele



NPM employee Michelle Wetherell

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, and believe that role models are a positive force for change. In the DRC, our TFM operation 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 promotes the inclusion of gender factor in the DRC’s national development strategy. Since 2019, TFM employee Dorothee Masele has served as President of the WIM DRC. In Australia, Michelle Wetherell, Northparkes Superintendent for Human Resources, Training, and Organizational Development, received the “NSW Women in Mining Gender Diversity Champion Award 2022” and the “Gender Diversity Champion in Australian Resources for 2022” award in recognition of her role in leading projects, initiatives, and policies aimed at improving diversity and inclusivity at the Northparkes mine and neighboring communities. Under her leadership, NPM has introduced a parental leave program, which is available to parents of both genders and provides support with the application process. The program has been a resounding success and resulted in a 100 percent return-to-work rate.

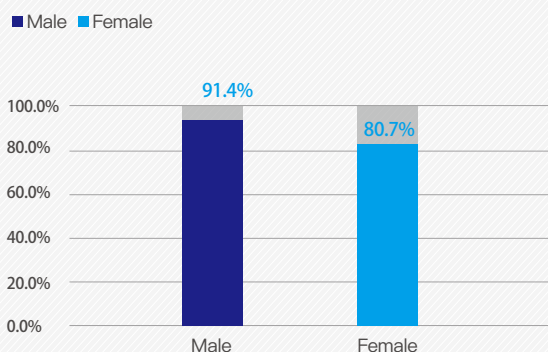
Training and Career Development



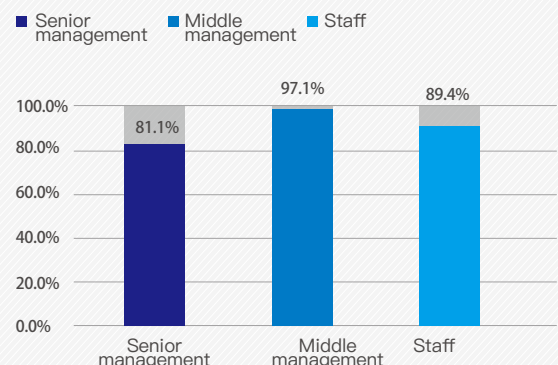
In accordance with the *Employment Policy*, to broaden firm-wide internal exchanges, we operate a differentiated talent development program that provides our employees with in-house training, rotation across mines, incentive-based development plans, and internal mobility channels based on recruiting, 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 2022, 90.3% of CMOC’s workforce received training, with each employee receiving an average of 22.7 hours of training. Both indicators have been improved compared to 2021.

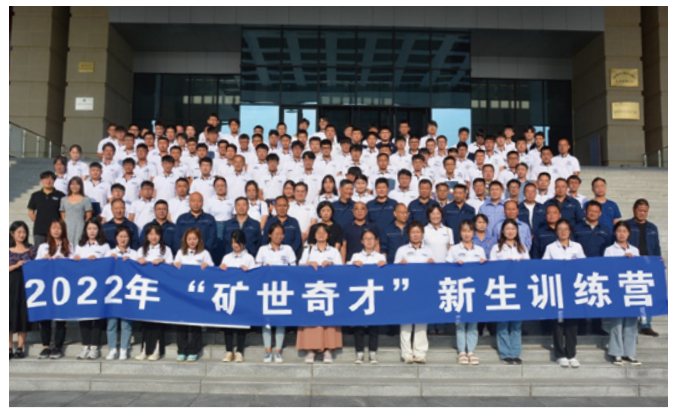
Percentage of employees and contractors who received training by job category



Percentage of employees and contractors who received training by job category



In 2022, the Group human resources department continued to improve training systems for a range of career development paths in order to support professional development, leverage talent, and increase organizational efficiency. 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 2022, 120 graduates with degrees in mining, processing, metallurgy, and other relevant subjects were admitted to our management trainee program and assigned to positions across our global network of operations. We also organized events such as the “CMOC Talk” forum to enable senior executives to share their experiences with members of staff, and launched industry-leading skills courses to improve the leadership and professional skills of our management team. In 2022, a total of 1,089 management-level staff participated in training.



In August 2022, 120 graduates from top Chinese universities were enrolled on CMOC's global management trainee program. The trainees will complete an extensive training program in order to position them as internationally-minded leaders with cutting-edge technical and managerial 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 terms of training methods and training staff, we try to combine internal and external resources for better results. In 2022, we hired a professional training company to teach a leadership course aimed at improving the competence and managerial skills of junior-level management staff. Over the course of 2022, 100% of employees at our Chinese operations participated in some form of training.

At our TFM operations in the DRC, 17,358 employees and contractors participated in training in 2022, equivalent to 99% of the total workforce. In addition to annual refresher training, the company also organized a range of other training courses for employees and contractors, covering topics such as forklift operation, language skills, and high-risk jobs. In 2022, our KFM operation organized onboarding training and safety inductions for all new employees.



In November 2022, the Group headquarters organized an online leadership course for management staff employed across our global network of operations. The course covered a wide range of topics, including basic professional skills, managerial skills, strategies for promoting professional development, employee incentives, and disciplinary measures.

At our Brazil operations, employees receive mandatory training in occupational health and safety, technical competency and behavioral skills, ensuring that skills are developed in line with the company's strategy. In 2022, 39% of employees at our Brazil operations received training. Over the course of the year, NPM provided training and certification in 9 different modules, including health and safety, compliance, emergency response, high risk work licenses, management skills, underground blasting, and a wide range of other skills. 100% of employees received training in at least one module.

At our IXM operation, the training catalog was 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 2022, 36% of IXM employees participated in training.





Community

CMOC's *Community Policy* is applicable to all of the Group's operations. We are committed to conducting activities in a manner that promotes positive and open relationships with local communities and supports the achievement of the United Nations Sustainable Development Goals (SDGs). We continue our engagement with and investment in communities affected by our mining operations, using multiple channels to collect their feedback and concerns. We develop infrastructure, support health, safety, and education efforts, and provide local employment and business development opportunities. Our goal is to build such relationships at all levels of community, from local to national, by making long-term positive contributions and effectively mitigating adverse impacts from our operations. Stakeholder relations across the international portfolio are guided by community development plans, which are formulated after evaluating the expectations and needs of communities. At our NPM, Brazilian, and DRC operations, stakeholder communications, social risk and impact management, community priorities, and community investment plans guide our external engagement efforts. At our Chinese site, the national priorities of the government also play a role in driving community relations and associated investments. In all cases, stakeholder engagement is based on mutual trust, transparent dialog, and the effective mitigation of impact coupled with the enhancement of positive effects from mine operations. CMOC understands that these aspects are material to the success of our mining business.

Community relations programs at CMOC's international sites are guided by local laws and regulations and seek alignment with international good practice frameworks such as the Performance Standard 5 of the International Finance Corporation and Risk Readiness Assessment (RRA) of the Responsible Minerals Initiative. Social engagement and community investment activities may also be governed by commitments made through the process of environmental and social impact assessments or their equivalents under national regulations.

Our operation in China closely aligns community spending with government development priorities and makes pertinent investments to enhance performance in achieving those priorities. The Chinese operation is located in Luanchuan, Henan province, a rural, mountainous county which was officially removed from China's list of impoverished counties in 2019. As an important company in Luanchuan county, we have long contributed to local development. As of 2022, our multi-year investment programs have cumulatively contributed over RMB 200 million in donations to the county for urban-rural development, poverty alleviation, education, health, and other causes. Currently, the community work of our Chinese mining operation is focused on consolidating previous achievements in poverty alleviation and providing targeted assistance to residents of Xiaohe village. Concrete actions were carried out to develop industry, support the local tourism, provide stable job opportunities, and monitor the progress of various poverty alleviation projects.

In the DRC, our TFM operation is located near rural villages, agricultural land, and two towns which have steadily undergone significant population influx and 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 a seven to eight-fold increase since the beginning of the project. The growing migrant population from other regions of the DRC has had a significant impact on the traditional way of life, and has also presented challenges for our community work. The sustainability programs at this site 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 2022, we continued to implement the *Scope Statement for Community Development*, which was signed by our TFM operation and the local community on January 20, 2021 and commits to invest US\$31 million in community development over a five-year period, targeting eight priority needs: health, education, economic development, roads and bridges, electricity, sports, infrastructure, and telecommunications. In 2022, community work at the TFM site continued to focus on community liaison activities, health, education and youth development, agricultural and economic development, and infrastructure. 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 priorities in the areas of infrastructure, education, health, and income generation. From its inception in 2009 through December 2022, the SCF has received contributions of US\$59.06 million, of which US\$4.38 million was given in 2022. 54% of the total contributions to the SCF were made after CMOC's acquisition of TFM (2017–2022). However, disruptions to exports at the TFM site during the second half of 2022 led to a delay in the implementation of some of the projects outlined in the *Scope Statement*, as well as a drop in SCF contributions.

