GLOBAL BUSINESS REPORTS

MACIG

MINING IN AFRICA
COUNTRY INVESTMENT GUIDE

2026

Dear Readers,

In the 12 years that GBR has published its annual *Mining in Africa Country Investment Guide* (MACIG), some African countries have emerged as leading mineral producers, while others have slipped into the twilight as they traversed the various commodity and political cycles. This year we have included 25 countries, some for the first time, as more parts of Africa have become relevant, if not indispensable, in the supply of almost every commodity.

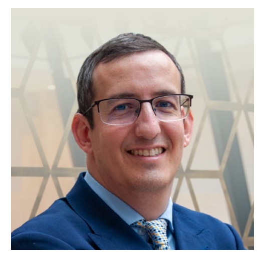
Today, African mining opportunities attract a much broader universe of interest, with a growing and diverse capital pool closing in on the financing puzzle, as discussed in Part 1 of this report, which also examines how the systematic undervaluation of assets on the continent, known as the ‘African discount,’ influences project development and whether the boom in commodity prices helps reduce valuation gaps. The value of assets may be marked down in capital terms, but their impact on the ground is outsized on a continent where mining serves as a main development tool, a topic we cover in the ‘Multiplier Effect’ article.

In the Commodities section, record gold prices see juniors rushing toward the milestones that drive the biggest valuation jumps, while producers employ anti-cyclical strategies. In the Critical Minerals chapter, we discuss how interventionist tactics give rise to new fundamentals that overlay traditional supply and demand. The Iron Ore and Bauxite article unpacks the implications of Africa’s biggest-ever mining project, Simandou, on opening new logistical corridors for bulk commodity development. Coal mining is caught between contradicting pressures and indecisive policies, while uranium developers wait for a more incentivizing price to unlock investment. The value of natural diamonds, meanwhile, is being artificially pumped up through marketing, a tactic that may still not be enough in the competition with lab-grown stones.

In Part 3, we provide the political and economic context of 15 mining jurisdictions, divided by region. In West Africa, increased cross-regional transactions lead to the emergence of new hubs, such as Côte d’Ivoire, whereas neighboring countries have been wrapped in a wave of recent coups d’état. The coup belt coincides with the most prolific gold belt on the continent, but there are new contenders, such as Liberia and Sierra Leone. Moving south, the continent’s once-leading jurisdiction, South Africa, has tough choices to make to arrest the downward trend in its smelting sector. Namibia, seen as a premier African jurisdiction, risks being read as overly premium as new fiscal rules are drafted, while Zambia has done everything right by international investors’ standards, to the extent that some locals see the current leader as “a president for foreigners, not Zambians.” In East Africa, Tanzania’s post-election unrest and the ensuing violent crackdown have stained the country’s reputation, while Malawi has the chance to expand from an agro-economy into a mining jurisdiction.

In the Supply Chain section, we look to the EPCs to better understand the transition to more complex mining - deeper, lower-grade, polymetallic, refractory deposits, as well as secondary mining from tailings. For drilling and blasting contractors, it is all about location arbitrage to make the most of the current exploration and mining fever. Competition in the equipment space has moved well beyond products, to include local training, partnerships, financing and digital tools. The deregulation of energy markets and the growing uptake of PVs have given rise to new actors, freeing mines from dependence on a single utility.

We hope the following pages provide an insightful, accurate and useful guide to Mining in Africa today, and we thank over 170 interviewees that shared their time and knowledge with us. It has been a fascinating privilege to have access to these evolving stories, year after year.



Alfonso Tejerina
Director and General Manager
GLOBAL BUSINESS REPORTS

Use QR codes in this book to access extended content online.

CONTENTS

Investment

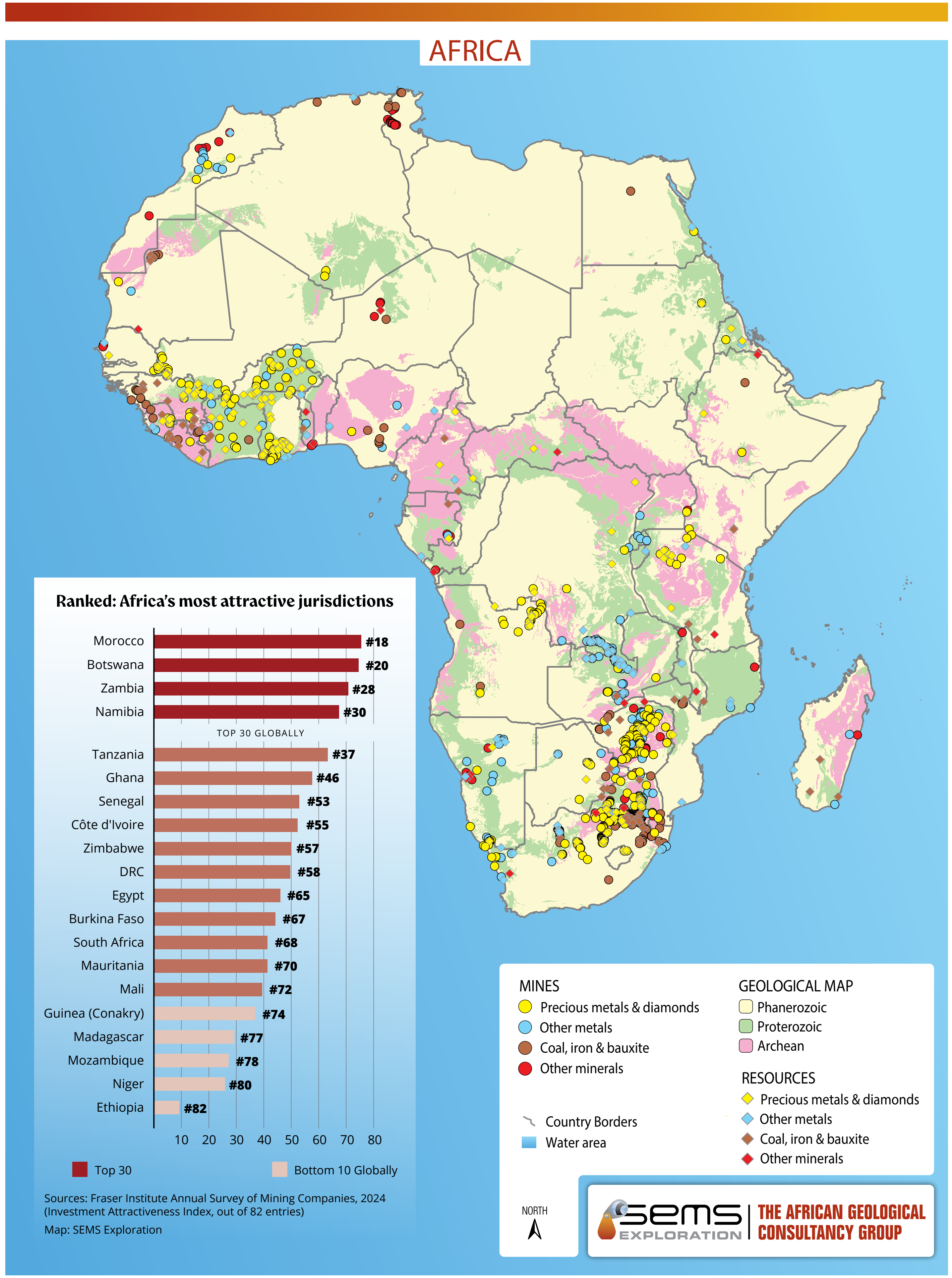
Commodities

Countries

Supply Chain

All interviews for the book were conducted between May and December, 2025.
Research conducted by Lorena Postelnicu-Stancu and Salma Khaila. Edits by Mungo Smith. Graphic Design by Kaori Asato.

A Global Business Reports Publication
For updated industry news from our on-the-ground teams around the world, please visit our website, where you can subscribe to our newsletters, and follow us on Linkedin and Twitter: @GBReports



INVESTMENT

"We recognize evolving expectations from communities, the government and local partners. Our own expectation is to find the path that creates the most value for all stakeholders, because value locked in the ground cannot benefit anybody."

Danquah Addo-Yobo
Country Manager
NEWMONT (GHANA)

Image courtesy of Kinross

Image courtesy of Kinross

"This is Africa"

The continent's positioning in global portfolio choices

There are many situations in Africa that call for the colloquial "TIA" comment – "This is Africa" is a common response to scenarios like a sudden power drop, a delay in a permit, or a blocked road by a tipped-over tuk-tuk carrying a fridge or other oversized items. But there are nuances to it: Foreigners apply the phrase with sometimes condescending, resigned frustration, while locals usher it with a wry shrug, in a sign of forbearance. In the mining sector, "TIA, TIA," the second one muffled, is a filler we hear sometimes from our interviewees for lack of a better answer on a particularly troubling topic, such as the undeniable political decline in a certain jurisdiction. In those cases, treating Africa's problems with a tinge of irony is the harmless, necessary approach to move forward. But there are times when carrying on with business as usual in the face of a TIA-testing moment is simply not possible.

Barrick Mining recently found itself in such a situation. On November 24, Barrick Mining announced: "We have entered into an agreement that puts an end to all of the disputes with the Government of the Republic of Mali regarding the Loulo and Gounkoto mines." The brief press release also informed that the government would drop charges, and Barrick itself will withdraw arbitration claims. Operational control over the Loulo-Gounkoto complex has been handed back to Barrick. The single paragraph, with exact, hackneyed wording, is the denouement to a year-long dispute that began with an African government deciding its largest investor was not paying its full duties according to the newly introduced mining code. After cogitations unavailable to the public eye, it turned into a story where the world's second-largest gold producer surrendered to the government's requirements in order to recover the seized assets.

The standoff is officially over, but not without broader implications that continue to unravel, revealing the complexities of mining in Africa. One of them, which will be treated throughout this report, is the evolving nature of the relationships between host governments and mining investors. The times when African countries lured in investment with cushiony frameworks are past; bygone is also the trick of paying a hefty check to pre-empt any dispute escalations. African governments are no longer compunctious about demanding more. Most glib congeniality and niceties are dropped too. The official Barrick note has no mention of partnerships, only the neutral "This will pave the way for a constructive path forward," quite far from the reconciliatory tone of Mark Bristow's declarations a year ago.

◆ **Tasiast, A Top Tier Asset in The Kinross Portfolio**

- **622,394** ounces of gold produced in 2024.
- **25%** contribution to Kinross's total gold production.
- **Over 4,000** direct and indirect employees.
- **Approximately 98%** of the Tasiast workforce is Mauritanian.
- **+86%** increase in female representation (2020-2024).

"Since Kinross acquired Tasiast, the mine has produced over 5 million ounces of gold and has a strong future of substantial low-cost production. Over the past 15 years, Kinross has invested more than US$4 billion in Mauritania."

J. Paul Rollinson
Chief Executive Officer
Kinross Gold Corporation

The major dispute that has been gnawing at Barrick's performance for over a year – and is said to have cost the Canadian company about US$1 billion in lost revenue – led to the abrupt departure of Mark Bristow, the emblematic South African CEO who built Randgold as a pure African business before merging with Barrick Gold (now rebranded as Barrick Mining). But the most interesting change is Barrick's potential split between its American assets (in Nevada and the Dominican Republic), which would be IPO-ed under a new entity, for now referred to as NewCo, whereas the African assets, alongside Barrick's newest venture in Pakistan called Reko Diq, would remain under Barrick's portfolio. According to the company, NewCo would represent "some of the best gold mining jurisdictions," putting NewCo "in a league of its own." As for the other side of the portfolio, it remains to infer they would represent the riskier assets, hazarded to being pitch-forked into crisis overnight, as it so happened in Mali.

Barrick's potential sunder between the African portfolio and the steadier universe of American assets suggests that companies that are imprudently fully African belong to an altogether separate league; one that attracts a different type of investor – the kind that followed the growth of Randgold from a 10-million CAD company in 1995 into a 24-billion CAD market cap after the merger with Barrick Gold in 2018. But also the kind that knows the risks. Randgold started with Africa, and the company's maker was a Malian asset. Interestingly, Barrick dropped the "Gold" from its name and said goodbye to its leader, but cannot leave the region.

This year, we have seen a global portfolio reshuffle led by the top tiers. As part of a global streamlining exercise following the acquisition of Newcrest, Newmont has shed several global assets, including Akyem in Ghana, focusing instead on the Ahafo South and Ahafo North mines in Ghana. Barrick itself has just sold the Tongon mine in Côte d'Ivoire, a mine built in 2010 and seen as a beacon of hope in the country's post-civil war reconstruction, as well as a symbol of Bristow's excellent negotiating skills during political crises. These two players exhibit a shift to exclusively tier-one assets. Other portfolio recalibrations speak of a preference for pure-play and the disintegration of highly diversified portfolios. South African stalwart Anglo American went through a major restructuring, acquiring Centamin and its flagship Sukari gold mine in Egypt, while letting go of several non-core assets. Its platinum business was demerged into a new entity, Valterra, this year. In the past, Anglo also separated its businesses in iron ore (into Kumba Iron Ore), coal (into Thungela Resources), and diamonds (into De Beers).

So how does the continent fare in the global assessment of mining assets, and do negative narratives like high-profile disputes, as seen in Mali, narrow investors' latitudes?

By way of endowment, discovery rate, and cost of discovery, Africa is simply unbeatable. A study by Guj et al. (2025), published by the World Bank, shows the average cost of mineral discoveries over the past 10 years in Africa averages US$154 million per discovery, against US$219 million in the rest of the world. That number varies significantly within the continent, with the low-

Insights

Approaching Africa

High-level business strategy advice

"The reality is that the remainder of the global critical minerals are not located in historically low-risk jurisdictions. The final decision will be driven by whether the companies are private or listed, their experience operating in harder jurisdictions, and ultimately their risk perception and risk appetite."

Johan Coetzee, Strategy and Consulting Lead for Resources, **ACCENTURE SOUTH AFRICA**

"One must weigh whether a confirmed, easy-to-mine deposit in a challenging African jurisdiction is better or worse than an uncertain underground prospect in a jurisdiction like Western Australia. Asset quality needs to be balanced against perceived risk, and each investor decides which is more valuable."

