

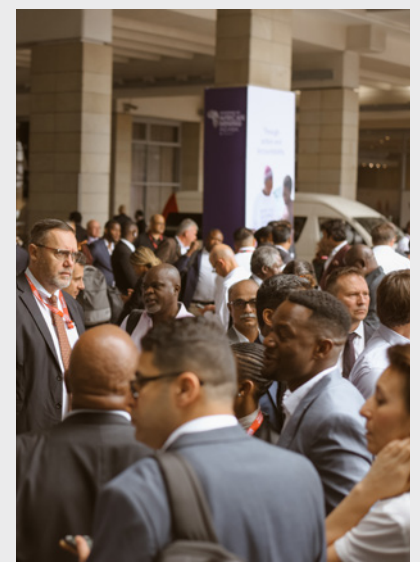
THE MINING PULSE

ISSUE 4 | THURSDAY 8 FEBRUARY 2024



Mining Indaba serves as a platform for stakeholders to discuss key challenges and opportunities, paving the way for collaborations and investments that unlocks Africa's mining potential.





TODAYS AGENDA

THURSDAY 8 FEBRUARY, 2024

INTERGOVERNMENTAL SUMMIT

Governments Stage

08:00 - 18:00

Maximising the Benefits of the Renewed Global Interest in Africa's Strategic Minerals

14:00 - 14:05

Closing remarks from conference chairperson and organisers

14:05 - 15:00

Networking Reception

GENERAL COUNSEL FORUM

Insiders Stage

08:20 - 09:00

Delegate registration & refreshments

09:05 - 09:10

Opening remarks and welcome from organisers and conference chairpersons

09:10 - 09:40

Opening Keynote

09:40 - 10:10

Presentation + Q&A - Jus Mundi Mining Arbitration Report 2023

10:10 - 11:00

Taking a step back - Current realities and opportunities in natural resources disputes (Sponsored by 3 Crowns)

11:00 - 11:40

GCs are a quarterback to geo-political risk

11:45 - 12:15

Refreshment break and networking

12:15 - 13:15

Quick Fire Updates + Q&As

13:30 - 14:00

"From GC to CEO - lessons from the journey"

YOUNG LEADERS

Disruptors Stage

09:00 - 09:10

Opening Address: What Young People Say They Want From Mining

09:10 - 09:40

This Is Your Life: A Personal Journey of Leadership in Mining

09:40 - 10:20

"There's Gold in Them There Hills": The Business and Future of African Exploration and Mine Development

10:20 - 11:00

New knowledge, new mining: the research and technology that drives innovation

11:20 - 11:40

Fireside Chat with the Winner of the Innovation and Research Battlefield

11:40 - 12:20

Critical Minerals, Decarbonisation, Infrastructure and Geopolitics: Is Africa on the Right Path to Maximise the Value it Receives from its Natural Resources?

12:20 - 13:20

Artificial Intelligence and Technology: The Promise and Threat to Building Careers for Mining's Future Workforce

Mine Supply - Outlook for 2024

SARAH TOMLINSON
Director of Mine Supply

Global gold mine supply in 2024 is forecast to increase by 127t or 4% year-on-year. Production is set to rise 54t in North America, 31t in South America, 15t in Oceania and 8t in Africa.

African production will grow by 8t in 2024, driven by a 19t rise from Ghana. Newmont's Ahafo will grow output through additional production from Ahafo North, while first gold pour at Shangdong Gold's Namdini is scheduled for Q4.24. In contrast, production in Burkina Faso is expected to be 10t lower due to lower output at IAMGOLD's Essakane, Lilium Mining's Wahgnion and Endeavour Mining's Mana.

Within North America, Canada is forecast to contribute 38t of additional production, largely due to IAMGOLD's Côte and Equinox Gold's Greenstone projects coming onstream. First gold pour

at these sites is expected in Q1.24 and H1.24, respectively. In the US, output will grow by 10t y/y with higher production forecast at existing mines.

At OceanaGold's Haile mine output will increase as the mine transitions to underground operations, while production at Kinross' Fort Knox is anticipated to rise with the introduction of ore from the Manh Choh project. In Mexico, production will increase by 5t y/y driven by the resumption of full operations at Newmont's Peñasquito. The labour strike at the mine ended in October 2023 following a definitive agreement being reached between the company and the union.