Our KFM mining site in the DRC occupies an area of approximately 20 km². Consequently, there are fewer local communities that are impacted by its operations. When developing our community management system, we strive to integrate CMOC's *Community Policy* and international best practice frameworks. In 2019, KFM signed the *Scope Statement for Community Development* with the local community, which stipulates the villages due to be impacted by the new mining site, as well as the community investments to be made between the fourth quarter of 2019 and 2024. These investments will total US\$510,000 and target priority needs such as public health and sanitation, drinking water and electricity infrastructure, education, and economic development. In 2022, we continued to implement the investment plans outlined in the

Scope Statement, targeting areas such as education, infrastructure, health, and agriculture. The KFM site has also appointed designated members of staff who are responsible for liaising with the local community, and maintains a comprehensive grievance system. Community work is aimed at establishing positive partnerships with the local community and improving local livelihoods.

Our mines in Australia and Brazil are sited in areas that are largely rural, with surrounding land uses dominated by agriculture. NPM and CMOC Brasil continue to strengthen the effectiveness of community plans through transparent identification of impact, stakeholder engagement, and the maintenance of systems to register and respond to major community concerns. In 2022, NPM's community work focused on a range of areas, including stakeholder communications, indigenous support projects, education, health and sports, volunteer services, and natural disaster response. All local stakeholders participate in the implementation of our community programs.

At our Brazilian operations, we are committed to engaging with stakeholders including employees, the local community, and the government. Based on our assessment of community expectations and international best practices, we have defined a number of community investment goals, including 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 and social and environmental sustainability, and strengthening the company's reputation and social license to operate. In 2022, the community programs implemented by CMOC Brasil targeted a range of issues including agriculture, community health, and education.

As a metals trading company, IXM places community investment in its efforts to improve the minerals supply chain. In 2022, it continued to participate in the Better Mining initiative and the Fair Cobalt Alliance in order to support efforts to improve legal artisanal and small-scale mining of cobalt in the DRC, as well as the living conditions of local communities that depend on artisanal mining. In addition, IXM continued to support a number of social programs operated by the UPS Optimus Foundation, including programs to improve public health and education in African countries.

Stakeholder Engagement

CMOC's operations are located in diverse settings where cultural and economic conditions can vary greatly. For this reason, active engagement with stakeholders near our mines is a common element in successful community relations and in managing social risk related to our operations. Community relations are managed at appropriate levels of engagement that may include 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.

An important aspect in maintaining effective community relations are our systems for logging and responding to community concerns, such as issues concerning the environment, social investment, human rights, land acquisition, and the recruitment of employees. All of our operations maintain systems that can receive and register individual community concerns and grievances, which are then tracked through the stages of being addressed and resolved. In addition, we establish committees with community stakeholders and define systematic procedures for stakeholder communication, which also constitute important channels for communicating with and collecting feedback from local communities. Community engagement committees have been established by all our operations in Brazil, Australia, and the DRC.

At our Chinese operations we have a community grievance mechanism, and staff are regularly trained to ensure that the mechanism operates effectively. 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 report the results to local residents. To this end, the company has established a reporting mechanism which requires concerns from 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 2022, our Chinese operations received an award from Luanchuan county for the seventh consecutive year in recognition of our work to address community grievances.



At the beginning of 2023, managers from our Chinese operations visited 322 disadvantaged families across Luanchuan county, distributing gifts of rice, flour, cooking oil, and other basic necessities.

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 national authorities, chieftainships, and members of civil society. TFM also holds quarterly meetings with stakeholders, which serve as the primary means of gaining input on the community’s priority development needs. In 2022, the quarterly meetings were attended by 219 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 officer. In addition, the company organizes visits to neighboring villages to engage directly with local residents and improve relations. In 2022, we visited 37 of the 122 settlements within the TFM concession.

TFM also maintains a community liaison department, which staffs permanent liaison offices in the community. Each region 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 2022, in view of the growing population, TFM recruited a number of volunteer messengers in local villages, who are responsible for reporting the latest developments within the community. The company also organizes consultations and awareness campaigns for specific projects and for issues which are of concern to the community. In 2022, such consultations and awareness campaigns were organized on several issues, including implementation of the *Scope Statement*, emergency response drills at tailings storage facilities, safety measures around the site perimeter, community recruitment, and biodiversity. TFM’s community grievance system is operated by members of the Community Liaison department, and all community members including TFM employees may present grievances related to the impacts of our operations. All grievances are received and tracked by an IT 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.

In general, TFM enjoys positive relations with the neighboring community. However, we are also aware of the challenges faced by the region. These include the establishment of new settlements driven by the continued expansion of the two major towns and neighboring villages, social tensions caused by illegal artisanal miners who congregate in the villages surrounding mining sites, and an increasing number of opportunists who pose a threat to the safety and stability of local communities. In response, TFM has strengthened its engagement with the local government, local community leaders, civil society organizations, and other mining companies in order to develop joint strategies for mitigating risks

At our KFM site in the DRC, our dedicated community liaison staff have established clear procedures for day-to-day communications, meetings, and correspondence with eight neighboring villages in order to ascertain the needs of the local community and receive and respond to community grievances. Given the relatively small size of the neighboring community, liaison staff primarily use routine in-person visits to maintain contact with villagers and chieftainships. The Local Monitoring Committee, which is comprised of local stakeholders, is responsible for conducting periodic reviews to monitor the implementation of KFM’s commitments outlined in the *Scope Statement*. The company also engages with local residents through the Local Committee of Development, which is comprised of community representatives. Over the course of 2022, KFM’s community department is updating its stakeholder mapping and community engagement plan.

At our NPM operations in Australia, engaging with the local community and stakeholders is critical to the site’s continued success. As a residential mine, we are closely connected with the people and places we work. Our key stakeholder groups are the Wiradjuri Executive Committee (WEC), the Community Consultative Committee (CCC), the local neighborhood, local councils, and local shire residents. In 2022, NPM convened a total of three CCC meetings, three WEC meetings, and two neighborhood meetings, which provided a platform for the company to discuss operational developments with stakeholders and gather input and feedback. NPM also maintains a dedicated grievance system. The complaints hotline is published on the NPM website and press releases, as well as in the NPM annual report.

- In 2022, NPM convened two neighborhood meetings, which were held in a local community center and included a range of discussions on the latest developments in our business activities, operations, and executive management, as well as the company’s future plans and their potential impact on the neighborhood. The neighborhood meetings gave us the opportunity to improve meaningful relationships with neighbors.

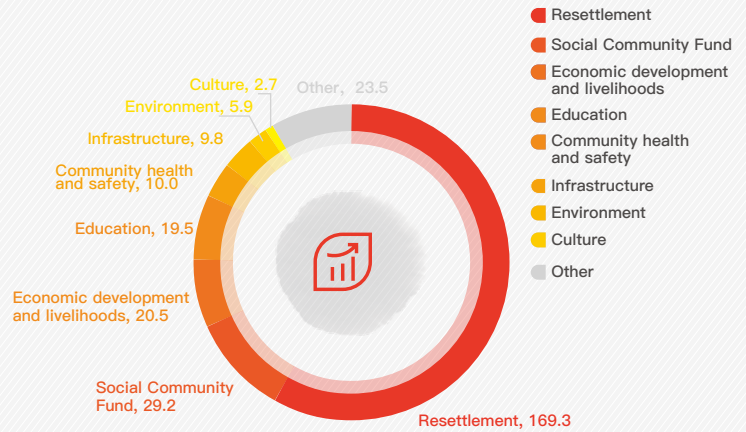


Our Brazilian operations continue to value and maintain dialog with various stakeholders. Internal and external stakeholders in Brazil can contact the company through a range of channels, including the “Talk to Us” initiative, our company website, telephone, and email. In addition, members of the local community can provide feedback to our community liaison officers, either over the phone or in person. The company attends meetings of the Cubatão Consultative Community Council and liaises with government departments in Catalão and Ouvidor on a regular basis. CMOC Brasil also maintains regular contact with local residents committees in order to develop projects which are beneficial to the local community, as well as with local civil defense and fire safety authorities to discuss the management of tailings dams. In 2022, the company revised its socio-economic analysis by updating its stakeholder map and collecting information from internal and external stakeholders, which will be used to update the stakeholder engagement plan. In addition, the company held a tailings technology seminar, organized an open day for customers, and took a range of other steps to strengthen engagement with stakeholders from across the supply chain, as well with all levels of government.