Sherif Andrawes, Global Natural Resources & Energy Leader, Partner, Deal Advisory, **BDO (AUSTRALIA)**

"Geopolitics has set Africa up incredibly well, as access to minerals has become a key priority for nations around the world. African countries should be using all the available development financing and support to create a policy and infrastructure environment conducive to resource and GDP growth."

Peter Clearkin, Global Lead for Mining, **BCG**

est costs (US$55 million) in East Africa, and highest (US$399 million) in North Africa. According to the same source, between 2004 and 2024, Africa accounted for 31% of global gold discoveries, 13% for copper, 8% of nickel, 31% of uranium, 81% of diamonds, 17% of iron ore, 26% of coal, and 8% of lithium.

According to Johan Coetzee, strategy and consulting lead for resources at Accenture in South Africa, companies will look first at the commodity, and then at the jurisdiction, in most cases at least: "If a particular commodity happens to be located in a higher-risk jurisdiction, there is always going to be an internal conversation about whether that jurisdiction is really risky, or whether the company itself needs to change its risk appetite. The reality is that the remainder of the global critical minerals are not located in historically low-risk jurisdictions."

Most people agree that "easy mining" is over. And they do not just refer to ore bodies. Mining has entered a more complex era, one of higher environmental and social pressures, greater governmental expectations, closer integration with other value chains (such as tech firms in the uranium mining and nuclear fuel cycle or carmakers in the battery EV chain), and geopolitical interests and interference tapestried in the resource sector. A visual infographic prepared by the Northern Miner and Mining.com called "Copper spheres of control" demarcated between the American Sphere, Chinese Sphere, Russian Sphere, and Coalition of the Willing (Australia, Canada, parts of Europe); it found that African copper (from the DRC and Zambia) falls under the Chinese Sphere, with several other countries, like Mauritania, Morocco, Namibia and Botswana, currently "Undrafted" – a category that will be contoured one way or another in the coming years.

Current geopolitics are favourable for Africa, according to Peter Clearkin, global lead for mining at BCG. In a paper called "Harnessing Africa's Critical Mineral Opportunity," Clearkin calls 2025–2035 Africa's Critical Decade: "It is a great time for Africa to take advantage of the geopolitical tailwinds – the question is whether

James Smith, CEO, **DRA GLOBAL**

"Mining is becoming increasingly complex. The industry faces greater sustainability pressures, orebodies are more difficult to mine and process, and we all have a duty to do so in a sustainable way that fosters inclusive and equitable engagement with communities."

the continent is setting itself up properly. I am worried that, rather than using this new resource demand wave to grow the pie, too much attention is being given to how to take more of it. Countries in the region should be using all the available development financing and support to create a policy and infrastructure environment conducive to resource and GDP growth. By doing so, they could double, triple, or quadruple the resource and potential downstream value," he said.

On that question of how specific governments set up for investment, we will look at specific cases in section 3 of this report (Countries), because neither Mali nor any other specific African country can exemplify the entire continent. But there is one more factor, beyond commodity, costs and jurisdictional risk that matters in assessing mining opportunities in Africa, and that is the quality of the leadership team. According to Dean McPherson, head of business development for global mining at the TSX and TSXV, the top factor that differentiates companies that are successful in the market from those struggling is the management, followed by project and jurisdiction.

African projects require, to an even greater extent, the endorsement of an experienced team to buffer risks. If we look at the most supported stories, particularly in the junior segment, we find familiar executives with long experience in the continent. For example, Peter Marrone, the CEO of Allied Gold, formerly led Yamana Gold; Matthew Sharples and his team were behind the Kiniero project in Guinea (now entering production under Robex Resources), and now lead Asara Resources; Caigen Wang successfully developed and sold Tietto Minerals in Côte d'Ivoire and is now repeating the exercise, in a much faster way, at the helm of Aurum Resources; the new Guinean venture DeSoto Resources is led by the founder of Predictive Discovery; Heye Daun was appointed CEO at Koryx Copper, a Namibian copper developer, following his gig as founder and CEO of Osino Resources, sold last year; and Sam Hosack and his team refocused on copper and Zambia after successfully selling their lithium project in Zimbabwe.

Investors take refuge in this pattern of replicating tested models of execution. "When operating at this high-risk end, investors are looking for track record," Paul Roberts, the chairman of DeSoto Resources and formerly CEO of Predictive Discovery, said. "Our strong support is at least partly, if not wholly, due to the success the DeSoto team had with Bankan in Guinea. Once explorers get more advanced and start drilling out a resource, they get attention, but at an early stage, it is the people behind the company that matter the most."

This year has been marked by many high-profile leadership changes due to different conjectures. Besides Bristow's departure, companies like Rio Tinto, South32, Sibanye-Stillwater, and Newmont have appointed new CEOs. Perseus' long-time CEO, Jeff Quartermaine, also stepped down this year, handing over the fully African gold operations to Craig Jones. Our readers will also note many leadership changes from last year at the junior and development level – companies like Giyani Metals, Peak Rare Earths, Atomic Eagle, Aura Energy, Lindian Resources, Orion Minerals and Deep Yellow, among others. These changes point to a dynamic segment of transitions in ownership, strategy, and development phase (with some new appointees moving from exploration into construction), consistent with the global portfolio reshuffling drive mentioned before. The departure of a long-standing leader can severely impact share performance, as was seen with Deep Yellow's stock after the announcement of John Borshoff's retirement. In other cases, it can carry with it renewed interest in a stock.

Regardless of the reasons for these changes, we wanted to bring in the perspective of a specialist in recruitment on what is important to keep in mind when it comes to succession planning and choosing the right CEO. Nichole McCulloch, managing director at executive search company Stratum International, shared her perspective: "Companies focus on the retirement of a 60-year-old CEO in the next five years, but they do not make contingencies in case that CEO gets arrested, has a heart attack, or decides to move to India to live among the Buddhists. Anything can happen, so mining companies must think about the plan for today, five years, and 10 years from now. A good succession plan must also take into account external talent."

Lastly, McCulloch speaks about the leadership qualities the industry needs: "One of my main critiques of the sector when it comes to leadership changes is that appointments are terribly predictable; boring, frankly. As an industry, we lack inspirational and innovative leadership, the kind of leaders who attract more people into the space. In other sectors, we see disruptive CEOs who excite and often polarize people. There is no sector more critical than ours. Yet as a space, we are one big echo chamber repeating the same things for the same audience and without more provocative leadership, we will not reach those stakeholders outside of our main demographics."

We can add that Africa needs leaders with skills that go beyond operations or capital markets and that can engage in hyper-sensitive matters, people with experience in the continent that communicate trust, and that can say "This is Africa," almost like a local, understanding that challenges are not inherent or immovable. ■

Image courtesy of Fortuna Mining

Undervaluation

The African discount

It would go against both the instinct and duty of any mining CEO to claim that his company is ever fully valued. In Africa, the inclination to think an asset would be worth more if located in a more market-favoured jurisdiction reflects more than executive bias, but a broader market bias, known as the 'African discount'. On a case-by-case basis, it goes something like this: "If we had 1 million oz at 2.5 g/t in Kalgoorlie, Australia, we would not be an AU$120 million company, but AU$300 to 400 million in market cap," said Adam Oehlman, the CEO of African Gold, an explorer whose 1 million oz gold project in question, Didievi, is located in Côte d'Ivoire.

Since this conversation took place, African Gold has grown into an AU$360 million market-cap company and is to be fully acquired by Montage Gold, a C$3 billion company. The rapid rerate does not cancel the premise of our article, which is to analyse whether the markdown is proportionate and how the implied penalty influences mining sector behaviour, but it does give away two early conclusions: That heavily discounted African assets bring steep upside; and that a boom commodity cycle does help reduce the valuation gap for African stocks.

To start with, it's important to establish that the African discount is a pattern and not a company-specific issue. According to Crux Investor, West African gold stocks have historically traded at between 40 to 80% lower EV/EBITDA multiples compared to their North American and Australian peers. A recent BMO Capital report also found that African assets trade at a 30% discount to Australian equivalents, as reported in Discovery Alert. At the same time, not all mining stocks on the continent are weighted down by the domicile of their represented assets.

There are two components to the African discount. Part of the discount is purely prejudicial. A clue to this is in the name: the 'African' discount, rather than the 'Specific Country' discount, which betrays a tendency to lump together all 54 African countries, ignoring that each country poses its own risks. That kind of coarse generalization of African risks tends to nettle insiders: "Nothing frustrates me more than hearing throwaway comments from state premiers in Australia about how risky it is to do business in Africa," said Doug Horak, the CEO of the Australia-Africa Minerals & Energy Group (AAMEG), an association based in Perth: "Realistically, it is easier to raise money in certain African jurisdictions than in others. But even if one country may be easier to operate in, it may have other risks. Everybody says Australia is incredible from a sovereign risk perspective, yet if you want to mine uranium in Australia, you will encounter an entirely different wall of challenges—and then you may have to look at Namibia instead. Risk is everywhere."

We can speak of a high-risk granularity between regions and countries within the continent. For example, Ghana, whose mining market is inhabited by majors of the calibre of Newmont and Gold Fields, has lower risk premia and is better rewarded by investors, whereas more emerging markets with only one or two large-scale assets in production naturally foster more caution. Often, however, those nuances get lost in translation, and things that happen in one part of Africa cast the whole continent in a bad light. This is what happened when one of the world's largest gold complexes, Loulo-Gounkoto, operated by one of the largest gold producers, Barrick Mining, was placed under provisional state control in Mali, one of Africa's largest gold-producing nations. In East Africa, post-election unrest in Mozambique led to the closure of several mining operations, including the seven-month halt of Syrah Resources' Balama, the largest graphite mine on the continent. Tanzania's decay into a violent crackdown on post-election dissent has shown that even the most stable of jurisdictions are unpredictable.

These recent issues show that the discount does not merely reflect sovereign risk or perception risk. The discount also related to a combination of externalities like political governance, stability of investments, general ease of doing business, permitting, infrastructure, power, ESG, labour, and safety risks. "In any asset valuation, risk is about the certainty of projected cash flows, which depends on the project itself and all factors that could prevent achieving those forecasts. My view is that some of these risks are overstated," explained Sherif Andrawes, global natural resources and energy leader, as well as partner for deal advisory at global consultancy firm BDO.

The Mo Ibrahim Foundation's 2024 African Governance Report shows that 30 African countries experienced democratic backsliding since 2020, including coups and armed insurgencies. Take, for instance, the recent 'coup' epidemic in West Africa, and the increased resource nationalism seen in countries like Burkina Faso, where the government demanded to increase its stake in West Africa Resources' Kiaka gold mine by 35%, a move that forced the Australian-listed producer into a brief trading halt. Furthermore, the threats of the jihadist insurgency, which the military government has been struggling to contain, make the risk as real as it can get.

Meanwhile in Mali, which has gone through several coups, the ruling junta has jailed several high-level mining executives, imposed a moratorium on licenses, and then changed the mining code, thereby raising the fiscal burden. It can be difficult to comprehend the government's intentions. Peter Marrone, chairman and CEO of Allied Gold, a gold producer with assets in Mali, Côte d'Ivoire and Ethiopia, provides this perspective: "Economic nationalism is not Mali-specific, but a global phenomenon, in the US, Canada, and parts of Europe. African countries are going through the same exercise of reassessing the split of the pie between the owner of the asset, the local community, and the nation at large, and that process gives rise to a different type of dialogue compared to the historical one that has taken place in Africa."

Marrone's comments highlight a clear predisposition to judge Africa by a separate yardstick compared to the rest of the world. In Guinea, for example, a West African country that has experienced a recent coup, the new government has revoked scores of mining permits. Matthew Sharples, CEO of Asara Resources, a junior explorer in Guinea, pointed out the double standard: "If a clean-up like the license revocations in Guinea happened in Australia, it would be applauded. But when it happens in Guinea, it causes mass panic. It's like throwing stones from glass houses."

That warped perception of the continent can cause investors to overlook opportunities. Roscan Gold, a Mali-based gold junior that saw its valuation severely hit by the events in Mali, may be one of the most undervalued stories in the market for a company just 12–18 months away from pouring first gold, according to its president and CEO, Nana Sangmuah. Its low share price relative to the distance from cash-flow generation provides attractive arbitrage.

If we flip the undervaluation coin, we can also see an opportunity in the less-explored, 'riskier' profile jurisdictions presenting lower entry barriers for acquisitions. David Kol, president and CEO of Zodiac Gold, a junior in Liberia, spoke of these intra-African

Oliver Westmacott, President and COO,
GARDAWORLD SECURITY (AFRICA)

"Mining companies must approach risk in a holistic way: you cannot look at the guards, security, systems, or community engagement in isolation. Good communication between the mine operator and the various service providers is fundamental in preserving good relationships with host communities."

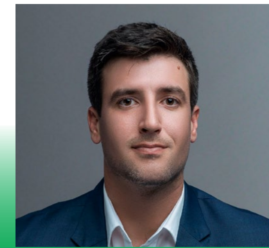
differentiators: "As the gold price drives the demand for acquisitions, those assets that in Ghana and other West African countries trade at US$100 to US$200/oz become less attractive compared to similar assets that in Liberia are at US$50/oz."

Sometimes, the industry simply compares apples with pears, suggests Sherif Andrawes, partner at BDO: "One must weigh whether a confirmed, easy-to-mine deposit in Mali is better or worse than an uncertain underground prospect in Western Australia. Asset quality needs to be balanced against perceived risk, and each investor decides which is more important. Every African country is different, posing unique risks and opportunities. Some countries are arguably less risky than traditional Western jurisdictions in certain respects."

Let that be our only risk

The way that the discount works is by distorting the value of both exploration-stage and producing assets. This shows in technical metrics such as a market capitalization lower than the net asset value of its underlying assets (P/NAV < 1), or a low Enterprise Value relative to Free Cash Flow (low EV/FCF). But outside of the impact on individual companies, the systemic undervaluation has structural effects across the African mining sector.

The main impact is the exploration gap. At lower valuations, African operators often struggle to raise equity or secure other forms of financing, which slows down exploration activity and project development. S&P reports that Africa's share of global exploration spending has steadily declined over the past 20 years, reaching just 10.4% in 2024. By comparison, Australia and Canada attracted 15.9% and 19.8%, respectively, of exploration dollars that same year. Africa's landmass is larger than both countries combined. If we look at specific



Thomas Rodriguez, CEO,
CLC SOLUTION

"Cultural movements are reclaiming indigenous knowledge and reducing foreign influence to foster a distinct African identity. Socially, youth are championing local industries and favoring homegrown brands. Politically, there has not been a president in Africa who has not addressed local content."

case studies, Zambia has attracted only a fraction of the exploration spending that Chile has, even though the two countries have similar copper mining economics, as demonstrated in a World Bank research working paper by Davis et al.