Higher gold production from South America is mostly due to Brazil, Argentina and Chile, all of which are expected to see a 7t production increase y/y. In Brazil, output will be underpinned by Hochschild's Mara Rosa project from which first gold is anticipated in

H1.24, and Vale's Salobo which is expected to ramp-up to full capacity by Q4.24. In Argentina, output at Newmont's Cerro Negro mine is projected to climb as production from the District Expansion 1 project ramps up. In Chile, first gold pour from Gold Fields' Salares Norte is forecast for Q2.24, with production ramping up throughout 2024.

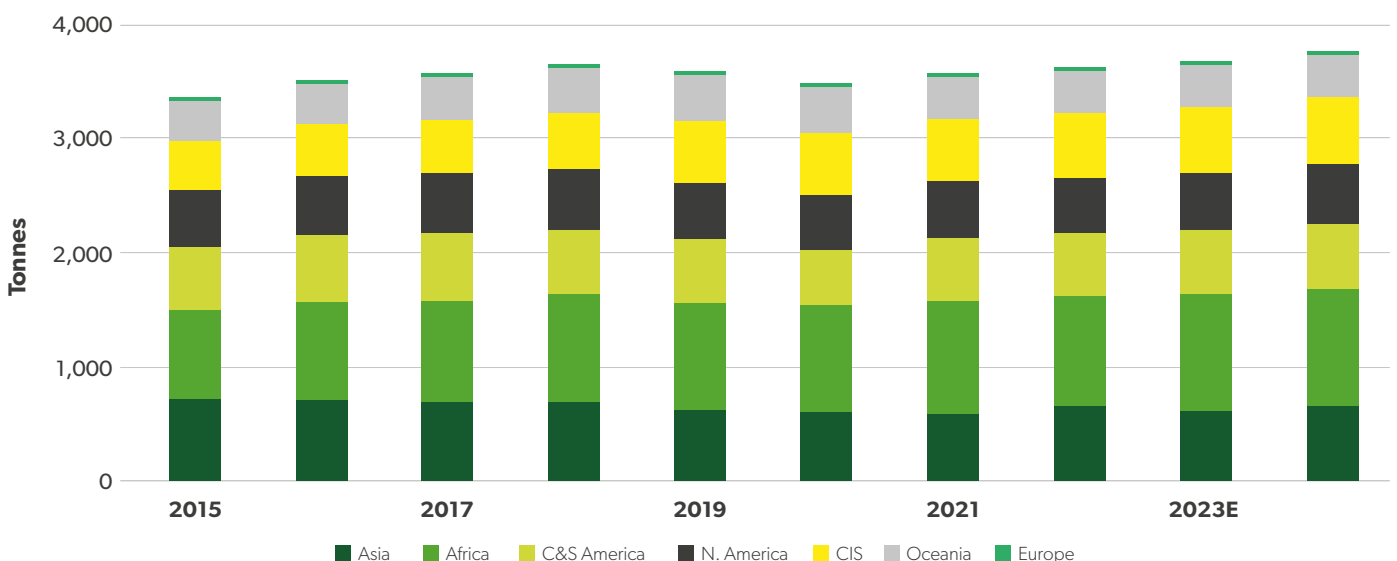
Production from Oceania will increase by 15t y/y driven by additional output from Australia and Papua New Guinea (PNG), at 3t and 9t respectively. In Australia, Newmont's Tanami Mine is forecast to complete its expansion project in H1.24, leading to an annual production increase of 5-6t.

Northern Star's KCGM expansion project is ongoing, with additional output anticipated in 2024. In addition, Evolution Mining's Cowal underground project is expected to reach commercial production in Q1.24. In PNG,

Barrick Gold's Porgera is set to resume operations after the government granted a special mining lease following the signing of a mining development contract and a fiscal stability agreement. Recommissioning began in Q4.23 and Barrick aims to restart operations during Q1.24.

In Asia, supply from China, the world's largest producer of the yellow metal, is expected to remain flat year-on-year at 375t. Headwinds to production are lower ore grades from older operations and stricter regulations in establishing new mines. Production from the CIS region is projected to fall by a modest 2t y/y in 2024. In Russia, output is expected to fall by 5t, stemming from lower production across a number of mines, with Polyus Gold's alluvial production and Olimpiada Mine projected to decrease by 2t each. Likewise, in Europe, output is also expected to drop by 2t y/y, due to lower production from Serbia.