Community Development

CMOC's investment approach is based on priority community 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. In 2022, CMOC invested a total of RMB 290.4 million (eq. US\$43.5 million) in community projects.

Distribution of social investments by category (million RMB)



Education



Support for education from primary school through to university is a high priority for stakeholder communities. In the DRC and other underdeveloped regions, we are committed to expanding access to basic education and reducing drop-out rates. Across the world, we are also committed to improving higher and vocational education to help young people secure a better future. In 2022, across all operations the company donated over approximately RMB 19.5 million to educational programs.

In China, the company believes that addressing educational problems is the key to promoting regional development. In 2022, 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 poor families in Xiaohe village, Quiba township can attend school. Over the past nine years, CMOC has donated a total of RMB 18 million to educational programs, which have benefited more than 6,000 students from Luanchuan county.

In the DRC, education is one of the key priorities of TFM's social investment strategy. In 2022, TFM continued to support six recently constructed primary schools within the mining concession area, subsidizing teachers' salaries and school operations to help the new schools become self-sufficient. In addition, the company is currently implementing a range of other projects listed in the *Scope Statement*, including a vocational school, primary schools, and sports fields.

TFM is also committed to improving vocational education opportunities for local young people. Over the past decade, TFM's Community Development department has provided annual scholarships to local students who are admitted to the Technical Institute of Mutushi. In 2022, scholarships were awarded to 44 students, including 19 female students. In addition, TFM's university scholarship program, which is funded by the TFM Social Community Fund, continued to provide financial assistance to local young talent. Since 2016, the program has funded the studies of 89 university students (including 21 female students) at universities across Haut-Katanga and Lualaba provinces.

- Wilson Makuya was among the first cohort of students to receive a scholarship from TFM's university scholarship program. In 2017, he was admitted to the Faculty of Economics and Management at the Université Protestante de Lubumbashi, where he recently completed a Master's degree with Great Distinction. The TFM scholarship funds the academic, travel, medical, and accommodation expenses of students from the local community.



In 2022, KFM assisted with the construction of a primary school in Kansuki village. The new school is equipped with three classrooms and an office, and will help to give local children access to an education. In addition, KFM also worked with the non-governmental organizations KAITS and AFA to provide training to over 2,000 members of the local community, covering a broad range of topics including agriculture, literacy and vocational skills, and health.



■ The SENAI program supported by CMOC Brasil helps young people to access skills training and enter the job market.

Our NPM operations continued to provide annual scholarships for indigenous students and those who wish to pursue a technical degree. In addition, staff from our technical teams partnered with AREEA’s Bright Spark Program to teach students about opportunities in the resources sector and inspire them to pursue their studies in the STEM subjects. Students from different primary schools in the Central West area learnt about career opportunities at Northparkes and participated in hands-on activities covering topics such as robotics, coding, virtual reality, engineering, and electronics.

At our Brazilian operations, we launched the “SENAI” program in collaboration with a local vocational school, which aims to provide skills training to young people and help them enter the labor market. This year, 52 young people completed professional training courses in industrial maintenance and mining chemistry.

In Zambia, IXM supports the Education Partnerships Group, which aims to support governments in shaping and strengthening their education systems and improve the quality of primary and secondary education.

Community health and safety



Across all our operations, members of the local community comprise the majority of our workforce. For this reason, community health and safety has a direct impact on the stability and productivity of the company’s workforce, and also constitutes 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 2022, CMOC invested approximately RMB 10.0 million in community-based health projects, addressing a range of priority needs.

Communities near our TFM operation may suffer from malaria and other diseases due to the lack of medical and healthcare facilities. The lack of medical treatment and municipal infrastructure can also lead to other illnesses. In recent years, the growing migrant population has led to an increase in 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 priority needs of local communities. In 2022, TFM’s efforts include the construction of new healthcare infrastructure, skills training for healthcare professionals, disease surveillance and control, and expanding access to clean drinking water.



■ One of the key projects in TFM’s *Scope Statement* is the construction of the Fungurume general referral hospital. In 2022, we completed a feasibility study and received planning permission from the government. The new 200-bed hospital will benefit around 400,000 residents in the Fungurume Health Zone.

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, and assist with efforts to control their spread. In 2022, we took a range of measures to reduce the incidence of malaria. In addition to spraying approximately 3,500 rooms with mosquito repellent, we also identified 10,676 mosquito breeding sites in community and applied larvicide at all sites where we detected malaria-infected mosquitoes. The company also conducts an annual malaria survey of local schoolchildren, and runs an insect laboratory that conducts research into the effectiveness of residual insecticides on various surfaces and malaria vectors. In 2022, Léonard Ngwej Mutshid, head of the company’s vector control department, was awarded a PhD in public health for his work in this field.

TFM has also continued to support the “SafeTstop” HIV/AIDS awareness and testing initiative for truck drivers. In 2022, around half of all truck drivers who stopped at the TFM site took part in voluntary testing, 5.9% of whom tested positive for HIV. We distributed over 27,000 condoms to truck drivers. In addition, we assisted the local NGO Lamuka with an HIV awareness campaign for 2,961 residents of neighboring communities (including 1,306 high-risk individuals such as sex workers, truck drivers, taxi drivers, and police officers). Approximately 45,000 condoms were distributed as part of the campaign.

Similar community health issues also affect the communities surrounding our KFM site in the DRC. In 2022, KFM refurbished the maternity ward at the local clinic in Kisanfu and donated essential supplies. The company also worked with the Lualaba Department of Health to help local villagers living in remote areas access pre-natal care, family planning, child vaccinations, and other healthcare services. To this end, KFM provided logistical support to healthcare professionals, enabling them to make biweekly visits to villagers to provide door-to-door vaccinations and raise awareness of health issues. In addition, over the past year, we have provided training on HIV prevention to almost 1,000 residents of neighboring communities, and mobilized over 400 people to participate in HIV testing. We also helped the village of Kansuki to build a new water supply in order to expand access to clean drinking water and reduce the incidence of waterborne diseases.



At the KFM site, the number of local residents who participated in voluntary HIV testing increased by 50% in 2022 compared with the previous year.

In 2022, our operations in Brazil continued a campaign to provide influenza vaccinations for members of neighboring rural communities who are unable to travel to cities. We also conducted a field survey, the results of which were used to construct new water wells on nearby land and create a map of neighboring water sources. These measures will help to improve the collection of rainwater and supply of water to the local region.

At our NPM operation in Australia, we provide funding to the Parkes Sports Grants and Life Education initiative on an annual basis. In South Africa, IXM supports the One to One Children’s Fund, which aims to train and equip community health workers to conduct high-quality home-based visits and improve maternal and child health more effectively. In addition, IXM also supports the Healthy Learners initiative in Zambia, which trains and equips teachers to become school health workers so that they can support, monitor, and respond to the needs of students.

Environment



The mining industry has a direct environmental impact on local communities and ecosystems. CMOC attaches great importance to the protection and continuous surveillance of the natural environment and neighboring communities. In 2022, we invested approximately RMB 5.9 million in environmental governance measures and environmental education to protect local communities and the natural environment.



The “Mãos à Horta” program organized by CMOC Brasil teaches local students about the importance of environmental protection. In 2022, we helped students to start a vegetable garden on the school premises.

At our operation in China, we donated RMB 5 million to Luanchuan county to assist with environmental governance. Our TFM site in the DRC has its own plant nursery, and in 2022 we donated 2,000 saplings to Lualaba province. In addition, our Brazilian operation organized environment-focused education activities for local school students of various age groups, including the “Mãos à Horta” program to teach the importance of environmental protection, the “Guardians of Water” program to teach students how to protect local water resources, and the Mineração 360° program, which explored the importance of mining in people’s lives, introduced students to CMOC and its operations, and discussed a range of topics including future trends and sustainability.

In August, members of the Northparkes Environment and Community teams volunteered to join in the annual ECO Day event, which brings together organizations and groups to engage students in environmental learning. The school children were given the opportunity to examine pieces of ore and follow the mining process through to the sale of concentrate, as well as understand the role copper plays in our everyday lives. Our team also shared information on our farming operations, and covered topics including reclamation, environmental offsets, waste management, and the importance of copper for a sustainable future.