Another trend that the discount is contributing to is a longer time to reach final investment decisions (FIDs). Reuben Joseph, who leads the APAC and Africa teams at Ausenco, a global engineering firm, noticed more hesitation ahead of FID decisions. However, he said activity at the project definition stage is intense, with a lot of focus on scoping, feasibility, detailed design, and sometimes even placing long-lead item orders. It appears African developers are particularly motivated to de-risk projects as much as possible before a final commitment to financing and construction, probably as a way to counterbalance lower confidence in the region with increased confidence in the resource and the ability to deliver the project to the market. Phil Russo, the managing director of Mali explorer Toubani Resources, put it this way: "Every mining company faces risk; ours is primarily jurisdictional."

The efforts to validate a project's appeal are apparent in the high level of detail in technical studies and metallurgical test work undertaken. For example, by the time Deep Yellow completes its Phase 3 detailed engineering studies at its flagship Tumas project in Namibia, it will have completed up to 70% of engineering work, whereas most companies reach an FID at 30%. Deep Yellow's decision to postpone the FID had less to do with the African discount than with uranium-specific market conditions, but it still goes to show the level of diligence applied in African project work. Extensive metallurgical testing is another facet of the same drive to risk-proof projects. Junior explorer Roscan Gold has prioritized metallurgical testing, achieving 98% recovery in oxide samples and 93% in fresh rock at its flagship Kandiolé project in Mali.

According to a World Bank study by Davis et al., political risk is not factored into project evaluation cash-flow calculations (or the project's discount rate), but projects that face higher political risk must reach higher "heuristics" like IRR, payback period, or upside geological potential. "These higher hurdles are not written down, but we can observe their impact through higher operating metal grades at successful projects in politically risky countries," wrote the authors. In other words, projects in African countries considered to be high risk must prove substantially superior geological and economic prospects to encourage progression to development. Since a higher commodity cycle in itself ups the economics and increases the risk appetite, with more cash meaning larger spreads, it makes sense that valuations are catching up.

Perhaps one of the best ways to offset the pervasive impacts of African stereotypes is by carving out a standout ESG reputation. For Moroccan producer Aya Gold and Silver, ESG profile has been key in securing sustainability-linked financing from the European Bank for Reconstruction and Development (EBRD) for its flagship Zgounder mine, which is powered by solar and wind energy. As a green mine, Zgounder also enables Aya to command a premium on the silver sold. Michael Seeger, director at MX Mining Capital Partners, said projects where ESG enhances a business case are easier to fund. The example he offers is the Samancor ferrochrome slag recovery project in South Africa, which uses disruptive technology to recover residual chrome from slag and repurpose the remaining material as construction aggregate.

In the prickly road to FID, developers are also shifting to low-CapEx, simple-build projects that are more digestible and executable. Lindian Resources, the developer of the Kangankunde REE project in Malawi, has a CapEx of US$40 million and an 8- to 10-month build time. Orion Minerals, a South African copper developer, has a two-phased development strategy for its Prieska copper-zinc mine in South Africa, with the first phase of near-surface supergene sulfide ore ("Uppers" phase) requiring only AU$50 million in CapEx. The peak funding requirement for the project, including the second "Deep Phase," is ten times higher, at AU$568 million. "Accessing the Uppers allows us to stress-test the entire planning environment, a crucial first step in building a reliable and steady operation. (…) The catch cry for Orion today is to get the Prieska Uppers in a position where we can be producing concentrates by the end of 2026," said Anthony Lennox, managing director and CEO at Orion Minerals.

Both projects are now funded to production.

With equities often on the bargain rack and loans carrying high-risk premiums, hesitancy to invest in Africa is understandable. Yet a Moody's Analytics study on the risk profile of Africa over the past 14 years found that the rate of loss (the proportion of loans that are uncollectible) on the continent is 1.7%, much lower than in South America (13%) or Eastern Europe (10%).

The logic that "had this project been outside Africa, we'd be much better valued" might be worth recasting into "had this project been elsewhere, it may not offer the same geology and ROI opportunity." Or even, that "this project may not exist at all." ■

Doug Horak

CEO

AUSTRALIA-AFRICA MINERALS & ENERGY GROUP (AAMEG)

"Having multiple interested parties from different regions, each with different approaches and risk profiles, puts Africa in a strong position, enabling more opportunities to expand on traditional relationships and build new ones."

What has been your focus since taking over as CEO of AAMEG last November (2024)?

At AAMEG, my focus has been on deep engagement with our membership base, especially our core group of mining companies. One of the greatest values that the AAMEG platform brings is that it allows our members to meet peers and partners operating in different African countries where they could potentially grow. While I could confidently say there are many people who know how to operate across Australia, in Africa it is almost impossible to know the entire continent. Each country is dramatically different. From an AAMEG perspective, we strive to continuously understand what the challenges are in each jurisdiction.

In which African markets is AAMEG most active today, and how do you decide where your support can be most impactful?

We can add more value in countries where Australian players have a more pronounced presence. For example, we hosted an event in Tanzania that gathered a mixed group, including mining companies active in the country, some with very positive experiences and others that had entered legal disputes with the government, and we even had a counter-terrorism group out of Canberra dial in to provide an update on Al-Shabab's insurgency in East Africa.

Similarly, we held a separate session on operating in Namibia, where everything from on-the-ground challenges to licensing and practical matters like visas was thoroughly discussed. We will hold similar events in Botswana, Côte d'Ivoire, and potentially Ghana and other West African countries, since we see these gatherings as highly valuable knowledge-sharing opportunities.

What changes are you seeing in the mix of international investors entering Africa?

We are seeing an uptick in investment in Africa. Everyone is aware of the long-standing relationships between Africa and China, but also with Russia and Turkey. Today, we are seeing the Saudis, Emiratis and Qataris looking at Africa for resource offtakes and future development funding. The US has also stepped in and is actually writing checks, with talk now transitioned into action. New funds are also being set up through UK Export Finance, with offtake arrangements for resources feeding into the UK's manufacturing sector. I believe we will continue to see this heightened interest in the continent, and that is very positive news for host countries. Having multiple interested parties from different regions, each with different approaches and risk profiles, puts Africa in a strong position, enabling more opportunities to expand on traditional relationships and build new ones.

How can mining play a bigger role in socioeconomic development?

There is no other industry that has the ability to build communities, regions, and countries quite like mining. Particularly in developing countries, mining is the greatest catalyst, creating that first spark, from which additional industries sprout. We are now seeing many examples where companies commit to development and capacity-building plans whereby they will educate students at Australian universities. From a host government perspective, I expect we will see stronger local content requirements, and that will ultimately catalyze stronger skills transfers, capacity-building plans, and collaborations with universities. Australian companies working together in a region may even set up training centers to help communities upskill.

Do you have a final message for MACIG readers?

Nothing frustrates me more than hearing throwaway comments from state premiers in Australia about how risky it is to do business in Africa. I am hoping to see a more nuanced understanding of the different countries on the continent. At AAMEG, we are advocating for better understanding and more education on each jurisdiction, and we are telling the positive stories that make a real impact, so that the conversation is balanced. We have a lot of work to do in that respect.

Realistically, it is easier to raise money in certain African jurisdictions than in others. But even if one country may be easier to operate in, it may have other risks. Everybody says Australia is incredible from a sovereign risk perspective, yet if you want to mine uranium in Australia, you will encounter an entirely different wall of challenges—and then you may have to look at Namibia instead. Risk is everywhere. Even though our lens is continental, we do work country by country. ■

Image courtesy of the World Gold Council

The Multiplier Effect

A fairer barter

It is good form in many African villages that representatives of mining companies, on their visit to the local chiefs, bring gifts—mostly livestock, but foodstuffs and beer can do too. This protocol serves to structure the relationship early on: it establishes it as an exchange and it delineates clearly who the guests are. Now Africa holds almost every imaginable mined resource there is, but it does not have sufficient roads, electricity, hospitals, schools, and sometimes even drinkable water or food supplies. Mining can help bring all of that, or so goes its modern promise. "There is no other industry that has the ability to build communities, regions and countries quite like mining," said Doug Horak, the CEO of AAMEG, an industry association representing Australian companies operating in Africa.

This article sets out to help our readers understand the potential and limits of the so-called multiplier effect, arguing that the dollar invested in African mining goes further than in other parts of the world, but only when both industry and governments orchestrate it that way.

That the multiplier effect is greater in Africa is an easy argument. Mining is a powerful development tool on the continent mostly due to a lack of other alternatives. Sub-Saharan Africa hosts 18 out of the 20 countries with the lowest GDP per capita globally, and mining is among the biggest contributors to state earnings in most nations with an active resources industry. In places where state capacity for social investment is weaker, mining becomes a substitute, especially in outpost locations. Countries in Africa also have larger average household sizes, which means that there are more dependents on a single provider. While monthly minimum wages in African countries can be extremely low, such as US$2 per month in South Sudan or US$23 in Tanzania, mining offers higher-paid jobs that can support extended families. Alex Ruggieri, the CEO of Ivorian explorer Koulou Gold, drew from his experience in both Africa and Canada to compare community attitudes toward mining: "There is a greater sense of urgency for economic development in our host communities in Côte d'Ivoire. They really want the projects and the jobs, which I have not heard as often in Canada."

Others have expressed similar views, suggesting that host communities in Africa take a more practical position towards mining, whereas in more advanced economies it can be a lot more ideological. Mining is considered as a tool to advance the UN's 17 Sustainable Development Goals, supporting education, health access, gender empowerment, urban development, agriculture, social services, infrastructure, job opportunities, higher wages and more livelihood options. At the same time, the centrality of mining in national and local economies has historically created dangerous dependencies, destabilizing public finances and fomenting instability. Needless to recall are its potential impacts on the environment, through the destruction of farmland or competition for water access.

The literature on the balance of positive and negative impacts of mining in Africa is interpretable. A World Bank study called 'Digging Beneath the Surface: An Exploration of the Net Benefits of Mining in Southern Africa (2002)' found that the net benefits of mining in Southern Africa outweigh the costs of mining, yet these benefits are "consumed rather than saved and invested." In a more recent paper, 'The Socio-Economic Consequences of Mining in Africa: A Systematic Review of the Costs and Benefits,' Egunyu reviewed 170 existing studies on the economic benefits and costs of mining in 32 African countries, finding that the negative impacts outweighed the positive ones. The difference between net positive and net negative impacts is not so much determined by the mining industry itself, but by local governance. In 2023, research by Sandro Provenzano and Hannah Bull looked at 1 million satellite images covering 12% of Africa's landmass between 1984 and 2019 to track local development around 1,658 mineral deposits. Their findings suggest that mining activity boosted the local economy in democratic countries, yet the gains were meager in autocracies, actually tripling the likelihood of conflict relative to prior to the onset of mining—confirming the so-called 'resource curse' literature.

Khalil Al Americani

CEO and Managing Director, VODACOM DRC

"We see ourselves as an enabler for the mining industry, both from a connectivity and telecoms services perspective, but also from a financial services and digital inclusion one. Our role extends to the entire ecosystem that gravitates around a mine, including the local communities."

The mixed empirical evidence shows that mining is clearly not a panacea of development, but this is largely due to how mining rents are captured and used by host governments. It is therefore down to proper governance at both investor and government levels to ensure that the multiplier effect is realized and maximized.

At the government level, a higher commodity price environment for key metals like gold and copper, alongside growing demand for critical minerals and energy fuels, has prompted African countries to raise fiscal terms and impose higher government participation in mining assets. Some countries have even banned the export of raw ores and concentrates. Almost every African nation has a form of local content provisions, seeking to stimulate greater in-country value addition through both backward linkages (local inputs like equipment and catering) and forward linkages (processing). The industry has shifted from enclave-style projects, characterized by fly-in-fly-out personnel and imported supplies, to asking for up to 100% local services and procurement, provided that these are available in the country.

These shifts have been extreme in some cases. Khalaf Rashid, senior VP and managing director at TRX Gold, spoke of Tanzania's case: "Local content regulation has swung like a pendulum over the last 15 years from one extreme to the other. There was a time when people would import everything, even water supplies, and planes would land on-site to offload cargo as needed. The pendulum has since swung to the opposite end, perhaps too far the other way."

Besides rents, mining companies and their value chain partners drive the multiplier effect through direct mechanisms like community development funds and CSR programs. The large miners have established per-ounce funding instruments, through which they allocate a certain dollar amount into a local fund for every ounce produced or sold - a very direct barter. For example, in Mauritania, Kinross allocates US$6 for every ounce produced toward the Tasiast Fund. Similarly, in Tanzania, Barrick allots US$6 for every

Pascal Rey,
CEO, **INSUCO**

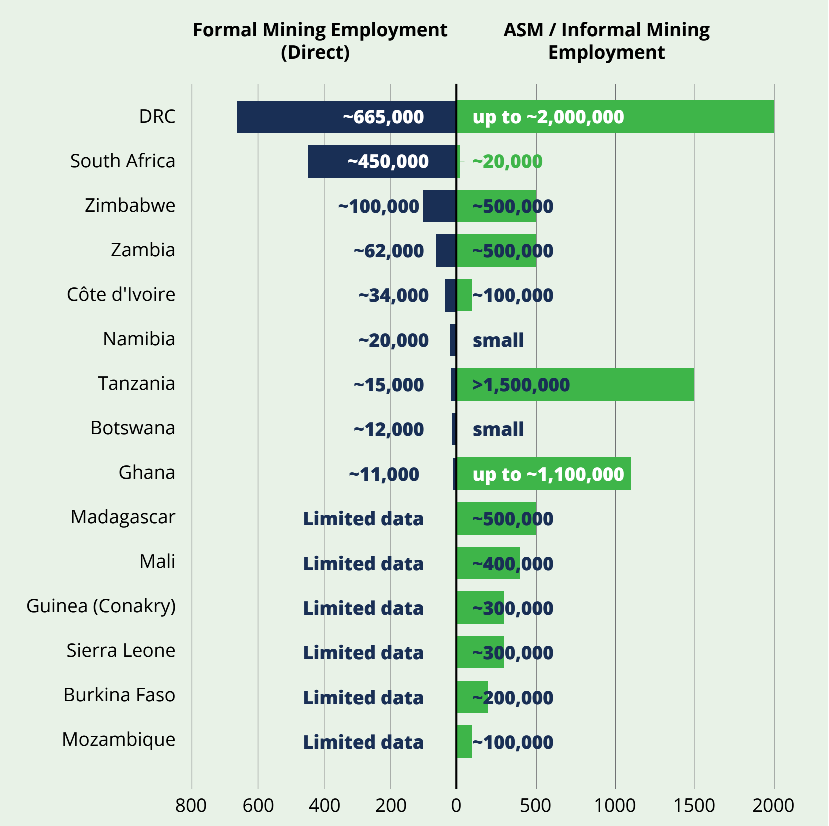
"Social sustainability has advanced significantly over the last 15 years, driven by the mining sector's shift from paternalism to local integration. While major players recognise the value, junior companies must still grasp that social performance drives profitability."

ounce of gold sold to community projects. In Ghana, Newmont donates US$1 per ounce produced and 1% of profit tax toward the Ahafo Foundation. The chief characteristic of these funds is the greater autonomy of the community in choosing how the money gets spent. Interestingly, upcoming producers have also signed up to similar structures. Imminent gold producer FG Gold has committed 1% of its yearly gross revenue directly to the community at its Baomahun gold project in Liberia.