Global Gold Mine Supply



AOW

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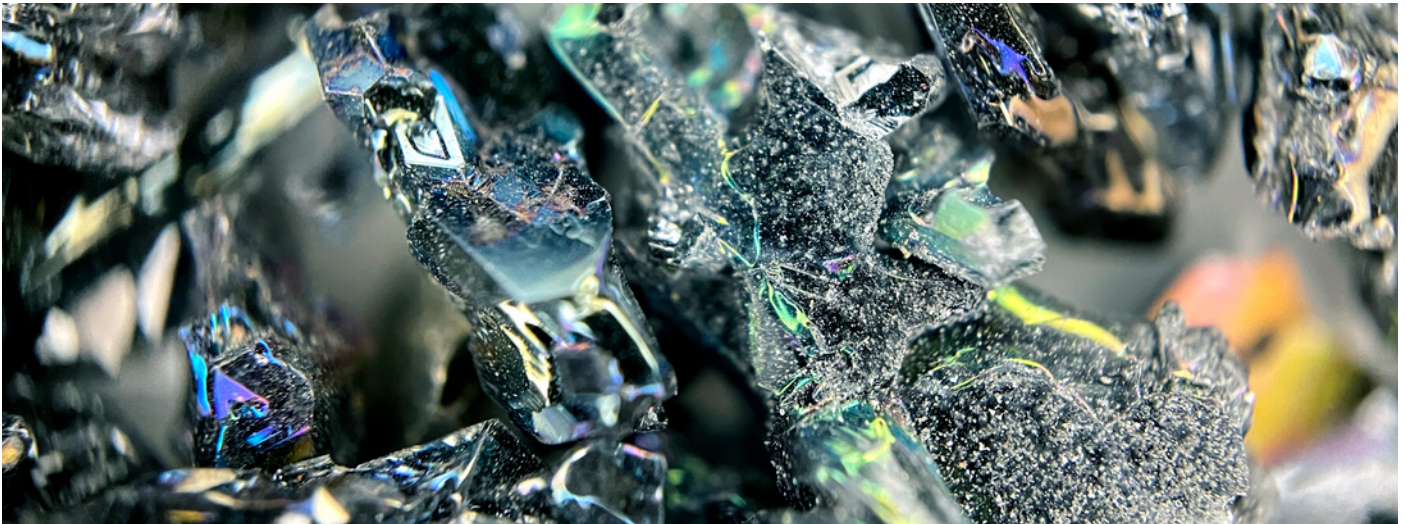
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Sibanye-Stillwater to cut PGM output by up to 60,000 oz/year



DAVID MCKAY
Miningmx

SIBANYE-Stillwater is to cut up to 60,000 ounces of annual platinum group metal (PGM) production as part of restructuring plans which were being “wrapped up,” said group CEO Neal Froneman.

“It is a very small impact on production,” he said in an interview on the sidelines of the Mining Indaba conference in Cape Town. Sibanye-Stillwater is expected to produce 1.7 to 1.8 million oz of PGMs from its South African assets for its 2023 financial year.

Sibanye-Stillwater issued a

Section 189 restructuring notice in October which it said could affect more than 4,000 employees in its South African PGM business. Three shafts will be affected as previously announced: B4 and Rowland shafts in the Marikana (former Lonmin) section, and Siphumelele shaft in the Rustenburg Mines business.

“B4 and Rowland shafts were part of Lonmin that should have been closed at the time of our acquisition of the company (in 2019), but we agreed to keep them open; in the case of B4 shaft two years longer than we planned,” said James Wellstead, spokesperson for Sibanye-Stillwater. Employee numbers at Siphumelele shaft have to be reduced after areas were previously closed following seismicity.

Froneman also said another round of restructuring at Stillwater mine, its US-based palladium/platinum operation had been concluded. In terms of this, Sibanye-Stillwater would not expand production to 700,000 oz/year by 2027. The 40% plus decline in the palladium price had placed enormous

pressure on Stillwater, but Froneman said Sibanye-Stillwater would not bow to pressure to close the mine. “It has too much strategic importance for us,” he said.

Sibanye-Stillwater is due to announce its full year results on March 5 which analysts fear could see a \$6bn cash outflow. Froneman dismissed the speculation: “That’s if we were to do nothing but we have announced cost saving measures,” he said.