In October, the Northparkes Environment Team volunteered for a day at Forbes North Public School to engage primary school children in activities and discussions about biodiversity. The visit focused on educating the students about the variety of threatened birds that inhabit the local community and the different human activities that put these species at risk. In an effort to increase biodiversity around the school premises, Northparkes donated 20 nest boxes that were painted by the students. The nest boxes were then installed on a number of Eucalyptus trees within the school grounds, where students will be able to observe the species that nest over the coming years.



■ NPM volunteers painting nest boxes with local school students. This activity aims to improve local children's understanding of biodiversity.

Economic development and livelihoods



As the majority of our workforce comes from local communities, self-sufficient communities where people's economic needs are met are important for providing a stable workforce and ensuring a favorable environment for business activities. For this reason, a leading issue for all communities near our mine operations is the creation of new opportunities for economic development. Our programs are directed at building capacity to address existing economic drivers, such as agriculture and local business development. Other initiatives are aimed at promoting economic diversification, with a particular focus on building the capacity of women. In 2022, CMOC invested approximately RMB 20.5 million in projects directed towards economic development and the enhancement of livelihoods.

At our Chinese operations, we continued to take targeted steps to alleviate poverty within neighboring communities. In 2022, we established a dedicated poverty alleviation fund in collaboration with Luanchuan county, donating RMB 8 million towards healthcare, education, road development, environmental governance, and the development of local industries. Since 2017, the company is paired with Xiaohe village for targeted poverty alleviation. We 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. In the space of just five years, the village has been transformed from a place of poverty to a popular tourist destination with a booming flower industry. Notable attractions include a large lotus garden, a honey farm, and an artificial beach. The village is also home to 38 guesthouses and hotels, and is surrounded by over 13 hectares of cherry, grape, and peach orchards. In 2022, Xiaohe was listed as one of China's most picturesque rural tourist destinations by the Ministry of Agriculture and Rural Affairs.



■ The company has helped Xiaohe village to develop a successful tourism industry, which relies on the village's unique natural scenery and favorable location.

Given that our TFM operation is in an area where agriculture is important to the local economy and to household food security, one of our key areas of developmental support is in the agricultural sector. In 2022, we implemented six livelihood projects from TFM's Scope Statement for *Community Development*. First, we continued our maize credit project, providing support to 1,626 farmers over 1,500 hectares of agricultural land, compared with 650 hectares in 2021. In 2022, a total of 8,655 tonnes of maize was harvested, which corresponds to an average yield of 5.77 tonnes per hectare. Second, we helped local communities to raise livestock by supporting 320 families with goat rearing. Third, we introduced measures to build capacity for a local Songhai agricultural development center. Fourth, we provided four local agricultural and livestock cooperatives with essential infrastructure. Fifth, we constructed a modern farmers' market in the village of Nguba. Finally, we helped local women to form cooperatives and participate in income-generating activities.

- In November 2022, 120 women and a small number of men from local development associations, the Fungurume community, and Bayeke Chiefdom participated in a workshop on female entrepreneurship organized by the Congolese NGO REPAFE (Network for the Empowerment of Women). 20 of the participants have been appointed as trainers and ambassadors, who will be responsible for sharing their entrepreneurial skills with members of the local community.





■ KFM installed a solar-powered water pump for members of the local community. In addition to promoting the use of clean energy, the new pump has reduced the financial burden on local residents by lowering energy bills.



■ The new home nursery project launched by CMOC Brasil is aimed at families who live near the Fosfatos Ouvidor and Boa Vista mines. Over the coming months, participating families are expected to produce approximately 30,000 saplings, which will be earmarked for purchase by the company.

In addition, the TFM Social Community Fund (SCF) introduced a pilot scheme in the village of Zakeo (situated within the TFM concession) to promote rural development based on savings and loans associations (VSLAs). The new scheme will enable members of the local community to learn about savings and loans associations, as well as receive technical training on agriculture and the processing of agricultural food products. After completing training, communities will be able to access funding from savings and loans associations and tailor agricultural activities to local needs and circumstances. At the recommendation of TFM agronomists, farmers from the village of Zakeo established their own savings and loans association, through which they saved a total of \$4,000 over a five-month period between June and November 2022. Thanks to this remarkable financial achievement, the villagers were able to access SCF-funded agricultural resources and irrigation equipment, which will be used to support local vegetable farming and animal husbandry. Following the end of the pilot project, the SCF plans to expand the scheme to a total of 10 villages within the TFM concession area.

In 2022, our KFM operation continued to provide agricultural resources and training to villagers living in neighboring communities. These measures will help farmers to increase output, diversify their crops and animal husbandry activities, and generate more income. In addition, in order to improve access to electricity and clean water in the neighboring region, we installed solar-powered system for 103 local households and constructed a solar well pump system, thus providing the community with low-cost electricity and water.

At CMOC Brasil, we continued with our “Nossa Terra” program, which provides technical assistance and training, and helps rural families to boost their incomes and economic independence by starting their own business. Around 300 people have benefited from the program, in which we have invested over 600,000 Real. We also offered to sell discounted fertilizer to neighboring farms, ten of which have expressed an interest. This year, CMOC Brasil launched a new project, which is primarily aimed at helping neighboring residents to build their own nurseries and produce home-grown saplings for use in commercial and forestry applications. Each nursery is expected to produce 10,000 saplings; all participating farmers receive a starter package that includes a semi-automatic irrigation system and all necessary equipment. In addition, participants receive continuous training and guidance from CMOC Brasil at all stages, from the construction of the nursery through to growing techniques.

As a miner and a farmer, our NPM operation is a proud supporter of the agriculture industry in the region, and take the opportunity to volunteer in initiatives that showcase our local agriculture. Members of our teams volunteered their time to support community agriculture shows, to set up, pack down and support the judging of events. Those agricultural shows provide a unique opportunity to share and showcase new technology in the industry, and provide a platform to recognise and award achievements in the region.

Natural disaster support



Our mining operations are intrinsically linked to local communities. As extreme weather events intensify around the world, CMOC will provide emergency assistance to local communities hit by major disasters to reduce the number of deaths, affected persons, and damage, with a focus on protecting the vulnerable and poor. This is consistent with Goal 11 of the UN Sustainable Development Goals.

On September 13, 2022, following a prolonged drought, a forest fire suddenly broke out near a local community on our Brazilian site, posing a serious threat to the lives of residents. CMOC rapidly mobilized internal and external resources to conduct rescue and relief operations. We immediately set up an emergency response headquarters to coordinate across different roles and departments, which included safety, environment, production, maintenance, supply chain, and logistics functions. We also teamed up with qualified fire-fighting units and mobilized 3 fire trucks, 16 water trucks, 7 excavators, 6 bulldozers, 5 loaders, 1 drone, and over 200 personnel, who worked in teams to extinguish the fire. After battling the blaze for three days, all fires were extinguished without casualties. In the aftermath of the fire, CMOC visited surrounding communities and provided residents with much-needed drinking water and food. The mayor of Catalão and local residents thanked CMOC for its rescue and relief work.

In November 2022, the Central West region of New South Wales in Australia, where our NPM operation is located, experienced one of its most catastrophic flooding events on record, with towns under water and thousands of people forced from their homes. NPM is committed to providing ongoing support to local communities as they recover from the disaster. In the days and weeks after the November floods, we donated more than 5,000 items, performed more than 1,200 hours of volunteer service, and canceled company events to free up funds for the community. In addition, the company has decided to donate a total of \$150,000 to the communities of Parkes, Forbes, and Cabonne for the rebuilding effort.

Over the past few years, the Central West of New South Wales has experienced droughts, storms, fires and historic flooding. Local emergency services have worked tirelessly to protect the community and ensure that the company and local residents can continue to thrive. In August 2022, NPM sponsored a charity ball to raise funds for local emergency service teams and celebrate their successes together with the community. The event, which we co-hosted with the Parkes Police Citizens Youth Clubs (PCYC), was a great success, and raised \$64,734 which will be invested in new equipment for local health and emergency services.



In November 2022, NPM's local community experienced unprecedented flooding. Our employees provided continuous support to recovery and relief efforts.

Land Acquisition and Resettlement



All our mining operations require 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 practice principles of stakeholder consultation and negotiated settlement based on fair market valuation.

In China, continuous mine development may require the acquisition of land owned by residents living in the areas surrounding our operations. We have therefore formulated the *CMOC Implementation Measures for Recruiting Residents Impacted by Land Acquisition* and developed land acquisition procedures including consultation, negotiated settlement, and fair compensation. We have signed land acquisition agreements with neighboring communities in which we made provisions for compensating affected residents. We also employ local residents affected by our mining activities. In 2022, the development of a waste rock dump at the Sandaozhuang mine required the requisition of approximately 56 hectares of land, which affected 305 people. The company entrusted the People's Government of Chitudian Town in Luanchuan County to implement the land acquisition and relocation, and offered compensation in accordance with the compensation policies formulated by the Luoyang Municipal Government. In 2022, we employed an additional 18 people under this program (including 7 women). In total, over 1,000 local residents have been provided with a stable source of income through our land acquisition activities.