Service and equipment providers have established similar participatory models. For instance, Vodacom, a leading telecoms provider in the DRC, has started a self-standing organization called the Vodacom Foundation, focused on training, education and inclusivity, while Nexans, a cable producer, runs electrification projects under the umbrella of its Fondation Nexans, based in Ghana. These NGO-like functions taken on by mining companies and their suppliers are confined to specific communities, while the biggest multipliers are generated not through direct handouts but through indirect means—namely employment.

"It starts with a CV," said Cédric Filet, the CEO of global HR firm Aldelia. "In many of these local mining communities, women do not have jobs; they are the primary caregivers, and they often bring their children with them to the interview. One small but highly impactful way of empowering these

Mining Employment in Africa



Cédric Filet,
CEO and Founder, **ALDELIA**

"It is estimated that Africa's workforce will triple by the end of the century. At the same time, one mining job creates five, meaning five families (or up to 30 people) can benefit. Imagine what 1,000 people from a single project can mean."

Alain Banza,
CEO, **ELBA AFRIKA**

"Back in 2004, when the sector started booming in the DRC, it was rare to find the level of local expertise we see today. Now you find Congolese professionals in high level roles, including department heads and specialist contractors."

women is by helping them create their first CV once they have completed the interview with us; that becomes their main tool to find a job, whether with us or someone else."

That first CV means the switch from informal to formal employment. The ripple effects extend far, according to Filet: people can use their employment contract and payslips to obtain a loan and buy a house; they can access social security, pensions, and health insurance, which in turn reduces absenteeism and increases productivity. That has a generational effect: when parents have a pension, children no longer need to work to support the family and can stay in school, carving out a much better future for themselves.

"It can take longer to create reliable local supply chains, but doing it this way goes very far, way beyond our operations. Our aim is not to stay forever; it's to leave behind sustainable local economies," said Peter Marrone, chairman and CEO of Allied Gold, with operations in Mali, Côte d'Ivoire and Ethiopia. We will discuss in the last part of this report (Supply Chain) the role of contractors and suppliers in helping develop those local ecosystems through financing, training and joint ventures. But before we conclude, we need to tackle one overlooked side of the mining multiplier, namely artisanal mining.

In January 2025, 100 illegal miners died after being trapped at the Buffelsfontein mine in Stilfontein, South Africa. The police cut off food and water supply in an operation called "Vala Umgodi," meant to force the miners to the surface. Over 240 miners were rescued after months spent underground, but the dastardly police tactic has been called into question by human rights observers. The incident exemplifies the way that artisanal miners, which overlap with illegal miners in some cases, are regarded as—from a law enforcement and environmental perspective—a problem. A humanitarian and social lens presents a case of desperate livelihoods. In a mining report, both lenses are credible, but we are obliged to see artisanal mining as connected to the formal industry. Without condoning illegal practices, one must acknowledge that artisanal mining is often a spillover of formal mining, and that more people derive a livelihood on the wayside of the formal sector.

There is a curious contrast between the positive connotations of the word artisanal in a general context, used to mean handmade, and in a mining context, where artisanal is mostly confounded with illegal and illicit. The difference between artisanal and illegal is not always clear-cut: "There is a difference between illegal actors and well-intended, responsible artisanal miners, but there are also well-documented linkages whereby warlords, terror groups, criminal gangs, and other illicit actors exploit artisanal miners. This happens because artisanal miners have no other means of providing for themselves and no access to formal markets," explained Terry Heymann, chief strategy officer at the World Gold Council.

Discussing the rise of artisanal activity, incentivized especially by the high gold price, Heymann offered as a potential solution the establishment of centralized processing plants to provide informal miners with alternative routes to the market. There are several companies that have employed this model. In Zambia, privately held gold and copper explorer Konige Mining and Exploration has positioned itself as an intermediary for artisanal mining, supplying them with a treatment plant and educating them on proper mining methods, including the use of a gravity separation system as an alternative to mercury use. After putting in place a small CIL plant in the Mumbwa area, Konige is hoping to scale it to 1,500 t/d by mid-2026, with the potential to double it in the future. The ASM sector could play a role in the ramp-up: "There are a multitude of small-scale operators that have been granted small-scale mining licenses. Many of these have potential, but the holders lack capital. That's where we enter: we assess how we can do a joint venture, provide support, or pursue a buyout. Essentially, our aim is to elevate the smaller operators while at the same time growing ourselves into a top-tier player within the industry," said Brett du Toit, general manager at Konige.

The multiplier effect is not a standard metric. With more attention paid to it, it can serve several purposes. Far more than a pat on the back for mining's positive contributions, it is a measure of the great responsibility that mining has in Africa. Once that responsibility is understood, the multiplier effect can be a showcase of a project, perhaps even more than metrics like IRR, NPV, or EBITDA. Unintentionally, it may also expose gaps and redirect the mechanisms through which mining companies invest in local development. ■

EXPERT OPINION ARTICLE

Building Trust in Mining through Professionalism

By Andrew van Zyl, Managing Director,
SRK CONSULTING (SOUTH AFRICA)

"In an era of uncertainty and rapid change, trust has become one of the mining industry's most valued assets."

In an era of uncertainty and rapid change, trust has become one of the mining industry's most valued assets – whether we are talking about companies, governments, investors, communities or consultants. In many ways, trust determines how effectively we can work together to unlock shared value.

Mining is an inherently complex business with a range of risks to mitigate. Stakeholders – from community leaders and environmental regulators to investors and suppliers – depend on accurate, unbiased information to make decisions. Today, digital platforms allow information (and misinformation) to spread faster than ever, presenting new challenges for mining companies seeking to communicate complex realities to diverse audiences. In this context, trust cannot be built through words alone; it must be earned through consistent, authentic action.

Transparency and benefits

Over recent decades, mining's social and environmental responsibilities have expanded dramatically. Communities expect greater transparency and real benefits from mining operations, while investors are looking closely at companies' ESG performance.

Alongside these trends is rapid technological transformation, with digital tools and AI reshaping how data is gathered, analysed and communicated. These innovations create new opportunities for engineering and scientific professionals to responsibly apply new technologies to enhancing decision-making.

Integration and sustainability

This is best achieved by integrating environmental and social specialists with engineers and scientists, to ensure that technical designs align with sustainable outcomes. Whether this relates to the carbon footprint of a mine, improving water efficiency or designing safer tailings facilities, this brings a holistic approach that connects technical rigour with ethical responsibility. This integrated way of working also reinforces trust, allowing stakeholders to appreciate that decisions are based on balanced, multidisciplinary insight.

The process relies upon professional independence to ensure that technical findings are transparent and defensible. This demands a firm commitment to rigorous peer review, professional development and knowledge sharing – so that work is conducted to the highest level of technical quality. This, in turn, allows mining clients to demonstrate their integrity and accountability to stakeholders.

Ultimately, the mining industry's success depends on relationships. Building those relationships on a foundation of professionalism and respect is the surest way to create lasting value. Independent technical experts, at their best, are also facilitators of trust, helping clients engage more effectively, communicate more clearly. Public confidence depends not only on what is done, but on how it is explained and verified.

Credible data

Our partnership with clients, therefore, includes providing credible data and clear communication around issues such as water use, tailings safety, rehabilitation progress and environmental impact. Our professionals engage directly with communities and regulators to ensure that all parties share a factual foundation for dialogue. By bridging the gap between technical knowledge and public understanding, we enable constructive engagement over issues that can lead to conflict.

Image courtesy of Syrah Resources

Financing

Capital from many quarters

Not all projects deserve to be developed. Financiers, whether they are specialist funds, development finance institutions (DFIs), commercial banks, or even individual investors—both the high-net-worth type or the regular retail investors that dabble in daily trading—decide which projects move forward, following some form of due diligence.

Perhaps it is the increasing recognition that risks are often overstated when balanced against opportunities, or because Africa's minerals are becoming indispensable, but the continent has been attracting more diverse and innovative capital flows over recent years. According to Khanyisile Tshabalala Moshoeshoe, who heads mining and metals financing at Standard Bank Group, commercial banks, development banks, government-backed agencies, specialist private equity, the large mining houses themselves, as well as large-ticket streaming companies, are all coming to the table to a greater extent compared to pre-COVID days. Looking at the transactions completed or announced in the last year alone, Moshoeshoe's observations prove accurate.

From Washington, the institution that has emerged as the most prolific for African financing is the US Development Finance Corporation (DFC), a government-owned DFI created six years ago. Over that time, Sub-Saharan Africa has become its largest regional portfolio. DFC's name shows up ever more frequently as a leading actor in critical mineral financing. DFC has provided support to Syrah Resources (graphite), Lifezone Metals (nickel), Trinity Metals (tungsten), Pensana Rare Earths, and Millennial Potash, and it has also been in discussions to provide a loan for the Dasa uranium project, developed by Global Atomic in Niger. However, DFC's most affirming project is the Lobito Atlantic Railway, the 1,300 km rail line connecting the Lobito port in Angola to the Zambian and Congolese Copperbelt. The DFC has signed a loan agreement for over half a billion US$ toward the rehabilitation of the line, while the Development Bank of South Africa (DBSA) mobilized another US$200 million.

KoBold Metals, an American company with famous investors including Bill Gates and Jeff Bezos, is also emerging as a significant player on the African mining scene, not only in Zambia where it is advancing the Mingomba copper project, but also securing lithium licenses in the DRC, and pursuing AVZ's interest in the Manono lithium and tin project in the DRC.

UAE companies like International Holdings Resources (IHR) are also delving into Africa, through the recent acquisitions of the Alphamin mine in the DRC and the Mopani mine in Zambia. Maaden International Investment, owned by a consortium of Omani investors, has acquired a 41% stake in Catoca from the sanctioned Russian company Alrosa. Catoca is the largest diamond producer in Angola.

On Japan's behalf, the Japan Organization for Metals and Energy Security (JOGMEC) has now built a presence in over 10 African countries and signed several MoUs focused on metals in South Africa, Zambia, Namibia and Angola. Equity investments by JOGMEC include Platreef (developed by Ivanhoe Mines in South Africa) and the Waterberg project (developed by Platinum Group Metals). Through the Ministry of Foreign Affairs, Japan committed US$7 billion to develop the Nacala Logistics Corridor, which will support mining projects like Sovereign Metals' rutile-graphite project in Malawi. This type of eye-watering investment used to be almost exclusively realized by China as part of its Belt and Road Initiative.

On the private equity side, interest in African projects shows just as much geographical diversity: Luxembourg-based La Mancha Resource Capital backs companies such as Falcon Energy Materials, operating in Guinea and Morocco; Vancouver-based Fiore Group, led by Frank Giustra, supports firms like NexMetals Mining, active in Botswana; Singapore-based A2MP is financing Malian gold developer Toubani Resources; Australian-based Iluka Resources has signed a US$20 million funding term sheet and offtake agreement for the Kangankunde REE project in Malawi, developed by Lindian Resources.

New York-based Orion Resource Partners and London-based Appian Capital Advisory have gone beyond standalone project financing. Orion has partnered with the US government, via the DFC, and with Abu Dhabi's sovereign investor ADQ, to launch a US$1.8 billion financing vehicle called the Orion Critical Mineral Consortium (Orion CMC), with a plan to grow to US$5 billion. Appian Capital has also launched a US$1 billion critical minerals fund with the International Finance Corporation (IFC), targeting projects in both Africa and Latin America. K2 Mapasa, Appian's head of Africa, explained the structure: "Appian sources and executes the transactions, with IFC investing alongside us through a separately managed account once it completes its own due diligence. IFC relies on us to source, diligence and execute projects, while adding its own oversight on ESG, Equator Principles, and other standards."

Fred Kabanda, Division Manager, Extractives, **AFRICAN DEVELOPMENT BANK (AfDB)**

"AfDB is currently undertaking a continental pre-feasibility study of key countries and sub-regional blocs in Africa to identify their inherent opportunities and challenges in developing capacity for the battery, EV and renewable energy value chains."

As different sources of capital converge in Africa, it is their coordination that often unlocks complex financing structures. For instance, with DFIs like the IFC and DFC providing political risk insurance, private equity firms can enter jurisdictions they may have previously avoided. The entry of these foreign, well-capitalized financiers, whether development entities or private funds, also creates a more conducive environment for local actors to gain access to financing. As a result, large assets like the Tongon gold mine in Côte d'Ivoire were acquired from one of the majors, Barrick Mining, by a local company, Atlantic Group. Appian supported Atlantic Group's acquisition of the Tongon asset.

Streaming and royalty

Bankability, sometimes, lies not in the project's own metrics, but in the ability of the financiers to put the puzzle together. And the last piece that is completing puzzles increasingly in Africa is streaming and royalty. In 2025, First Quantum Minerals secured a US$1 billion gold streaming deal with Royal Gold, which gave the Zambian miner the upfront cash to advance the Kansanshi expansion. Wheaton Precious Metals has also signed a US$625 million gold streaming agreement with Montage Gold's Koné gold project in Côte d'Ivoire, as well as a smaller US$175 million streaming agreement with Allied Gold for the Kurmuk gold project in Ethiopia. Toubani Resources managed to finance the Kobada gold project in Mali through a US$160 million gold stream agreement with major shareholder Eagle Eye, as part of a bigger funding package.