Nonetheless, the results are expected to be grim reading for investors after bumper profits for the firm’s 2022 financial year.

The group courted further controversy in November when it announced a \$500m convertible bond aimed at financing its growth, including the \$155m acquisition of the US metals recycling company Reldan Group.

“It was a perfect time to do the corporate bond; I would have done one earlier but hindsight is a perfect science,” said Froneman who added now

was the time to make further acquisitions as valuations were down. The lithium price fell about 80% last year to around \$12,000/t while the nickel price is also under pressure. In both metals, new major supplies have come into the market.

According to Morgan Stanley, mined supply of lithium is expected to increase to 1.37 million tons this year from 1.02Mt in 2023. Of this about 114,000 tons and 62,000 tons – about half – will come from China and Zimbabwe respectively. It will swamp new demand leading to a 157,000 ton surplus, the bank said.

“Now is absolutely the time to look for new opportunities, new acquisitions,” said Froneman who added, however the company wasn’t working on a specific deal at the moment.

He also said he didn’t fear for the firm’s Keliber mine in Finland which is scheduled to produce its first lithium this year. Given its location to Europe, buyers would be prepared to pay a premium for the mineral that China currently controls, he said.



DISRUPTIVE DISCUSSIONS THAT DEFINE THE FUTURE

MITV is your go-to platform for disruptive discussions that signifies the industry's commitment to embracing innovation and driving positive change for the future of mining.



Christer Mhingo, Director, Ecograf Limited (Duma TanzGraphite Limited)

Tanzania's mineral potential is on an upward trajectory when compared to neighboring countries that have begun developing critical mineral projects. Tanzania has implemented policies governing the critical minerals development process, which has attracted international investors.



Hon. Samuel A. Jinapor, Minister for Lands and Natural Resources, Republic of Ghana

Ghana's small-scale or artisanal mining industry accounts for 40% of gold production and has surpassed South Africa as the largest contributor. The small-scale mining industry is critical to Ghana's economy, and efforts are being made to expand and formalise it.



Sinued Kaufman, CEO, Rio Tinto Minerals

Positive disruption is the ability to demonstrate that collaborating with others can be done successfully for all parties involved. In mining, you can have strong ESG, have great environmental credentials, or have a well-run organization. The disruptive thing to consider is doing both and resulting in a win-win situation for everyone involved.

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People crucial to making tech work



GERARD PETER
Mining Review Africa

While technology continues to bring positive disruption and is making operations more productive, safer and sustainable, it is only when you get buy-in from the human workforce that you can optimise innovation.

According to Baletsema Mining Services' Operations Director, Mahlodi Kelepa, many technology companies recognise the importance of considering the human aspect in innovation as the consequences of not doing so are greatly understood. "User experience, accessibility and

ethical considerations are often integral parts of the development process to create solutions that align with user needs and societal values," she explains.

Kelepa observes that many companies face challenges when taking their people along on the technology journey. "Most companies struggle to efficiently take the people aspect into account when implementing new tech solutions as it requires strategic planning and patience. Also, people do not have the same IQ and EQ levels, hence it is important that everyone must be accommodated."

Getting buy-in from the human workforce when adopting new technology is crucial for several reasons. Firstly, it fosters a positive work culture in the organisation by involving employees in decision-making, making them feel valued and engaged.

Secondly, it helps identify potential challenges or concerns earlier on in the process, allowing for smoother implementation of the technology, rather than

running for months trying to implement the technology and only noticing much later in the process that it is not suitable for the problem that it's meant to solve. Thirdly, when employees understand the benefits of new technology, they are more likely to embrace and use it effectively, maximising its potential impact on productivity and efficiency.

A collaborative effort

Traditionally, the development of upskilling and mentoring employees was the responsibility of the HR department. However, Kelepa points out that when it comes to implementing technology effectively, it needs to be a collaborative effort.

"HR is responsible for recruiting the right people but you also need to factor in the training department, which is responsible for making sure that the people are trained adequately, as well as the operations team that is responsible for ensuring that what employees have been trained to do, is implemented effectively. The latter's input is crucial as they understand the

company's requirements and engage with those at the coal face daily."

According to Kelepa, the most effective way to get buy-in from employees is to take the 'bottom-up' approach, meaning engaging with the workforce at an operational level before making suggestions to senior management.

"This approach can get employees involved in any new technology solutions which require their buy-in."