At our operations in Australia and Brazil, surrounding land is mainly used for extensive agriculture. In these cases, the need for additional land is met through strategic planning, enabling sufficient lead times for engagement and negotiation with land-owners, and in compliance with well-defined internal and regulatory processes. At our Brazilian site, resettlement follows an internal policy that calls for pre-impact socio-economic analysis, including vulnerability assessments that drive subsequent, multi-year monitoring until pre-impact conditions are reestablished. In 2022, there were no cases of land acquisition requiring resettlement at our Australian and Brazilian operations.

At our TFM operation in the DRC, land acquisition 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 2022, TFM's main land acquisition was parcels of land covering 1,788 hectares that were acquired for construction work. In total, 83 project affected households were resettled in other communities with assistance from TFM. In addition, 2,713 project affected persons received economic compensation for their land and other resources, but were not required to relocate. Since the beginning of mine development in 2006, TFM has physically displaced 1,523 households, of which 742 households have been relocated to newly built residential areas. An additional 781 households have been assisted with resettlement in Fungurume, Tenke, and other communities. During the 2022 agricultural year, we helped to restore the livelihoods of 1,990 displaced farmers under our livelihood restoration program. As part of our broader social and environmental mitigation plan for TFM, resettlement action plans are an activity with inherent risk, and so the TFM resettlement program is subject to external audit on an annual basis, during which performance is evaluated in terms of alignment with internal and external policies, continuous improvement, redress of issues, and overall community acceptance of our resettlement program. In 2022, TFM hired the consultancy ERM to conduct an on-site audit of the resettlement program, and developed an action plan based on the auditor's recommendations.

In 2022, the KFM site in the DRC acquired land to meet future mine development needs. The main acquisition was for 340 hectares of land to be developed into a waste rock dump. No residents needed to be relocated as a result. In addition, land was requisitioned for the relocation of all residences within 500 meters of the perimeter fence, which affected 579 households, including local people and newly-arrived opportunists. All land acquisition and relocation projects were conducted in accordance with company procedures, which included explaining the land acquisition process to villagers, identifying affected people and property, employing professional land surveyors, negotiating and drawing up compensation schemes, assisting residents throughout resettlement, and tracking relocation progress.

Human Rights

In January 2022, CMOC updated its *Human Rights Policy*, which is applicable to the entire Group, so as to better meet evolving stakeholder expectations.

At corporate level, supplier due diligence procedures were updated with additional questions on suppliers' human rights policies and practices, including their use of security and armed personnel. In the second half of 2022, CMOC engaged international consultants to begin developing a "responsible production/sourcing management system" in accordance with the *OECD Guidance*. The system focuses on the identification, mitigation, and reporting of human rights and conflict-related risks in the supply chain, and is expected to be completed in the first half of 2023. In addition, we have incorporated human rights risk identification and evaluation criteria into our group-wide risk registers.

At NPM, the need for compliance training is identified according to role requirements. All new employees are assessed on their knowledge of the NPM code of conduct, which includes elements of anti-discrimination policy. In 2022, 63 employees received training in human rights policies and processes. In terms of supplier management, NPM mainly investigates the legal compliance of suppliers, as Australia's legal system can effectively prevent human rights issues such as child labor and slavery. In 2021, NPM developed its *Modern Slavery Policy*, and it also publishes a Modern Slavery Statement annually, which describes the company's efforts to identify and mitigate the risks of modern slavery in its operations and supply chain. In 2022, NPM also introduced a modern slavery clause into all supplier contracts. IXM's *Sustainability Policy* also includes provisions on human rights, especially with regard to suppliers in conflict-affected and high-risk areas where IXM endeavors to take appropriate measures to implement the due diligence framework outlined in the *OECD Guidance*. In 2022, IXM performed gap analysis against the *OECD Guidance* and issued an action plan to address the gaps identified.

In 2022, all employees and contractors at CMOC Brasil received training in human rights policies. At our Brazilian operations, we employ 78 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 which are reported to the "Alô CMOC" hotline. The KFM project is currently under construction, and work on developing a human rights management system is still underway. In 2022, 410 new employees received training in human rights policies. One of the company's priorities for 2023 is to build a comprehensive staff induction and refresher training system, and achieve full employee coverage for human rights training.

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 policy. In 2022, the TFM training department updated its human rights module to improve awareness of all human rights-related topics, including discrimination and harassment, gender equality, child and forced labor, the right to free association, working hours and pay, and grievance mechanisms. All employees and contractors are made aware of the complaints hotline and encouraged to report human rights violations immediately. The company has appropriate procedures in place for investigating and dealing with reported violations. Human rights grievance and investigation procedures are also applied to the local community. In 2022, 94% of TFM employees and 99% of contractors received training in human rights policies. In addition, human rights provisions are contained in all of TFM's contracts and the *TFM Supplier Code of Conduct*. TFM's contract department has incorporated the evaluation of social indicators such as supplier safety, environmental performance, and human rights into its supplier rating and risk assessment system. CMOC's *Human Rights Policy* and TFM's *Zero Tolerance Rules* treat employees and contractors as equals.

With the TFM expansion project now underway, a large number of construction contractors have moved onto the mine site over the past two years. We are fully aware of the increased occupational health, safety, and human rights risks associated with contractors. Therefore, TFM has taken extra steps in the following areas to further mitigate human rights risks for contractors: (i) Relevant functional departments at TFM have strengthened the inspection and supervision of all contractors, including in relation to employee codes of conduct, labor contracts, salary payments, working hours, labor unions and employee communication, safety training and distribution of protective equipment, and compliance training; (ii) TFM has stepped up the use of incremental penalties that depend on the results of regular inspections or degree of supplier risk exposure, including written warnings, regular corrective action, temporary suspension and corrective action, and contract termination; (iii) TFM has strengthened training on and promotion of the company's *Human Rights Policy*, *Zero Tolerance Policy*, and complaints hotline; and (iv) TFM has encouraged contractors to enshrine employees' right of free association and right to earn a living wage in their contracts.

In order to further strengthen TFM's human rights management system, CMOC hired international human rights experts to conduct human rights due diligence (HRDD) on TFM in the second half of 2022. The goal of the project, which is expected to be completed in the first half of 2023, is to support TFM in developing a long-term strategy for the protection of human rights in line with its internal policy commitments and international standards. The project will also build internal capacity in key sectors and strengthen cross-functional governance structures at TFM to support ongoing HRDD. In addition, conducting HRDD will support stakeholder engagement and communication, enabling TFM to further demonstrate its human rights-related commitments and actions to external stakeholders. In 2022, we completed an initial identification of the human rights risks and impacts associated with TFM based on internationally recognized human rights. This covered risks and impacts on workers' rights, community members, and cross-cutting issues applicable to both of these groups. In the first half of 2023, we will engage in deeper and broader stakeholder engagement to build consensus on the human rights issues highlighted through HRDD, and improve management systems accordingly.

Security & human rights

All of our operations develop needs-based security solutions in order to prevent unauthorized personnel from entering our mining sites, protect public health and safety, and safeguard the company's assets.

In the copper-mining region of southeastern DRC, significant artisanal mining takes place. Many migrants have congregated around privately owned mines to engage in illegal artisanal mining activities. To protect company assets and personnel and to maintain access control for our active operations, we have hired security staff and private security contractors for all of our sites in the DRC. These agents and private contractors are unarmed, have no law enforcement capacity, and are primarily engaged in surveillance and the operation of mine access control points and production sites.

Enforcement of national mining law within the TFM concession, with reference to the legal extraction of minerals, is the responsibility of the Mines and Hydrocarbons Police (PMH), a branch of the national police. Though autonomous in their operations, the PMH operate under terms of a contract with TFM's security contractor that addresses concerns such as the nature of support provided by TFM. The contract makes explicit reference to TFM adoption of the VPSHR, including directives on how to follow up on allegations of human rights violations.

TFM implements the *Voluntary Principles on Security and Human Rights* (VPSHR), which help guide companies in maintaining the safety and security of their operations while encouraging respect for human rights. TFM provides training to its security staff, the personnel of private security contractors, and PMH officers on key elements of the VPSHR. Private security firms are also subject to due diligence at the contracting stage, including human rights aspects. In 2022, 99% of TFM's 146 direct-hire security employees and 2,034 private security contractors received VPSHR training. A total of 182 PMH officers were stationed in the TFM concession, all of whom received VPSHR training.