According to Michael Seeger, director of MX Mining Capital Partners and author of 'Mining Capital: Methods, Best Practices, and Case Studies for Financing Mining Projects', streaming and royalty financing is gaining momentum in Africa, since it helps reduce equity dilution, improve project bankability, and unlock capital where traditional financing falls short. These models mean that investors either get a share of future revenue (royalty) or pay upfront for a portion of future production at a discounted price (stream).

26 >>

Vibhuti Jain

Regional Head of Africa

US INTERNATIONAL DEVELOPMENT FINANCE CORPORATION (DFC)

Could you provide an overview of DFC's role on the continent and how this has evolved in recent years?

Sub-Saharan Africa represents the largest region within DFC's portfolio, with around US$13 billion invested across 300 projects in 26 countries. Since the launch of DFC in January 2020, the rapid growth of the agency's Africa portfolio has been driven by DFC's expanded mandate. DFC has the ability to invest equity and to provide support for earlier stage opportunities through project development grants. In addition, DFC recently opened a new office in Abidjan.

What are some of DFC's flagship projects in Africa, and how have they contributed to the development of critical supply chains outside of China?

Examples include the Lobito Atlantic Railway, project development funding for several projects including Pensana to conduct feasibility studies to advance development of a rare earth elements mine and refining facility in Angola, Millennial Potash to complete a feasibility study for the Banio potash project in Gabon, and political risk insurance to support the construction of a mineral and specialized bulk terminal port in the Gabonese coastal city of Owendo to support exports of manganese.

How does DFC's approach to risk underwriting and political risk insurance help catalyze investment and crowd in co-financiers?

DFC's rigorous risk underwriting and political risk insurance reduce uncertainties that deter private investment in emerging markets. By mitigating risks such as expropriation, currency inconvertibility, and political violence, financiers have the confidence to engage catalyzing private capital and mobilizing additional resources for sustainable development.

Do you have a final message?

DFC is open for business in eligible countries and actively seeking collaboration with both private sector partners and host country governments. In alignment with administration priorities, DFC is committed to advancing initiatives that reinforce US leadership in critical minerals development. ■

Robert Schlotterer

Manager, Metals and Minerals Global Department

WORLD BANK GROUP

How is the World Bank Group helping unlock and de-risk investment?

To create an enabling environment for unlocking investments, the World Bank Group supports governments with their policy and regulatory reforms, institutional strengthening and transparency, and predictable investment frameworks that reduce political and regulatory risk. This includes best practice mining codes, ESG standards, geodata availability, and clear rules for benefit sharing and mine closure.

Through IFC, the World Bank Group invests across the metals and mining value chain, backed by decades of experience financing mineral development projects across all stages from construction to production and expansion. World Bank Group guarantees from MIGA are additional important tools to de-risk investments that help crowd in private investors while upholding high ESG standards and help clients boost local development, enhance community benefits, and build long-term resilience.

What gives you the most confidence about Africa's mining landscape over the next decade?

There are strong reasons for confidence. Africa holds a significant share of the minerals needed for energy transition, urbanization, agriculture and the digital economy. More importantly, many governments are identifying the important opportunities along minerals value chains and how they fit into their countries' broader development strategies. We are seeing stronger policy frameworks, greater emphasis on transparency and ESG performance, and a more deliberate effort to link mining with infrastructure, skills, and local value addition.

What gives me the most confidence is this shift toward integrated, long-term approaches. When mining is developed as part of a broader country strategy—supported by sound policies, enabling infrastructure, and responsible private investment—it can deliver jobs, diversification, and lasting economic value. If that momentum continues, Africa's mining sector has a real opportunity to be a driver of inclusive and resilient growth over the next decade. ■

Randy Smallwood

President and CEO

WHEATON PRECIOUS METALS

What distinguishes Wheaton's pure streaming portfolio from other investment vehicles?

Wheaton Precious Metals is a standout leader among the top streaming companies, boasting an industry-leading growth profile, with production set to rise by ~40% over the next few years. Our streaming agreements allow us to purchase gold at pre-negotiated, discounted rates, ensuring attractive profit margins even in inflationary environments. Over and above exposure to the commodity price, we offer exploration upside from our high-quality asset base, and we pay you a dividend to hold our shares, as opposed to the storage and insurance fees that you would pay to hold physical bullion.

What are the strategic drivers behind Wheaton's most recent investments?

We are diversifying the geography of our portfolio with new streaming agreements for Montage's Koné project in Côte d'Ivoire and Allied Gold's Kurmuk project in Ethiopia. The Koné project stands out as one of the premier gold projects in Africa and is expected to add an estimated 60,000 oz/y of gold to our pipeline in its first five years of production.

Late in 2024, we entered into a streaming agreement with Allied Gold to advance the construction of its Kurmuk project, which is set to be the first commercial gold mine in Ethiopia. We believe this fully permitted, high quality development project offers significant exploration potential.

Wheaton recently launched the "Future of Mining Challenge". Could you comment on this initiative?

Last fall, Wheaton launched our Future of Mining Challenge, inviting companies from around the world to propose industry solutions aimed at improving operational efficiencies and minimizing environmental impacts. ReThink Milling was the winner of the 2025 Future of Mining Challenge for their innovative milling technology, which demonstrates potential to deliver greater efficiency with significantly lower energy use, leading to reduced greenhouse gas emissions and operating costs.

The theme of Wheaton's 2025/26 Future of Mining Challenge will be water. ■

Khathutshelo ("K2") Mapasa

Head of Africa

APPIAN CAPITAL ADVISORY

How does Africa fit into Appian's global portfolio and strategy?

Under our Natural Resources Fund I, which closed in 2014, we invested in the Ngualla rare earth project, currently owned by Peak Rare Earths, as an early investor at PEA stage. We have also been involved in West Africa with Roxgold for the construction of the Yaramoko gold mine in Burkina Faso and the Séguéla gold project in Côte d'Ivoire; we exited that investment in 2021 when Fortuna Silver Mines (now Fortuna Mining) acquired Roxgold. Most recently, in 2023, we closed a transaction in Namibia for the Rosh Pinah zinc-lead-silver mine, and this year we announced credit investments in Asante Gold in Ghana and Atlantic Group's Tongon mine in Côte d'Ivoire.

What attracted Appian to the Rosh Pinah polymetallic mine in Namibia?

Appian emerged as the successful bidder for the asset in June 2023 and immediately pressed the button on an expansion project called Rosh Pinah 2.0 (RP2.0). Rosh Pinah is a 55-year-old mine with a resource that remains open in all directions and at depth, so our investment thesis is that we can move the asset down the cost curve, increase production, modernize the processing facility, and add to the current resource. The current LOM is 16 years, but we believe there is another 50+ years. We are ramping up processing capacity from 700,000 t/y to 1.3 million t/y.

Where along the development curve does Appian unlock the most value?

The gap we play into is at the entry point, where asset owners want to take their assets from exploration discovery into production. That is usually between the NI 43-101 / JORC / SAMREC compliant stage and actual production. To get banks to provide 50-60% of the debt for construction capital, projects need to be further de-risked. Appian, with our equity strategy, fits into that phase, where we can take a project from PEA, de-risk it, and see it through to production. As private equity investors, we provide patient and long-term capital but still support an efficient speed of execution to generate sufficient value before a potential exit. ■

Vincent Benoit

CEO and Managing Partner

LA MANCHA RESOURCE CAPITAL

Could you introduce La Mancha?

In the first few years, La Mancha operated gold mines in Australia, Sudan and Côte d'Ivoire, but in 2015, it shifted strategy, which was to hold its assets under public entities in which La Mancha retained a stake. We did three deals back in 2015: we contributed our Australian assets to Evolution Mining (with La Mancha taking a 30% interest in the company); the Ivorian mine to Endeavour Mining (also with 30% of shares held by La Mancha); and we sold the Hassai gold mine in Sudan to the Sudanese government.

After we sold our interest in Evolution Mining in 2020 (while retaining a 19% shareholding in Endeavour), the family launched the La Mancha Fund, transferring all the assets of the holding company into the fund to help raise additional capital and invest in new opportunities. Today, the Luxembourg-based La Mancha Fund manages about US$1.7 billion in assets.

What's your message for MACIG readers?

Currently, the industry is only replacing about 15-20% of what is mined each year, making gold even scarcer over time. ■

Derek Crandon

Managing Director

LOINETTE CAPITAL

Could you introduce Loinette Capital?

We are a Mauritius-based niche asset finance business and offer finance to OEM dealers and their end customers in the earthmoving, construction, and agricultural equipment sectors. Loinette operates in the gap between the smaller, more niche local banks and the big international banks – a space where SME contractors struggle to find capital. We work exclusively in Sub-Saharan Africa.

How does Loinette Capital assess and manage risks?

Africa's investment risk is often misrepresented and mispriced. The perception of risk exceeds reality. What we have found is that we can de-risk all our transactions through data-driven risk assessment, local insight, and operational partnerships. We don't discount Africa, but we price in the asset and the aftersales ecosystem.

What are your priorities today?

A major priority is deepening our partnerships with OEMs and in-country dealers. We are also expanding our SME and contractor financing programs. Empowering local contractors to operate high-quality equipment allows them to compete more effectively in their own markets. ■

Michael Seeger

Director

MX MINING CAPITAL PARTNERS

Could you give us an overview of MX Mining Capital Partners?

MX is focused on financing mining projects across a wide range of commodities and jurisdictions. We evaluate the full business case: geology, mining, processing, mine infrastructure, logistics, market, ESG, licensing, team, and jurisdiction. If the fundamentals align, we structure and execute a financing plan at exploration, feasibility, development, operational, or turnaround stage, aiming to deliver fully funded, profitable, and sustainable mining operations.

Could you share some case studies of projects MX Mining Capital has helped deliver financing for in Africa?

One of our recent flagship African financing deals is the Mmamabula coal mine, for Maatla Resources in Botswana. Financing coal projects has become increasingly challenging due to the global shift away from fossil fuels. However, Mmamabula will produce industrial coal, used by smelters, cement plants, paper mills, and sugar estates, making the financing case more compelling. Another successful transaction was the financing of the Marsfontein diamond project, operated by Botswana Diamonds. MX is now increasingly active in the critical and strategic minerals space. ■

<< 22

Vendor financing

Another financing mechanism supported by MX is vendor financing, where vendors, such as mining and civil contractors, take a stake in the project they help develop instead of charging a standard contract fee. This aligns with what Capt. Pappu Sastry, CEO of Adhira Shipping and Logistics (ASL), describes as moving CapEx to OpEx: "Mining projects, especially juniors, struggle because they need huge upfront investments for machines, roads, ports and logistics. So, what we do is take almost everything—trucking, roads, ports, machinery—and move it from CapEx to OpEx. That reduces the financial pressure on the mine and creates an ecosystem where contractors, investors and operators are all tied together. Everyone has a stake in making the project succeed, because if one link in the chain breaks, the whole system suffers."

Under logistics management company ASL Group, Capt. Sastry has also launched an M&A consultancy to assist clients facing financing challenges.

It is interesting to note that large contractors like Mota Engil and Capital Group are also taking share positions in junior players. Ivorian gold explorer Kobo Resources received Mota Engil's subsidiary, Luso Global Mining, as a cornerstone investor for a 9.99% stake. Capital, which provides drilling, mine services, and lab services (through MSA Labs), also holds positions in explorers like Asara Resources, which operates in Guinea. In Tanzania, Taifa Mining & Civils, one of the country's largest mining contracting businesses, committed C$11 million in Lake Victoria Gold, becoming the largest shareholder of the junior developer. Taifa is also a shareholder in Black Rock Mining, a Tanzanian graphite developer, alongside South Africa's IDC and DBSA, as well as Tanzania's CRDB, the largest local bank.

Innovative financing solutions, placed within hybrid and mezzanine financing models, and an expanded and more differentiated investor base, show that Africa is no longer waiting for traditional capital from afar.

Public equity and secondary listings: Opening more global windows

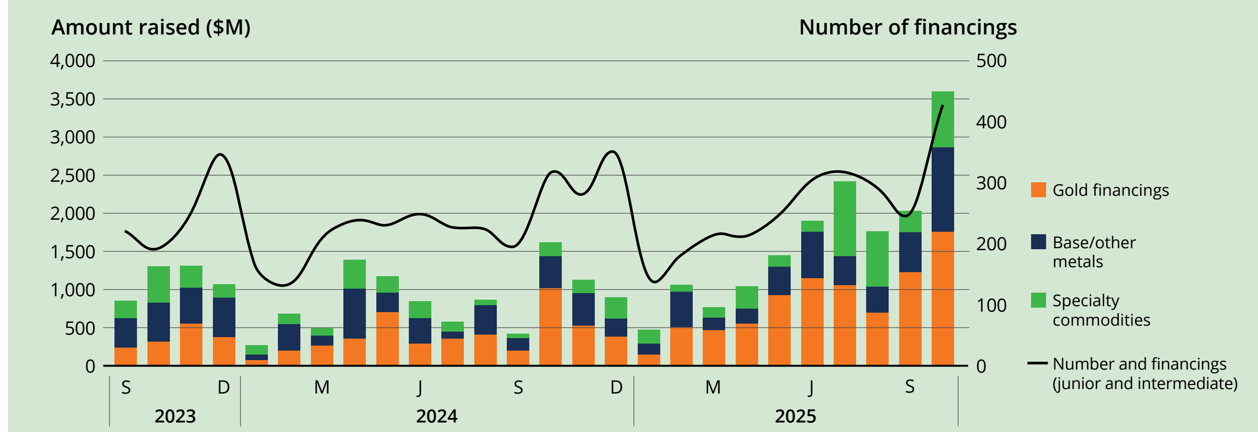
2025 has also been a great year for IPOs and secondary listings. Zijin Gold International, a subsidiary of Zijin Mining Group, raised US$3.5 billion in the world's largest gold mining IPO, oversubscribed 240 times by retail investors. The company is the 11th largest gold producer, with eight mines in operation, of which one is in Ghana. This listing alone is a sign that the IPO drought that has characterized recent years might be over—IPO fundraising in Hong Kong alone was up by almost 700% between H1 2024 and H1 2025. The other exchanges are not doing badly either.