"When people understand the 'why' aspect of the technology and they are fully involved in the process, they feel technology exists on the mine because of their input, hence they embrace it with pride."

Also, mining companies need to accept that their core competency is mining and not organisational human aspects. Therefore, they need to invest in getting adequate assistance from professionals. Only then, will technology be fully embraced by employees.

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Threat of climate change has transformed the image of mining

by Mining Weekly

The need to reduce global carbon emissions, to counter climate change, has transformed the public image of the mining industry, because of the urgent need to ramp-up the production of clean energy metals. So highlighted International Council on Mining and Metals (ICMM) CEO Rohitesh Dhawan, speaking at a panel discussion jointly organized by Webber Wentzel and Fraser Alexander, on the fringes of Mining Indaba 2024, in Cape Town.

“There has been a fundamental change over the past two years,” he affirmed. “Wider society now sees its future wrapped up with mining. The need for minerals for the energy transition – that has allowed people to see the importance of mining. We have a once-in-a-generation opportunity to change the relationship between the industry and society.”

“Our mission at ICMM is to make responsible mining the norm,” he stated. One issue that had emerged as a stumbling block was “complexity”. There were just too many different performance (as distinct from reporting) standards for the mining industry in the world today, making it difficult for multinational mining groups to establish and maintain consistent group-wide standards.

However, ICMM, which had issued its own environmental, social and governance (ESG) standards, was working with the originators of three other major ESG standards, to try and bring them all into alignment, to create a single consolidated performance standard for responsible mining. “It’s a huge effort,” he reported. “We’re going to take a really good shoot at this.”

With climate change being one of the biggest threats facing everyone, with the

realisation of the importance of decarbonization, coupled with shortages in supply of the critical minerals needed to achieve decarbonization, had led to the mining industry being seen as part of the solution, also emphasized mining group Sibanye-Stillwater CEO Neal Froneman, speaking in the same discussion. This had put the industry in a better place.

Sustainability could no longer be an add-on concept for the mining industry, he cautioned. “The key message has to be – integrate it into your business.” Sibanye-Stillwater did not have a sustainability strategy, it had sustainability as its strategy.

He noted how his group had started out as a gold producer, then became a precious metals miner by diversifying into platinum group metals (PGMs) and was now a green metals producer, adding nickel, cobalt and lithium to its production and refining

portfolio. The company had done so because it had identified the opportunities presented by the development of electric vehicles.

His group was unusual in being active in three different segments: primary (that is, traditional) mining; secondary mining (reprocessing tailings and waste dumps); and “urban mining” (recycling). The company was already the biggest recycler of automotive catalytic converters in North America. In fact, on that continent it produced more ounces of PGMs from recycling than from primary mining. Sibanye-Stillwater was going to expand its recycling business, which was much more efficient than primary mining.

As for the future of the mining industry, he affirmed that it should create zero harm for people, be sustainable, and attractive to young people. “It’s really all about good resource stewardship.”

SOCIAL MEDIA “POSITIVE DISRUPTION” CONTINUES



Join the mining community and share your insights and experiences at Mining Indaba to contribute to the ongoing conversation.

X @ #MI24 #MiningIndaba2024

Gwede Mantashe, Minister of Mineral Resources and Energy, South Africa

Menar, through its subsidiaries, committed to invest about R7 billion in coal and anthracite projects in Gauteng, Mpumalanga, and KwaZulu-Natal. Just over a week ago, the company broke ground and produced first coal at its new Gugulethu Mine. #MiningIndaba #InvestSA #MI24

Sheila Khama, Executive Advisor: Africa, Mining Indaba

Speaking to President Joe Biden’s Man. My conversation with President Biden’s Advisor on Energy and Trade @ amoshochstein at #MiningIndaba2024 offered a glimpse of Washington’s policy swift.

The Deputy Minister of @DMRE_ZA

Dr Nkabane Pamela addressed the #WomenInMining session this morning, where she encouraged women to defend the transformative gains made in the mining industry.