In recent years, due to a massive influx of migrants, TFM and surrounding communities have faced the challenge of increasing illegal artisanal mining in our concession and adjacent areas. This has led to a sharp deterioration of security in local areas due to rising crime rates and accidents associated with unsafe artisanal mining practices. In June 2019, the DRC government decided to deploy the armed forces (FARDC) in the region to disperse illegal artisanal miners and address the problem of crime. The FARDC and police have the unilateral right to access and undertake their activities on mining concessions under the relevant laws that apply to them. As of December 2022, there were still approximately 141 soldiers stationed within the TFM concession and in adjacent areas. Fully aware of the potential human rights risks associated with the military deployment, TFM contacts the government and military leaders whenever new soldiers are deployed in order to communicate its human rights policy, including its adherence to the VPSHR and policies governing the use of arms. TFM does not engage directly with the armed forces, does not participate in any military operations, and does not provide any assistance that can facilitate military operations.

TFM's security, community, and external relations departments continually track and record all security incidents at the concession, and provide humanitarian assistance and conduct human rights investigations when necessary.

To increase understanding among TFM staff about human rights and security issues in the mining industry and to foster peaceful community relations, from October 31 to November 4, 2022, the company invited the Geneva Center for Security Sector Governance (DCAF), a Swiss think-tank, and Justicia, a Congolese NGO responsible for Katanga Province's Working Group on Voluntary Principles for Security and Human Rights to the TFM site to provide training on VPSHR. The course was attended by more than 50 employees from the company's management and various departments, as well as 80 community members. In addition, a range of security officers, TFM trainers, representatives of public security services such as mine police, territorial police, and the Armed Forces of the Democratic Republic of the Congo, private security companies, and other community stakeholders also attended. Furthermore, in the spirit of promoting regional exchanges and cooperation, Minmetals Resources (MMG) also participated in the training and shared its extensive experience in managing community relations.

As part of its efforts to promote and implement the VPSHR, TFM regularly participates in the meetings of the Lubumbashi VPSHR Working Group, and exchanges information and views with the various stakeholders involved. This working group, composed of government representatives, mining companies, and human rights NGOs aims to facilitate communication among stakeholders, create a climate of mutual trust, and adopt coordinated and participatory solutions to address security and human rights challenges at mining sites.



In November 2022, DCAF and Justicia organized VPSHR training courses for company management, public and private security personnel, and community stakeholders.

The KFM mine is relatively small and faces few security and human rights challenges. KFM’s focus for 2022 is to establish a security and human rights management and training system that meets VPSHR requirements. In November 2022, KFM sent trainers to TFM to attend the VPSHR training course organized by DCAF and Justicia. As of February 1, 2023, all 372 security personnel hired by KFM had completed VPSHR training. By the end of the first quarter of 2023, all mine police officers will also have completed this training. Furthermore, in January 2023, KFM also joined the local VPSHR Working Group.

In response to the security and human rights issues caused by the build-up of illegal artisanal miners in the vicinity of TFM, as well as broader community tensions and regional security issues, CMOC has strengthened its cooperation with the Better Mining initiative. Better Mining is committed to continuously monitoring the safety, environmental, human rights, and compliance performance of legal artisanal and small-scale mining (ASM), and has extensive knowledge of the artisanal mining sector in the DRC. At the end of 2022, we engaged the Better Mining team to conduct a baseline socio-economic survey of illegal artisanal miners in the vicinity of TFM, which will inform a review of our policies and processes, and capacity building. In addition, the company will continue to support multi-stakeholder initiatives such as VPSHR and the Fair Cobalt Alliance to address this broad and complex human rights challenge. We continue to maintain dialog with the government and call on them to establish more legal ASM mining areas; strengthen communication and build consensus among various community stakeholders with respect to illegal ASM risks; reduce the risk of child labor in ASM by supporting basic and vocational education within the community; and diversify the local economy through community investment and by encouraging illegal artisanal miners to pursue legal economic activities.





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 mobile phone 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; and phosphate fertilizer is an indispensable material for agriculture. Our manufacturing streams also consume other products and services sourced from suppliers and contractors.

At our trading company IXM, expert local teams provide global coverage for tailored sourcing, risk management, logistics and financing solutions to a wide and established network of clients in the metals industry. IXM is also part of a leading group of companies across the supply chain of EV-critical minerals contributing to collective actions aimed at improving sustainability and transparency in the mining industry.

The sourcing, manufacturing, transport, and delivery of all these metal materials may 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

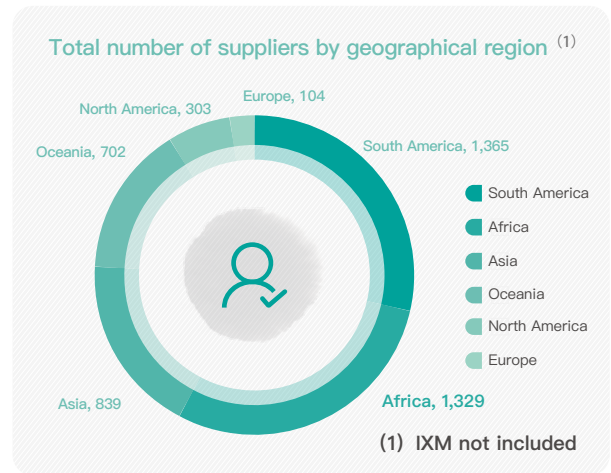
Supply chain management in our mining business

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 2022, 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 outlined in our *Human Rights Policy* and *Supplier Code of Conduct*, the risks of adverse impacts associated with extracting and handling minerals from conflict-affected and high-risk areas are likely to be some of the most significant risks within our portfolio. We will therefore continue to develop processes to address these risks. We are also 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 the second half of 2022, CMOC appointed an international consultancy to commence the development of a responsible production and sourcing management system in line with the OECD Guidance. The new system is scheduled to be completed during the first half of 2023, and will focus on the identification, mitigation, and reporting of human rights and conflict-related risks in the supply chain.

In 2022, we published a set of new Group-wide *Measures for Material Supply Management*. Sourcing is overseen by the Commodity and Marketing department, which is responsible for managing the corporate supplier database, conducting annual supplier evaluations, and reviewing and publishing the company's list of qualified suppliers. Our individual operating sites and the corporate central procurement platform are responsible at different levels for conducting routine supplier sourcing, onboarding, performance appraisals, annual evaluations, qualified suppliers database, and report to the Commodity and Marketing department. Supplier onboarding and evaluation criteria assess performance across a range of ESG-related topics including business ethics and anti-corruption, environmental management, occupational health and safety, and human rights. We use third-party platforms to conduct supplier vetting and due diligence, and inform all new suppliers and customers of CMOC's *Code of Business Conduct*, *Anti-Corruption Policy*, and other compliance requirements. Where minerals supply chains involve conflict-affected or high-risk areas, the Commodity and Marketing department is required to identify risks associated with serious human rights violations, conflict, and financial crime, implement corresponding risk control measures, and report to the Group Vice President of ESG. The whistleblower channels published on the Group's website can also be used to report supplier-related risks. In 2022, our NPM, Brazilian, and TFM operations did not procure mineral products 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.

In China, we have implemented the *Procurement Management Procedures*, *Supplier Management Procedures*, *Tender Management Procedures*, 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 business activities. We regularly review and conduct annual evaluations of suppliers and pay special attention to due diligence on suppliers of hazardous chemicals and those with an environmental impact.

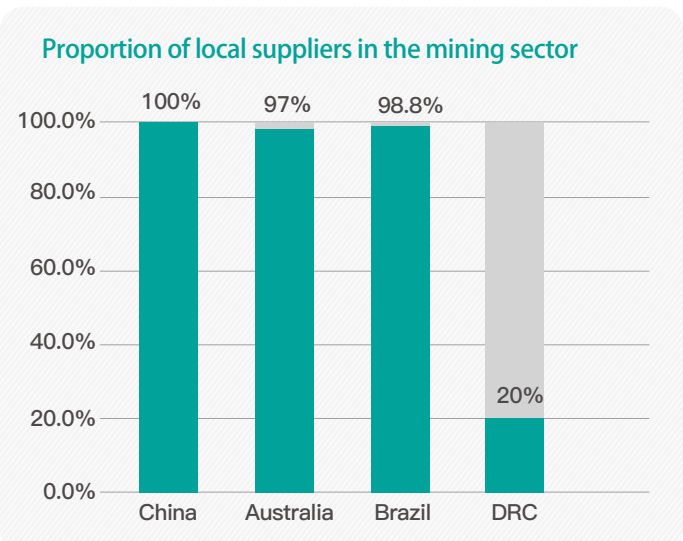


Australia already has robust government laws and regulations to prevent child labor, slavery, corruption, and other social and environmental problems. For this reason, NPM mainly performs environmental and social screening by conducting compliance reviews of suppliers. In addition, tendering procedures must comply with NPM's *Procurement Policy*, *Commitment Policy*, and *Contracts and Purchasing Procedure*. NPM manages suppliers through contractor management systems, contract performance reviews, and HSE pre-qualification vetting to ensure that they understand and conform to our *Code of Conduct* and HSE requirements.