The ASX, TSX/V, and London exchanges (LSE/AIM) have seen strong activity from cross-market secondary trading across these hubs. Though secondary issuances usually come with a 5 to 15% discount, they remain a popular vehicle, especially for miners seeking additional exposure. For example, after listing on the TSXV on September 24th this year, Asante Gold has announced it is pursuing a secondary listing on the ASX in 2026. CEO Dave Anthony told us the reason they switched from the CVE is mostly the brand recognition of the premier exchanges: "We have built an investor base that is nearly 40% institution. A quality and sophisticated investment base like that does not come outside of a credible exchange. Since the start of trading, our volume has gone from 70,000 shares/day to 1.2–1.5 million shares/day."

The TSX and TSXV, which together host more listed mining companies than any other exchange (40% of all listings), saw record market capitalization, with the mining sector's total market cap surpassing C$1 trillion for the first time—out of C$6 trillion across all sectors. According to Dean McPherson, head of business development at the TSX and TSXV, commodity prices, especially gold, have been mainly accountable for this performance, drawing in not only specialist investors but also more generalist ones. "As the investor base widens and the sector continues to outperform, institutional investors are more likely to start turning their attention from producers down to exploration companies," he said.

Though Toronto holds the most global mining listings, Australia's appeal has been growing among African actors. The ASX was chosen by Guinea-gold producer Robex Resources for its AU$120 million IPO earlier this year. This is the company's secondary listing to its primary on the TSXV. Ariana Resources, an AIM-listed gold company that acquired the 1.4 million oz Dokwe gold project in Zimbabwe, completed a secondary public listing on the ASX, raising approximately AU$11 million earlier this year. "We chose Australia because ASX-listed companies generally command better premiums; indeed, some of the top ASX performers and best valuations in the market are Australian-listed companies with African operations," said Kerim Sener, Ariana's managing director.

Recent Exploration Financing



Source: S&P Market Intelligence

African uranium developer GoviEx—now Atomic Eagle—shifted focus from the TSXV to the ASX, where it felt its investment story fits better: "We have been feeling for a long time that all the good work we have been doing in Zambia at our Muntanga uranium project was not getting the credit it deserved in terms of our valuation. We were looking for a change in strategy when the opportunity came up to access the Australian market through a reverse takeover with Tombador Iron, a listed shell company on the ASX. We started trading on the ASX on November 24th under the ticker AEU," said Daniel Major, the CEO at the time of the interview. Major has been replaced by Phil Hoskins in December.

Outside of the usual Toronto and Sydney duo for African listings, New York is increasingly coming into orbit. Just two years since going public via RTO in Canada, Allied Gold completed a second listing on the NYSE. Drawing from his experience at Yamana Gold, chairman and CEO Peter Marrone said a second major listing does not diminish trading: "Rather than cannibalizing one market, in our case the Toronto exchange, we expect a significant net increase of liquidity while some trading activity will migrate onto the NYSE. The US capital markets are the largest globally, and the US$ is one of the world's most widely used currencies, which allows New York to extend such far-reaching tentacles. No matter where you are in the world, it is easier to trade in US$ than any other currency."

The other attraction of trading on Wall Street is a high regulatory standard, with NYSE-listed companies abiding by the strictest internal controls under the Sarbanes-Oxley (SOX) Act. "Investors have the certainty that financial and operational disclosures are meticulously compliant," said Marrone.

Times Square–headquartered NASDAQ hosted the largest African DeSPAC listing in its history when Namib Minerals, a private gold producer in Zimbabwe, became a public company following a SPAC transaction with Hennessy Capital Investment Corp VI earlier this year. Namib has a history of over two decades of operations in Zimbabwe, with one producing mine (How) and two other gold mines (Mazowe and Redwing) under care and maintenance. Cutting the ribbon on the trading floor has given the company a global platform for growth. "For over 23 years, Namib Minerals operated as a private gold producer in Zimbabwe. Today, as a Nasdaq-listed company, we are scaling aggressively," said Ibrahima Sory Tall, the CEO.

Africa's largest stock exchange, the Johannesburg Stock Exchange (JSE), has also seen the all-share index up 31% on a year-to-date basis, and the top 10 resource companies are up a staggering 123%, fuelled by recovering PGM prices and record-high gold prices. This year, the exchange saw the largest equity capital markets transaction in the history of the exchange through the listing of Valterra, formerly Anglo American Platinum.

Sam Mokorosi, head of origination and deals at the JSE, echoed a growing chorus of people who warn of the risks of US tech stocks entering bubble territory: "The doomsayers compare it to the dot-com bubble of 1999, encroaching on different market dynamics. To that, I would respond that the dot-com bubble was driven solely by earnings projections, without any real profits, whereas the current valuations of US tech companies are driven by both earnings and projected earnings growth. My caution is whether the market is pricing in too much sustained high growth in those tech companies. If a large US tech correction does materialize, it would affect multiple global markets, everything from listed asset prices all the way down to commodity prices."

As concerns the mining sector, if companies were hesitant or on the fence about listing a few years ago, today they are confident in the markets. "The public markets have been dead for a very long time, and the types of financings taking place were not the type that would allow you to build a company. As long as you have access to capital, staying private is almost always preferable. But when the markets

>> 30

Dean McPherson

Head, Business Development – Global Mining

TORONTO STOCK EXCHANGE (TSX) AND TSX VENTURE EXCHANGE (TSXV)

"As Africa becomes a more significant global mining jurisdiction, there is an opportunity to expose the region to global investors."

How have TSX and TSXV performed over the last year?
It has been an eventful 12 months, with global developments driving significant market volatility. This reached a peak in April with the US 'Liberation Day' event, which saw a major market downturn. Since then, however, markets have rebounded strongly, and performance has steadily improved.

Both the Toronto Stock Exchange (TSX) and the TSX Venture Exchange (TSXV) have reached record market capitalizations, surpassing C$6 trillion across all sectors, and, for the first time, the mining sector's total market capitalization exceeded C$1 trillion, a significant milestone for our markets. Three key metrics we track are the amount of capital being raised, the number of financings, and the number of new listings on our markets. These metrics have been trending positively. For the mining sector, as of the end of September 2025, C$7.6 billion has been raised, with 961 financings and 36 new companies joining our markets. Last year, we raised C$10 billion with 1,242 financings and 52 new listings. We are hopeful the positive momentum we are seeing in the markets leads to those metrics being exceeded this year.

Why are we seeing such growth in 2025 amid increasing global uncertainty?
The short answer is commodity prices. Precious metals, gold in particular, have continued to see record prices throughout 2025. Its value as a safe haven for investors and central governments is no doubt a large contributor to the record run we have seen.

In addition, the mining sector continues to gain attention from investors around themes like the energy transition and critical minerals, in the context of geopolitical uncertainty and the longstanding fundamentals of the sector in terms of supply and forecasted demand. Finally, as we see more countries like Canada joining the US, Chile, Argentina, and Saudi Arabia in introducing new capital and financing incentives and permitting changes to support the mining sector, the momentum in the industry will only continue.

How well was mining represented on this year's TSX30 ranking?
Mining companies made up 17 of the 30 organizations on this year's TSX30 ranking, with the majority of those being in precious metals. The sector is now attracting generalist investors, not only mining specialists. As the investor base widens and the sector continues to outperform, institutional investors are more likely to start turning their attention from producers down to exploration companies. No doubt, if federal interest rates continue to be reduced, interest in the sector will accelerate.

What are the advantages of dual listing, and are there any collaborative frameworks in place to facilitate secondary listings at TSX?
This is one of the indicators of a growing and thriving market. Increased dual listings are a good sign, as companies seek to broaden or diversify their investor base. This is often in step with heightened investor appetite for global exposure or diversified project portfolios. Our position as the leading mining exchange globally makes TSX and TSXV the obvious location for mining companies looking to raise their profile among global investors and leverage our leading mining ecosystem.

How do you observe the valuation gap between African companies and their peers in other jurisdictions, and what can be done to remedy this?
I think the first thing they should do is list on TSX or TSXV, as this could help close any valuation gap. As Africa becomes a more significant global mining jurisdiction, there is an opportunity to expose the region to global investors. It remains one of the world's most geologically rich and underexplored jurisdictions. We have a global stock market framework with the transparency and integrity to protect and support investors and companies alike. There are many success stories to be told, akin to the likes of Allied Gold and Barrick. Recently, we also added Asante Gold to our markets.

What differentiates companies that have had success in the market from those struggling?
From my professional experience and observation, management is perhaps the top factor, closely followed by the project and jurisdiction. Management's ability to tell their story to investors is among the most vital skills required. We believe our markets play a big role in giving companies a platform to reach global investors with their stories. ■

Sam Mokorosi

Head: Origination & Deals

JOHANNESBURG STOCK EXCHANGE (JSE)

Could you elaborate on the performance of mining stocks against the backdrop of global volatility?
One of the main themes is that the performance of our secondary market has been driven by our commodity counters, especially the PGM and gold counters. The all-share index is up 31% on a year-to-date basis, and the top 10 resource companies are up a staggering 123%, fueled by recovering PGM prices and record-high gold prices. These numbers show that investors can reap great rewards from the mining sector.

How can capital access for junior explorers be improved?
The decline in South Africa's share of global exploration is of concern. Together with the Minerals Council, we have been beating the drum on flow-through shares, a mechanism that has been very successful in Canada. To stimulate retail investing, we have been engaging the government on allowing stock picking within tax-free savings accounts, as well as on introducing self-directed pension savings.

What keeps you optimistic about the next 12–24 months?
In terms of what I hope South Africa can get right, access to funding for SMEs is at the top of the list, particularly SMEs in the mining value chain, whether that's junior miners or supporting sectors. For us, part of the solution is the JSE Private Placements platform, which enables unlisted companies to raise capital more efficiently.

I am also optimistic about the country's infrastructure reforms and the potential they hold for accelerating infrastructure financing. The changes underway at Transnet, both at the ports and in rail, including expanded private-sector participation, are very encouraging. Likewise, the reforms taking place at Eskom in both generation and transmission give us reason to be positive. Mining is a major user of energy and transport infrastructure, so these developments are clearly steps in the right direction. ■

Tom Attenborough

Head of International Business Development, Primary Markets

LONDON STOCK EXCHANGE

Could you provide an overview of the London Stock Exchange's' performance over the past year?
2025 has been a significant year for the UK's capital markets. With £18.5 billion raised via 352 transactions, the London Stock Exchange continued to be the leading European venue for equity capital raised, and the only European exchange in the global top 10. London welcomed 23 IPOs from across the world in 2025, raising £2.1 billion. This included Canada's Richmond Hill Resources on AIM. A further eight companies added a London listing in 2025, such as Metlen Energy & Metals, which became the first ever EUR denominated listing to become a constituent of the FTSE 100, following methodology changes to the index rules effective from September 2025. The FTSE 100 has also reached record highs. While volatility remains, sentiment has continued to recover, new issuance momentum has picked up in the second half of the year and our pipeline for 2026 is strong.

How would you characterize the UK risk appetite for mining equities in 2025-2026?
Mining and related companies ranging from Valterra Platinum to Metlen to Richmond Hill Resources joined London's markets in 2025. We also saw two African juniors reverse into London's markets in 2025; Harena Resources (Madagascar) and Switch Metals (Côte d'Ivoire), and South Africa's Pan African Resources plc move from AIM to the Main Market, entering the FTSE 250 Index in December. The sector accounts for just under 10% of the total market cap of London listed companies, and globally, London listed mining companies make up around 13% of the global market cap for the sector, ahead of exchanges such as TSX and ASX. This showcases how London's support for the mining sector and its diverse range of companies remains strong. Mining companies continue to choose London to support their growth strategies, enhance their global profile, diversify their investor base and access further liquidity. ■

<< 27

start working again, that changes. In a high gold-price environment like we see today, the public markets will likely serve Koulou better," said Alex Ruggieri, the CEO of Koulou Gold, an Ivorian explorer that has already raised about $30 million C$ from blue-chip investors like Endeavour Mining.

Koulou is planning an IPO in 2026.

Africa for Africa: Indigenous banks and sovereign funds

The US foreign aid cuts announced this year by Donald Trump's administration have reinforced an enduring desire to reduce external funding dependencies and rely more on indigenous capital. A recent example of African-only financing is FG Gold, a company created by former chief investment officer at Africa Finance Corporation (AFC), Oliver Andrews. To finance the nearly 6 million oz Baomahun gold project in Sierra Leone, Andrews and his team used solely African funds, starting with an early US$45 million stream from the AFC and a subsequent US$55 million mezzanine financing that helped other senior lenders, including a major US hedge fund and a long-term offtake agreement with Trafigura, enter the structure. "Securing this financing took persistence as some investors were initially hesitant because of outdated perceptions of Sierra Leone. But through due diligence, transparency and a strong partnership model, we built a structure that others can replicate across the continent. Our team, which is 90% African, executed a highly complex transaction with professionalism and depth. That gives me great confidence in the capabilities that exist within Africa to lead its own mining future," Andrews told GBR.

Owing to these sedulous efforts, Baomahun is on track to start production in 2026. Like the Lagos-headquartered AFC, other African entities are putting themselves at the front of mine financing, some for the first time. Leading African banks such as Standard Bank, United Bank for Africa (UBA), Absa, Ecobank, BCDC, Rand Merchant Bank, and Nedbank (in no particular order) have usually been involved in renewable energy projects, as well as mining support and infrastructure, yet many locally operating branches are constrained by liquidity limitations, high levels of NPLs, and national policies that have led them to take a more cautious approach when it comes to direct project financing. We see that gradually changing.

Farihan Alhassan, Managing Director, **GHANA COMMERCIAL BANK (GCB)**

"We are targeting new investors entering Ghana, as well as engaging with the five largest owner-operated mines and their contract miners. Our ultimate goal is to bank the entire mining value chain."

In Ghana, for instance, United Bank for Africa (UBA) is looking to grow its loan portfolio and "take more risk," especially now that interest rates are finally coming down, according to Kweku Awotwi, board chairman at UBA Ghana. Ghana Commercial Bank (GCB), the largest bank by asset value in the country, has traditionally had limited involvement in mining, but this is now changing. That said, the approach remains prudent: "We must strike a balance. On one hand, we want to support our clients' survival and growth; on the other, we must consider the risk of non-repayment in a high-interest environment," commented Farihan Alhassan, managing director at GCB.