Natural Resource Governance Institute

“Energy transition debate is complicated in Africa. Poverty (incl. energy poverty), unemployment, development needs mean people don’t trust narratives, especially as extractive companies haven’t met commitments around, e.g., contract transparency

ICMM

We’re excited to introduce our reclaimed metal sculpture of a flamingo at @MiningIndaba. This majestic bird marks the harmony we seek with nature by standing for three powerful ideals:

1. Remembering the past.
2. Protecting and restoring nature today.
3. Creating a nature positive future.

Leon Louw WhyAfrica

“Zambia is now one of the best mining jurisdictions in the world,” says Roger Murphy, MD of Zamara Minerals at Mining Indaba #whyafrika #MI24 #africa #zambia

MTN Business SA

The adoption of 5G private networks within the mining industry has experienced remarkable growth. At this year’s @ MiningIndaba, we’re showcasing advancements that will further revolutionise the mining sector.

@Joburglawyer

If there is one message that’s coming out of the Mining Indaba it is the rapidly growing importance of Africa which has the resources to fuel the future needs of the world. With the right government policies SA could be a significant mining player once more.

Ivanhoe signs 250kt/y copper rail deal for Lobito Atlantic corridor

BRENDAN RYAN
Miningmx

IVANHOE Mines, which is developing the Kamoakakula copper complex in the Democratic Republic of Congo (DRC), has agreed to rail up to 250,000 tons of copper annually to the Angolan port of Lobito along the newly-established Lobito Atlantic rail corridor.

Announcing this today at the Mining Indaba being held in Cape Town, Ivanhoe founder and executive co-chairman Robert Friedland said: "This transformative economic corridor will unlock more copper projects due to lower logistical costs.

"Cheaper logistics increase

the amount of economically recoverable copper across the Copperbelt as cut-off grades can be lowered.

"This makes a significant impact on discoveries made in the DRC such as the recent high-grade and open-ended Kitoko copper discovery in the Western Foreland where we are stepping up exploration activities this year. Kitoko is located only 30kms from the existing rail line."

The Reserve Capacity Agreement reached will allocate Kamoakakula the right to transport along the Lobito Corridor a minimum of 120,000 tons and a maximum of 240,000 tons annually of copper blister-anode or concentrate. Initial trial

shipments along the line began in December last year.

Friedland made it clear in his presentation that development of the copper resources of the DRC is crucial to meeting the huge surge in global demand for copper to meet alternative energy requirements as well as rocketing military demand for the metal.

He repeated previous estimates that the world would require 700 million tons (Mt) of copper to be produced in the next 22 years which was about the same amount of copper that had been produced historically since 4000BC. "Where the hell is this metal supposed to come from and how are we going to mine it?" he asked.

He commented that most of this metal would have to be mined in Africa which is home to an estimated 30% of the world's remaining mineral resources and he described the DRC as "the epicentre of mining on this planet".

Friedland pointed out that global copper supply was actually declining at present commenting, "We lost more than a million tons of copper supply just this year."

He added that the current copper price was not high enough to justify building environmentally sound major copper mines at high elevations in South America where many of the world's current major copper mines were situated.



CMOC
CMOC Group Limited

A global metals producer with a diversified portfolio on four continents – Asia, Africa, South America and Europe – CMOC is a major producer of tungsten, cobalt, niobium and molybdenum, as well as a major producer of copper.

Annual figures of 2023 show that the Group is the world's leading producer of cobalt. Annual production has reached 419,539 tonnes of copper and 55,526 tonnes of cobalt.

CMOC conducts its operations in strict compliance with ESG rules. The Group has been awarded the MSCI ESG AA rating in recognition of its compliance with the highest international ESG practices. CMOC is listed on the Shanghai and Hong Kong stock exchanges.

With a particular focus on metals vital for new energy sources, CMOC is developing the copper and cobalt mines of Tenke Fungurume Mining and Kisanfu Mining in the DRC. At the same time, the Group has forged a strategic partnership with CATL to create ACC in the same region.

CMOC promotes the value chain in Africa, South America and remains a reliable source of supply capable of meeting the demand for metals in the global energy transition.

TENKE FUNGURUME Mining
Tenke Fungurume Mining SA (TFM)
One of the world's largest producers of copper and cobalt. The commissioning of new units has brought significant impacts on CMOC Group's overall metals output.

KISANFU MINING
Kisanfu Mining SARL (KFM)
Phase I of the KFM project, annual production exceeding 113 thousand tonnes of copper and 33 thousand tonnes of cobalt.

ACC Value Chain Limited
ACC Value Chain Limited
Joint venture between CMOC and CATL. ACC plans to invest in the development of the value chain for metals used in electric batteries.



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