At our TFM mine in the DRC, human rights and corruption are still pivotal areas of concern. We conduct due diligence of suppliers and contractors to screen for violations of applicable laws and CMOC policies governing anti-corruption or human rights. During the screening process, a subset of these contractors is subject to site visits during which safety, environmental, and employment policies and programs (and their implementation) are reviewed. The screening phase site visits also provide valuable insights into the practical aspects of equipment, tools, and readiness to perform the proposed scope of work. With respect to employment practices by contractors, TFM pays special attention to policies pertaining to the legal working age of their employees, and their compliance with the Labor Law of the DRC. TFM ensures that there is a zero-tolerance approach to underage labor through recruitment, onboarding, and training procedures.

As construction at TFM proceeds, the number of engineering contractor personnel at the mine site has increased significantly since 2020. We are fully aware of the challenges this brings to site management and are constantly improving our contractor management systems. TFM strengthened hierarchical management of on-site contractors and introduced an annual assessment mechanism that tracks HSE performance, human rights, and other social indicators. TFM's HSE, administrative, engineering contract, and other departments regularly conduct 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 2022, TFM prioritized labor management and human rights training for contractors. To this end, we invited experts from the provincial labor department to provide on-site training for contractors, and ensured that all contractors participated in annual refresher training.

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 issues. After we establish cooperation with a supplier, we perform monthly compliance checks throughout the duration of their contract. In the event of any irregularities, 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 maximize opportunities for local employment and economic development. The above 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 it is relatively less developed. 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 Due Diligence Guidance for Responsible Supply Chains of Minerals for Conflict-Affected and High-Risk Areas ("OECD Guidance") and the Joint Due Diligence Standard for Copper, Lead, Nickel, and Zinc ("JDDS") which is derived from the OECD Guidance.

IXM's Sustainability 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. IXM also started to use the RRA (Risk Readiness Assessment) issued by the RMI (Responsible Mineral Initiative) that provides a comprehensive due diligence framework across all relevant ESG areas.

To implement this policy, IXM has in place management systems 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. It 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.

In 2022, IXM has mandated a leading consultant to undertake a gap assessment of its responsible sourcing management system in an effort to continuously review and improve its operational processes. Gaps identified have already been included in a development project with same third-party consultant and which IXM aims to complete in the first half of 2023.

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 (CAHRAs), or to an area neighboring CAHRAs, 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 understand better these risks and if necessary to initiate a mitigation plan. An Enhanced CDD 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.
- 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 Initiatives

In 2022, IXM renewed and onboarded two additional lenders to its Revolving Credit Facility aligned with Sustainability-linked loan principles. IXM also signed a sustainability-linked bilateral financing facility. These facilities include improvement targets which, upon achievement, can 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 provider, which measures CSR performance in four key areas: Environment, Labor & Human Rights, Ethics, and Sustainable Procurement. In 2022, IXM scored a silver rating for the second consecutive year and was ranked in the top 5% of companies rated by EcoVadis in the metal trading industry.

In parallel, IXM continues its efforts to measure, assess, and improve its environmental footprint. After a successful pilot phase with carbon accounting platform CarbonChain, IXM is now able to quantify a partial scope of its upstream scope 3 GHG emissions stemming from all IXM trades except for China domestic transactions. On monthly basis, IXM uploads a data export of trades from its commodity trading risk management (CTRM) software to CarbonChain platform. IXM then receives a carbon emission analysis report, as well as trade-by-trade analysis with asset- and supplier-level performance assessment against carbon emission industry benchmarks. IXM will continue to build on this project to help it (and CMOC) manage the transition risk to a low-carbon economy.

IXM recognizes that small-scale and artisanal mining (ASM) provides a source of income and generates employment in many countries. IXM supports legitimate ASM formalization efforts but maintains a policy that does not allow for ASM sourcing from conflict-affected and high-risk areas (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 mine 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"). CMOC operates a zero-tolerance policy on child or forced labor, employing only people who have reached the legal working age. In 2022, we found no violation of any laws or regulations regarding child or forced labor.

In addition, 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 cobalt and ensure responsible procurement. The ReSource consortium was subsequently joined by Umicore, and has received support from other companies in the materials sector including Norilsk Nickel and Johnson Matthey, as well as the Responsible Mining Initiative and the Cobalt Institute. It is also a partner of the Battery Passport program launched by the Global Battery Alliance (GBA). During a 2022 pilot project, ReSource used cutting-edge technology including blockchains and zero-knowledge proofs to pioneer a new solution that provides end-to-end, real-time tracking of physical material through the supply chain, enabling it trace to 100% of the cobalt used in batteries. The new solution meets the battery passport data and traceability requirements defined in the GBA battery passport rulebooks on Greenhouse Gas Emissions (GHGs), Human Rights, and Child Labor.

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 Responsible Minerals Assurance Process (RMAP) of the RMI. At the time of writing, 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.

Product stewardship is embedded into the Northparkes Management System. The Environmental Aspects and Impacts Register includes risks and controls relating to hazardous waste and copper concentrate after they leave our site. During 2022 a product stewardship audit of the copper concentrate shipping port at Port Kembla was completed ensuring that environmental risks are being managed once our concentrate has left Northparkes.

In 2020, IXM completed its registration under the European Union's regulation for the Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH). In terms of product quality, IXM's 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 2022 that resulted in impacts to CMOC.



At our TFM site in the DRC, all of our copper and cobalt is labelled with traceability system to enable traceability from the mine to the process plant.

Business Ethics and Transparency

CMOC is committed to a high level of business ethics practices. We affirm our commitment to act with integrity at all times and to respect the laws and regulations of wherever we do business. In 2022, CMOC continued to implement its *Code of Business Conduct*, *Anti-Corruption Policy*, *Anti-Money Laundering Policy*, and other policies 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 annually trains employees and suppliers to abide by international and local laws and regulations that forbid bribery of government officials and others, including 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. Training is mandatory for all CMOC employees deemed as occupying positions having potential for corruption risk. 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.

In 2022, we strengthened measures to identify instances of bribery, corruption, and other misconduct in view of the large number of new construction projects and the corresponding risk of fraud among the company’s employees. This included the establishment of a new anti-corruption department, which reports directly to the Chairman of the Board and 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. The company has issued a range of policies in this area, including regulations for critical positions, requiring employees to sign a personal commitment to integrity, and the implementation of a new supplier integrity agreement. We have also taken steps to improve our code of ethics and reinforce 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 new Chief Audit and Inspection Officer measure, under which the Group’s anti-corruption and internal control and audit departments appoint a Chief Audit and Supervision Officer 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.

To improve monitoring of employee conduct, we 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 also 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 company management.

During the reporting period, the Group anti-corruption department investigated 4 cases of employee misconduct, which resulted in the disciplining or dismissal of 8 employees. One case was referred to the Chinese judicial authorities, who have imposed coercive measures on 5 employees involved in the case. In addition, CMOC Brasil investigated 2 reports of misconduct concerning the transportation of phosphatic fertilizer, resulting in the dismissal of one employee, the termination of one of the company’s contractors, and the imposition of coercive measures on 3 employees by local judicial authorities.

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 Group 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 2022, 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” and “Global Workplace Harassment”. Approximately 3,000 employees participated in training, including 1,325 employees at TFM operation, 153 employees at KFM operation, 1,297 employees at CMOC Brasil, and 192 employees at the Group headquarters. We also provided offline compliance training to senior executives and new employees based at the Group headquarters. Our Chinese, NPM, and IXM operations designed their own compliance-related training modules, which were attended by 330, 174, and 259 participants respectively.