South Africa's Rand Merchant Bank (RMB) is also venturing outside of its historical comfort zone, having expanded in jurisdictions like the DRC to build exposure in the critical minerals space. Julian Grieve, co-heading resources sector solutions at RMB, told GBR that multi-billion-dollar Congolese projects like Kamoa Kakula exceed the capacity of the local banking sector, which is where the regional banks with the bigger pockets start coming in. "An increasing number of regional banks are looking to enter the DRC and take risks, but you still do not see the bulge-bracket banks, for whom the DRC seems to remain a no-go. It will probably remain like that for a while. The market remains more local-for-local, and it would probably be difficult for a developed market bank to convince a risk committee to go back to Africa, back to project finance, and then to the DRC," said Grieve, which explains well the conundrum in which many African projects and jurisdictions find themselves.

Ivanhoe Mines' bond issuance for Kamoa was very well subscribed, which may also have to do with the Robert Friedland brand, but mostly speaks of the good project quality that overcomes financing barriers. In Asante Gold's case, it took several actors coming together, including Appian with the majority capital and RMB as the underwriter for the senior debt, to make it happen. Complex transactions like the Asante Gold financing are RMB's strength: "Our ability to back solutions to the market and then extend beyond our own hold appetite to underwrite a larger solution for the company, while planning to bring in regional banks afterwards, really helps get projects to the point where they can start the build. Given our reputation for doing good technical work and structuring deals well, this also gives other financiers comfort, and they are generally happy to come in off the back of that, which makes it easier to bring those banks in subsequently."

Also abetting the indigenous financing quest are African-based investment funds and state-owned development institutions, which typically take leading equity positions in strategic projects. The most active in recent years has been the Industrial Development Corporation of South Africa (IDC), which has positioned itself behind some of the most significant developments in the country, including the Prieska copper zinc mine by Orion Minerals, the Qala Shallows gold project by West Wits Mining, and the TGME gold project by Theta Gold Mines. A notable development in African mining is the involvement of Ethiopian Investment Holdings (EIH), Africa's largest sovereign wealth fund, in Akobo Minerals, the company behind Ethiopia's first new mine in three decades. EIH took a 7.4% stake in Akobo, marking the state-owned investment fund's first international investment (Akobo is listed in Frankfurt). ■

H.E. Wamkele Mene

Secretary-General

AFRICAN CONTINENTAL FREE TRADE AREA (AfCFTA) SECRETARIAT

"For investors, Africa is building the world's largest integrated market, with clear rules on trade, investment, competition, and digital trade that reduce risk and create long-term opportunities."

How would you define the AfCFTA's mission today, and what would you consider as success over the next decade?

The AfCFTA's mission today is about building one African market, breaking down the barriers that keep us fragmented and creating opportunities for businesses of all sizes. At its core, it is about transforming 55 separate economies into a single marketplace that supports industrialisation, innovation, and inclusive growth. It would mean strong regional value chains, supported by modern infrastructure, digital connectivity, and predictable rules. And importantly, it would mean that informal cross-border trade, where women and young people are so active, is increasingly formalised, safer, and more profitable for them.

The World Bank estimates that if we fully implement the AfCFTA, 30 to 50 million people could be lifted out of extreme poverty. That is what success would mean: Africa trading more with itself, adding more value at home, and positioning the continent as a real growth pole in the global economy.

Could you comment on the key elements that stand at the core of AfCFTA's implementation?

At the core of the AfCFTA's implementation are four key elements.

First is the operationalisation of the single market, not just signing agreements, but making them work on the ground through tariff reductions, simplified rules of origin, and the removal of non-tariff barriers.

Second is the central role of the private sector. We are rolling out the AfCFTA Private Sector Engagement Strategy, with priority value chains in agriculture and agro-processing, pharmaceuticals, automotives, and logistics. These sectors will boost industrial capacity, jobs, and competitiveness.

Third is inclusion. The AfCFTA must benefit everyone, especially women and youth.

Fourth is capacity building and support. Governments, SMEs, and other stakeholders need the tools to adapt. The AfCFTA Adjustment Fund helps countries manage short-term revenue losses, while National Implementation Committees ensure that continental commitments are translated into domestic policy and action.

10 years after negotiations began, what key breakthroughs stand out?

The first breakthrough was the legal foundation: protocols on Trade in Goods, Trade in Services, and Dispute Settlement, later expanded to include Investment, Intellectual Property, Competition Policy, Digital Trade, and Women and Youth in Trade. These instruments provide the regulatory certainty that businesses need to trade and invest across borders.

The second was the Guided Trade Initiative (GTI), launched in 2022, enabling businesses to trade under preferential terms using AfCFTA instruments such as the Certificate of Origin.

The third breakthrough is the emerging impact on the ground; rising intra-African trade, the growth of new value chains in sectors like pharmaceuticals, agriculture, and automotives, and increasing private sector engagement in cross-border opportunities.

What's your message to African businesses, investors, and policymakers about making AfCFTA's promise a reality?

For businesses, the AfCFTA opens a continental market of 1.4 billion people. Be bold, think beyond borders, and scale up. Use the AfCFTA Hub to find suppliers and partners, build regional value chains, and embrace digital tools, from e-commerce to digital payments, to cut costs and reach new customers. The continent is your market; think continentally, not nationally.

For investors, Africa is building the world's largest integrated market, with clear rules on trade, investment, competition, and digital trade that reduce risk and create long-term opportunities. The greatest potential lies in regional value chains. Invest in agro-processing, automotive, and pharmaceuticals; priority sectors that can replace imports, create jobs, and drive resilience.

For policymakers, the responsibility is clear. Without decisive action, the AfCFTA risks remaining only a promise. That means accelerating the conclusion of negotiations, but more importantly, domesticating and implementing what has already been agreed on. It requires modernising customs, cutting red tape, and creating an enabling environment where businesses can thrive.

At its core, the AfCFTA is about people. It is about jobs for our youth, opportunities for women entrepreneurs, and ensuring that farmers, traders, and SMEs can compete fairly in a larger market. Trade integration is not an abstract policy, it is about livelihoods and dignity.

I would also stress that success depends on partnerships. Governments, the private sector, civil society, and development partners all have a role to play. The AfCFTA Secretariat is committed to working hand in hand with these stakeholders to turn the vision of a single African market into real, tangible results on the ground. ■

Khanyisile Tshabalala Moshoeshoe

Head of Mining and Metals Financing
STANDARD BANK GROUP

"We rely on our international relationships to pull capital into Africa. In some of the countries where we operate, we have significant local balance sheets to assist corporates directly."

Standard Bank is the largest bank by asset size within Africa. What's your footprint in Mining and Metals?

With a presence in 21 African countries and the largest bank by assets on the continent, we have broad-spanning capabilities. Our local footprint, partnerships with communities, governments, local and international corporates and continued investment in each country over decades has provided us with the license to operate. The extractives sectors are at the heart of most African economies. With Standard Bank's multi-disciplinary mining expertise, we are able to assist across the lifecycle of mining projects and tailor our solutions to cater for the complexities of this dynamic sector, including with funding for associated infrastructure.

How does your global footprint help channel capital into Africa?

Africa is our home, and we drive her growth – this is our mission statement and our reason for existing. To be able to do that, we need capital from global sources. We rely on our international relationships to pull capital into Africa. In some of the countries where we operate, we have significant local balance sheets to assist corporates directly.

How has Standard Bank supported mining companies in overcoming power shortages?

Countries like Zambia have struggled with a severe drought and a shortage of available power, and Standard Bank has been central in supporting mining operators to invest in alternative power. In South Africa, we have been at the forefront of financing the burgeoning renewable space. We've been able to transfer our experience in South Africa to Zambia.

What's your view on the current lending environment for mining companies in Africa?

We are seeing a greater pull of capital into Africa compared to pre-COVID days, including large-ticket streaming companies. The number of projects coming up online has increased, driven by a mix of loan providers, including commercial banks, development banks, government-backed agencies, specialist private equities, and the large mining houses. Of course, it is very commodity dependent. Gold and copper continue to be the favorites. Battery metals related commodities are still of interest. A good project with clear scalability will find various pockets of capital available these days. Banks (particularly African banks) have traditionally shied away from straight-up greenfield project financing, but they are now slowly coming back to the party with hybrid financing packages, which speak to the appetite for investment in projects at different stages.

Another interesting dynamic is the change of hands from foreign-led, larger mining companies to local players or in some cases, the state. In South Africa, many of the large players that have been mining in the country since the 1980s have sold to local South African companies and facilitated local ownership.

What is the investment sentiment in South Africa like in 2025?

It's improving compared to the past period of full-scale load shedding, challenges with Transnet and intense uncertainty around mining licenses and charter changes. We've also moved past the uncertainty about whether the incumbent government would stay in power or if there would be a change etc. Yes, there are public disagreements and political infighting, but they've (so far) found ways to work together. On balance, I'd say sentiment is more positive than it was 12-18 months ago. That said, major challenges remain: Transnet still isn't delivering at the levels the mining industry needs, and road infrastructure falls short of what was promised. However, there are efforts underway, from the National Logistics Committee to Crime-Prevention initiatives, where public and private sectors are working together. Public–private partnerships, particularly in transport, are gaining momentum. So, I'm cautiously optimistic.

Standard Bank was part of the AfCFTA negotiations. Do you offer any kind of cross-border transaction platform to facilitate intra-African transactions?

Yes - we offer solutions for our clients that factor in cross-border operations to simplify transactions and contribute to the financial integration of the continent, and we are the first authorized bank on the continent to offer transactions through China's Cross-Border Interbank Payment System (CIPS).

What are your priorities for Standard Bank this year?

With the largest balance sheet on the continent, we can fund major acquisitions and projects, ensuring they have the backing they need. And it's not just about mining assets: every mining job creates and has a multiplier effect on more jobs. Our goal is to keep driving that broader economic impact across Africa. ■

Image courtesy of SRK Global

Insights

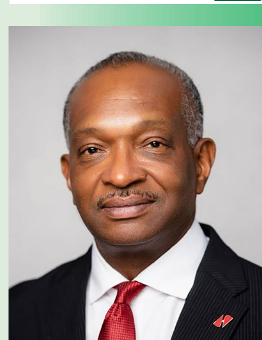
African Banks and their Strategy in Mining

South Africa

"RMB looks mostly for ready-to-build projects or those with sponsors or shareholders of reference, so that we do not become the lender of last resort if something goes wrong. Our positioning is that we are ready to do deals that are more challenging and which require a different kind of thinking. Our reputation for doing good technical work and structuring deals well also gives other financiers comfort, and they are generally happy to come in off the back of that. That said, we have been doing more transactions outside our historical comfort zone, in new jurisdictions like Côte d'Ivoire and the DRC."

Julian Grieve, Co-Head: Resources Sector Solutions, **RAND MERCHANT BANK**

Ghana



"UBA is looking to deepen its relationship with clients in the mining value chain. Because Ghana has a long mining tradition and most of the players have been around for decades, the relationship with their bankers is well-solidified – a South African company like Gold Fields, Ghana's largest producer, is more likely to bank with a South African bank. While it is not easy to break into those circles, UBA can play a role in the mid-range tickets, for a mine looking for a US$200 million loan for instance."

Kweku Awotwi, Board Chairman, **UNITED BANK FOR AFRICA GHANA (UBA)**

Zambia

"Over the past two years, Zanaco has facilitated approximately US$247 million in transactions across the mining value chain. We have also recently approved a US$50 million financing package for mining contractors and SMEs—a segment that is traditionally underinvested, yet critical for local beneficiation. Additionally, we signed an MoU with ZCCM IH to provide financial, participatory, and growth opportunities for SMEs in the sector. With the establishment of a dedicated mining team, we are now building on this foundation with greater focus and structure."

Mukwandi Chibesakunda, CEO, **ZANACO**

COMMODITIES

"The key is to be counter-cyclical and invest when nobody else is, in cheap assets, whereas what traditionally happens is that everybody moves in unison and wants to jump on the growth bandwagon when assets are overvalued compared to historical averages."

Jorge Ganoza
CEO
FORTUNA MINING

Image courtesy of Minrom Consulting

Image courtesy of Aya Gold & Silver

Gold Production

The art of counter-cyclicity

The 'contrarian investor' is one who moves against the grain, buying when assets are priced low and selling during market upswings. The same countercyclical strategy can be applied by gold mining companies that invest in growth projects against the prevailing market trend. With gold investment in itself a defensive act, this article looks at how African gold companies can play on the offensive now that gold has breached the US$4,500/oz mark, in order to benefit more from this expansionary phase of the cycle.

About the same time last year, we were writing about gold equities lagging behind the gold price. This is no longer the case. On average, both Australian and Canadian mining stocks, which account for the majority of listings in Africa, are outperforming the gold price. The S&P/ASX All Ordinaries Gold Index, which tracks the performance of Australian-listed gold mining companies, rose 108.35% in the last year, while gold rose over 60% over the same period. In Canada, both the S&P/TSX Capped Gold and the S&P/TSXV are 130% higher over the past year. These indices show that stock performance amplified the gold movement, with a high leverage factor, a sign of a healthy gold-stock market relationship during a bull market.

Operational performance: Since gold broke through

38 >>

Terry Heymann

Chief Strategy Officer
WORLD GOLD COUNCIL

"We are seeing very strong and very diverse underlying demand, including continued central bank buying and record assets under management (AUM) in gold ETFs."

How do you interpret the current gold price rally?

The rise in the price this year has been phenomenal and, in many ways, unprecedented, but once you start looking at the levels of debt around the world and the desire for real assets of significant liquidity, the rally is not that surprising.

We are seeing very strong and very diverse underlying demand, including continued central bank buying and record assets under management (AUM) in gold ETFs. What has been surprising, at least to me, is the resilience of Asian jewelry markets even at a historically high gold price. Jewelry comprises approximately 50% of annual gold demand globally.

At higher gold prices, informal and illegal gold value chains are also incentivized. How can this be better controlled?

This is a topic we put a great deal of time and energy into. There is a difference between illegal actors and well-intended, responsible artisanal miners, but there are also well-documented linkages whereby warlords, terror groups, criminal gangs, and other illicit actors exploit artisanal miners.