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. In 2022, our Chinese operation drafted a series of new 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. At NPM, the *Business Integrity Policy* prohibits bribery and corruption in all their forms, while the *Code of Conduct* sets out provisions for the acceptance of gifts by employees, contractors, the leadership, and managers, as well as specific provisions for fraud and misconduct. In 2022, 14 personnel participated in NPM anti-corruption training, including 3 senior management staff and 7 mid-level management staff. CMOC Brasil's operations follow an internal compliance manual and adhere to Brazilian laws as well as their international equivalents. Every year, the governance department organizes integrity training to strengthen the promotion and implementation of the company's integrity policy.



■ In December 2022, the company held a training session on anti-fraud and anti-corruption policies. During the session, participants discussed a number of case studies to learn about the importance of integrity and professional ethics in CMOC's operations.

Policies such as TFM's *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. 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.

In 2022, KFM drafted 7 compliance policies and procedures in accordance with the *Group's Code of Business Conduct*, including the *Policy on the Acceptance of Gifts, Dining and Entertainment*, and the *Charitable Donations Policy*. Our KFM operation also commenced work on building a new grievance system and supplier onboarding policy.

IXM aims to comply 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 2022, there were no criminal, administrative, or civil proceedings brought against CMOC pertaining to corruption, bribery, blackmail, fraud, or money laundering.



Data Overview

EMPLOYMENT	2022	2021	2020	2019	2018	2017
Total number of employees	12,754	11,472	10,956	10,850	10,900	11,226
Total number of contractors	20,186	13,222	10,684	8,048	7,686	
Number of employees and contractors by gender						
Female	3,314	3,081	3,025	2,838	2,971	
Male	29,626	21,613	18,615	16,060	15,615	
Number of employees and contractors by age						
Under 30 years old	8,033	6,049	3,760			
30-50 years old	20,128	14,761	14,574			
Over 50 years old	4,779	3,884	3,306			
Number of employees and contractors by region						
China	5,914	6,054	6,368			
Australia	385	431	467			
Brazil	4,467	4,303	3,880			
DRC	21,668	13,478	10,541			
IXM	506	428	384			
Turnover rate						
Turnover rate of employees	5.9%	8.1%	24.2%			
Turnover rate of contractors	22.5%	22.4%				
Turnover rate of employees and contractors by gender						
Female	12.0%	10.7%	9.3%			
Male	16.5%	17.1%	26.6%			
Turnover rate of employees and contractors by age						
Under 30 years old	21.0%	25.8%	16.4%			
30-50 years old	15.1%	13.4%	19.7%			
Over 50 years old	10.9%	9.8%	6.9%			
Turnover rate of employees and contractors by region						
China	5.9%	7.6%	3.8%			
Australia	23.0%	19.7%	14.8%			
Brazil	30.5%	16.2%	32.1%			
DRC	14.8%	19.8%	37.2%			
IXM	13.8%	10.6%	12.0%			

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

TRAINING	2022	2021	2020	2019	2018	2017
Rate of employees and contractors trained	90.3%	82.5%	91.4%			
Rate of employees and contractors trained by gender						
Female	80.7%	75.0%	86.0%			
Male	91.4%	83.5%	92.3%			

Rate of employees and contractors trained by job category				
Senior management	81.1%	40.0%	60.3%	
Middle management	97.1%	82.5%	84.0%	
Staff	89.4%	82.9%	91.9%	
Training hours of employees and contractors				
Training hours of employees and contractors	22.7	20.9	28.8	
Training hours of employees and contractors by gender				
Female	22.8	38.9	13.1	
Male	22.7	18.3	31.4	
Training hours of employees and contractors by job category				
Senior management	17.1	4.0	13.0	
Middle management	22.0	25.8	57.2	
Staff	22.9	20.8	27.6	

EMISSIONS AND DISCHARGES	2022	2021	2020	2019	2018	2017
Total greenhouse gas emissions (thousand tonnes)	1,320	920	1,030	970	980	990
Intensity of total GHG emissions (tonnes per tonne of processed ore)	0.028	0.020	0.025			
GHG emissions– scope1	760	360	530	480	470	500
GHG emissions– scope2	560	560	500	490	510	490
Total NOx emissions (thousand tonnes)	2.6	2.3	1.8	1.5	1.9	1.2
Total SOx emissions (thousand tonnes)	2.9	3.0	2.4	3.0	3.5	3.6
Total PM emissions (thousand tonnes)	7.0	6.8	5.4	4.4	4.8	4.9
Total emissions of hazardous waste (thousand tonnes)	27.0	26.0	7.0	7.0	4.0	5.2
Intensity of hazardous waste (tonnes per tonne of processed ore)	5.634x10 ⁻⁴	5.717x10 ⁻⁴	1.667x10 ⁻⁴			
Total emissions of non-hazardous waste (thousand tonnes)	20.0	21.0	19.0	16.0	11.4	15.3
Intensity of non-hazardous waste (tonnes per tonne of processed ore)	4.174x10 ⁻⁴	4.617x10 ⁻⁴	4.524x10 ⁻⁴			
Total amount of tailings and waste rock (million tonnes)	309.0	175.0	150.0	136.0	116.0	120.0
Waste rocks	264.0	132.0	111.0	98.0	78.0	82.0
Tailings	45.0	43.0	39.0	38.0	38.0	38.0

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

ENERGY CONSUMPTION	2022	2021	2020	2019	2018	2017
Total energy consumption (MWh)	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)	0.088	0.084	0.078			

COMMUNITY INVESTMENT	2022	2021	2020	2019	2018	2017
Total (RMB millions)	290.4	194.9	156.4	207.5	308.4	166.2

SUPPLY CHAIN MANAGEMENT	2022	2021	2020	2019	2018	2017
Total number of suppliers	4,642	5,434	4,009			
Number of suppliers by region						
Asia	839	794	648			
Africa	1,329	1,835	1,582			
South America	1,365	1,464	814			
North America	303	419	420			
Europe	104	171	152			
Oceania	702	751	393			

Standards and methodologies used in calculation:

1、 Greenhouse gases include carbon dioxide, methane, nitrous oxide 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、 NO_x, SO_x, 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.



Index I—ESG Content Index

HKEX ESG Reporting Guide	Disclosure	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	Greenhouse gas emissions in total (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	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.	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

B.Social

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	This is not a material issue for CMOC.
KPI B6.2	Number of products and service-related complaints received and how dealt with	This is not a material issue for CMOC.
KPI B6.3	Description of practices relating to observing and protecting intellectual property rights	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	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 Focus areas of contribution (e.g. education, environmental concerns, labour needs, health, culture, sport)	Community
KPI B8.1	Resources contributed (e.g. money or time) to the focus area	Community



Index II —GRI Content Index

Statement of Use	CMOC has reported in accordance with the GRI Standards for the period 1 January 2022 to 31 December 2022.
The Use of GRI 1	GRI 1: Foundation 2021
The Use of GRI Industry Guidelines	Not applicable

GRI Guidelines	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: 2022 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: 2022 Annual Report
2-10	Nomination and selection of the highest governance body	HKEx: Articles of Association; 2022 Annual Report
2-11	Chair of the highest governance body	HKEx: 2022 Annual Report
2-12	Role of the highest governance body in overseeing the management of impacts	Management Approach; HKEx: 2022 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: 2022 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; HKEx: 2022 Annual Report
2-20	Process to determine remuneration	HKEx: 2022 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 Guidelines	Disclosure	Location/Remarks
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: 2022 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	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 wasterelated impacts	Environment
306-3	Waste generated	Environment
GRI 308: Supplier-Environmental Assessment 2016		
308-1	New suppliers that were 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	Minimum notice periods 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: 2022 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 in which 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 that were screened using social criteria	Product
414-2	Negative social impacts in the 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 CMOOC, 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 site visits in April 2022 and February 2023, which between them 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.

ASSURANCE STATEMENT: Product Control and Custody at TFM

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)

14th March 2023

corporateINTEGRITY

ASSURANCE STATEMENT

The CMOC Environmental Social and Governance (ESG) Report for 2022 has been prepared by the management of China Molybdenum Co. Ltd. (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 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 2022 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 2022 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 operation, DRC in April 2022 and in February 2023;
- A site visit to IXM offices in Johannesburg in February 2023, South Africa;
- A site visit to CMOC Brasil operations in May 2022 and a follow up video conference review in January 2023; and
- A site visit to the Northparkes operation in Australia in August 2022 and a follow up remote review in January 2023.

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 2022.

ASSURANCE STATEMENT

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)
14th March 2023
corporateINTEGRITY



Address: North Yihe, Huamei Shan Road, Luanchuan County, Luoyang City, Henan Province, China
Tel: 86-379 68603993 | Fax: 86-379 68658017 | Mail: 603993@cmoc.com