We think there is a different way: the alternative is to establish centralized processing plants that allow the processing of ore into doré to occur at centralized, neighborhood-level facilities that are mechanized and use cyanide, as opposed to taking place at the mine site and using mercury. The benefits of replacing mercury with cyanide are huge, from avoiding mercury pollution, to improved production due to higher yields, to the fact that cyanide is tightly controlled and harder to access.

We are working on technology that verifies that the ore comes from where it claims to come (responsible artisanal sources), so that it becomes acceptable to processing facilities and can enter the formal market. The model is not new, but what has been missing is policy support from producing countries and from the G7, G20, and BRICS. Governments must provide a backstop to give the industry confidence to take on additional risks.

Those risks can be significantly lowered through new technologies (like blockchain), and the potential results in terms of improving environmental and social practices and addressing illicit finance are substantial.

Could you provide background on the Consolidated Mining Standard Initiative (CMSI) and the progress toward publication?

The CMSI is about recognizing the centrality of responsible mining and the existing commitment from many large-scale mining companies, while also addressing the gap among large-scale miners that are not members of the Council or other associations. Together with our partners, we believe we can scale responsible mining by simplifying the landscape, clarifying the rules, and creating entry points for companies that are not yet on that journey.

The CMSI brings together the best of four existing initiatives: the World Gold Council with the Responsible Gold Mining Principles (RGMPs), the ICMM, the Copper Mark, and the Mining Association of Canada. An important aspect of the CMSI is setting up a new governance body, marking a major shift from industry-led and industry-governed voluntary standards to a multi-stakeholder board. We hope to be in a position to launch by the middle of next year.

The World Gold Council plans to launch a pilot in digital gold. What are the benefits of holding and trading digital gold?

We are proposing a new way of thinking about investing in gold for institutional investors, who up until now had the choice of investing in gold either in allocated or unallocated form (without underlying physical gold). Digital Pooled Gold offers the best of both: it is backed by physical gold but pooled; within that pool, an investor can gain access to as much or as little gold as they want.

This is a new model that needs to go through validation, but we are preparing a pilot to test this new way of investing. Once you have created this pooled gold interest category, there are many opportunities to use it in different ways, particularly for collateralization. Gold has always qualified as collateral, but neither allocated nor unallocated forms quite work for modern collateralization needs.

This is a significant moment in terms of how the gold markets operate, especially for London, which is the key liquid market for gold.

Gold is the ultimate physical asset and will always be so, but we are innovating by using digitalization to create new product types. ■

<< 36

the US$2,000/oz ceiling in 2020, the industry has seen over five years of continued growth. Beyond the size of the operation and the number of ounces sold into the market, operational efficiency, typically measured under All-in Sustaining Costs (AISC), determines the level of leverage in a high-price environment, making the difference between top performers and ordinary performers (there are no bad performers at this price). West African gold miners are notoriously operating at lower-than-average AISC, thanks to a combination of lower labor costs, closer-to-surface deposits, and higher grades. An SRK study found that a 1 g/t increase in grade reduces AISC by AU$120/oz, as reported by Discovery Alert.

For those producing gold at under US$2,000/oz AISC, which is the case for most African players, returns during bull periods are outsized, especially if production is not hedged. Some African producers, like Thor Explorations in Nigeria, are producing at under US$1,000/oz AISC. A competitive AISC not only translates into immediate margins but is also seen as a sign of resilience that investors reward, often more than a seductively high grade on its own.

Financial discipline and returns: During this period of sustained high gold prices, mining companies have had the chance to repair and consolidate their balance sheets. According to a report by RBC, every 1% rise in gold prices boosts miner EBITDA by 2-3%. Returning value in line with shareholder expectations involves an artful balance between consolidating financial strength and pursuing more aggressive growth strategies, and these decisions can impact share performance as much as fixed items like operational leverage. Companies like Perseus Mining have been paying dividends for several years and have also launched their first share buyback program this year. Many producers have taken similar measures. Higher shareholder returns, including dividend policies, have become strong valuation catalysts.

Building reserves: Cash build-ups and fortified balance sheets create room for more capital deployment. The priority for gold producers is accruing larger reserves. Long-life and quality assets command higher premiums, according to Canaccord's analysis (March 2025): miners with a 15-year reserve base trade at a 0.9x P/NAV versus 0.6x for companies with less than a 10-year reserve base. The valuations of mid-tiers are particularly impacted by reserve updates. This is perhaps why Perseus Mining has released a five-year gold production outlook to demonstrate that, based on existing reserves alone, the company will recover 2.6–2.7 million oz of gold at a rate of 535,000 oz/y.

To build reserves, companies can either acquire them or discover them themselves. At a time when gold is more precious than ever, African producers are announcing higher capital allocations for exploration over the last quarters. For example, Fortuna Mining has announced a global 'generative exploration' program of US$19 million, nearing the company's brownfield budget of US$22 million. That balance between brownfield and greenfield allocation is atypical for an industry heavily geared toward minesite

drilling and is an encouraging change for the continent. According to CSIS, gold exploration plummeted between 2012 and 2024 by 73.7% in Ghana, 89.7% in Burkina Faso, 58.9% in Mali, 74.8% in Tanzania, and 66.7% in South Africa. The current surge in exploration spend is a welcome antidote to the underinvestment of the previous decade, but sustained efforts will be needed to fully reverse the decline.

A bull market also typically triggers more M&A activity, which adds valuation floors, but with assets already quite pricey, cash-rich producers are highly selective. Peter Marrone, chairman and CEO of Allied Gold, said: "No transaction at the present time would compel this company to deviate our focus from Sadiola and Kurmuk. I cannot think of another mid-tier underpinned by not one but two world-class, generational assets such as Sadiola with 10 million oz of resources and production of 400,000 oz/y of gold once Phase 2 expansion is complete, and Kurmuk, which will produce 240,000 oz/y."

M&A: Measured and Astute

After divesting two non-core assets, one in Burkina Faso and one in Mexico, Fortuna Mining has been asked whether it will seek to replenish its portfolio with new acquisitions. Fortuna's president and CEO Jorge Ganoza responded: "We expanded our business in West Africa and built our largest mine to date at a time when the markets were risk-averse, and we had to deal with a lot of pressure from investors questioning our capital deployment at a time of downturn. Undoubtedly, we are seeing more M&A already taking shape, but if you speak to CEOs who have lived through many gold cycles, you will note a much more measured approach compared to previous cycles."

As Ganoza suggests, there has been more restraint concerning aggressive acquisitions in this cycle. In Africa, this has materialized through mid-tier miners starting by taking minority positions in or forming partnerships with junior explorers, often their neighbors. This trend has been primarily seen in West Africa. For example, Perseus Mining acquired a 19.9% stake in Predictive Discovery last year, and this year entered a bid to acquire the developer. However, Predictive ended up accepting an offer for a merger-of-equals with Robex Resources, also operating in Guinea, where it is ramping up to full commercial production at its flagship Kiniero. Once both Robex's Kiniero and Predictive's Bankan project reach nameplate capacity, the merged player will be producing 426,000 oz/y (in CY29 according to its presentation), becoming one of the leading players in West Africa. It would also become the leading player in the Siguiri basin in Guinea, overtaking AngloGold Ashanti, which operates the 273,000 oz/y Siguiri mine.

Another acquisition that began with a minority shareholding was Montage Gold's acquisition of African Gold. Montage, a fully funded developer expected to start production at its 5.5 million oz Koné project in Côte d'Ivoire in 2027, acquired approximately 17% of African Gold's shares earlier this year, becoming the operator of African Gold's Didievi project. By year end, Montage closed the deal for the remaining shares. Montage is also a strategic investor in Sanu Gold, a junior in Guinea, and was previously an important shareholder in Aurum Resources, its neighbor in Côte d'Ivoire.

Several other transactions highlight larger companies gaining exposure in strategic explorers and developers across West Africa, paving the way for a more consolidated future gold sector. This year, Fortuna Mining also bought 15% of Awalé Resources, becoming its largest investor. Awalé already has a joint venture with Newmont covering about 30% of its 2,463 km² landholding in Côte d'Ivoire, which has yielded four discoveries, while the remaining 70% remains highly prospective. Awalé's Odienné project is the only African project that Newmont has invested in outside its own operations in Ghana, but it is not Fortuna's only interest. This year, Fortuna signed a joint venture agreement with DeSoto Resources, which gives the miner exposure to Guinea, a jurisdiction where it currently has no presence. Paul Roberts, chair of DeSoto Resources, said the properties remain 100% DeSoto's, but the partnership with Fortuna will allow it to cover more ground across its 1,200 km² tenements. Roberts is also the founder of Predictive Discovery, highlighting how small and interconnected the West African gold mining world is.

One does not need to look far to find similar moves showing the same pattern. Endeavour Mining, the largest pure-play West African miner, took a 12.3% strategic stake in Koulou Gold, a newly created, privately held junior with three projects in Côte d'Ivoire. One of these projects, the 335.88 km² Assuéfry exploration permit, lies adjacent to Endeavour Mining's Tanda-Agba project. In Liberia, a more direct synergy could be established if Avesoro Resourc-

46 >>

Danquah Addo-Yobo

Country Manager
NEWMONT (GHANA)

How does Ahafo North fit into Newmont's overall output guidance and portfolio strategy?

Ahafo North comes on stream at a crucial moment for Newmont as we undergo a global strategic review and streamlining process that leaves us with 12 mining operations and two projects globally. The close to 1 US$ billion investment reinforces our commitment to Ghana, helping consolidate a robust and diversified global portfolio. Ahafo North will be producing about 300,000 oz/y once the ramp-up has been completed. In combination with Ahafo South, we will produce about 750,000 oz/y from our Ghana operations. The two mines have more than two decades of combined life-of-mine (LOM), with opportunities for LOM extensions through exploration and discoveries.

How has Ahafo North contributed to local economic development and employment since construction began?

During the construction phase, we created a peak of 4,500 direct and contractor jobs. As the mine transitions into operations, the size of the on-site workforce reduces to about 1,600 direct and contractor employees, but at this stage we start seeing the scaling effect on local businesses through contractors, suppliers, and the entire ecosystem galvanized by the mine.

How does Newmont approach its responsibility to communities?

Our approach to community engagement has been modelled around empowerment: In Ghana, we set up the Newmont Ahafo Development Foundation, a 100% Newmont-financed fund for community development, with a governance structure that is controlled by the community. We donate US$1 per oz of gold produced annually and 1% of profit before tax to the foundation. Outside of the foundation, infrastructure, human development and empowering community initiatives are a big focus: We have invested GHS 13.5 billion in scholarships for over 5,000 Ghanaian youth in our host communities, and we are also undertaking a major drip irrigation and greenhouse agriculture project, helping the local farming sector become more resilient and able to grow crops year-round. ■

Baba Salihi

Vice President External Affairs
TASIAST MAURITANIA (KINROSS GOLD)

Could you provide a brief overview of the Tasiast Mine and its significance to both the local and national economies?

Tasiast is an open-pit gold mine located 300 km northeast of Nouakchott, Mauritania. 100% Kinross-owned and operated since 2010, Tasiast is one of Africa's largest gold mines with one of the biggest semi-autogenous mills in the world, at a capacity of 24,000 t/d. Since 2010, Kinross has paid over US$1.44 billion in royalties and taxes. Our tax payment to the government for 2024 was US$195.9 million, making Tasiast Mauritania's largest taxpayer.

Locally, our contributions to in-country procurement between 2011 and 2024 amounted to US$3.1 billion, with US$226 million in 2024 alone. As part of our Local Business Integration program, we give preference to local services and suppliers. The operation generates over 4,000 direct and indirect jobs, with 97.8% of our direct employees and 72.4% of our senior leadership being Mauritanian nationals. Our strategy from day one was to empower our Mauritanian workforce, and we have been able to achieve this over the past 15 years of operations.

What is the guidance for 2025 and 2026?

In 2024, Tasiast produced a record 622,394 oz/y, which represented around 29% of Kinross' global output. For 2025, we are looking at production of about 500,000 oz, in line with our guidance. This is due to natural mine sequencing, where we are depleting some of the ore to extend the mine and access higher-grade material down the road. Tasiast has estimated gold reserves of 4.7 million oz, and we are actively exploring for more deposits.

What would you tell investors about Mauritania's attractiveness as a mining destination?

Mauritania is a stable country that looks after its international investors, and we think it deserves the attention of investors. The mining sector represents about 25% of the country's GDP and Mauritanian people themselves see the value of responsible, sustainable and equitable mining. ■

Melkiory Ngido

Country Manager Tanzania
BARRICK MINING

Could you provide a brief history of Barrick's presence in Tanzania?

In 2019, Barrick assumed full operational control of the North Mara and Bulyanhulu gold mines. The following year, we established Twiga Minerals Corporation, a pioneering joint venture with the Government of Tanzania that resolved all outstanding legacy issues and set a new model for equitable sharing of economic benefits.

What have been the latest operational developments at North Mara and Bulyanhulu?

Over the past five years, North Mara has undergone a remarkable transformation, with its LOM extended to beyond 2040. At Bulyanhulu, the LOM has been extended to 2050, underpinned by sustained brownfield and greenfield exploration around the main orebody. Operationally, the mine has achieved a major improvement in gold recoveries, rising from approximately 60–70% to 85%, driven by process optimization and plant efficiency initiatives.

Together, North Mara and Bulyanhulu continue to deliver on Barrick's commitment to long-term value creation in Tanzania, maintaining a combined annual production guidance of approximately 500,000 oz. We have also added over 4,000 km² into our exploration grounds in search for another tier one asset. The prospects from these extensive exploration activities are encouraging.

What are some landmark ESG programs as part of Barrick's license to operate in Tanzania?

Each year, Barrick allocates US$6 for every ounce of gold sold directly to community development projects—funds that are managed and prioritized by the communities themselves. This unique model ensures that local voices guide local progress.

Through this initiative, Barrick has supported a wide range of transformative projects in water access, healthcare and education. People are sensitive when it comes to natural resources, and that is often a source of conflict. This is why for us it is important to be true partners with the host countries and host communities, so that our hosts know they are a part of the operation, understand the benefits, and see that the mining company comes to add value to the National Natural Resources which in turn improves their life. ■

Renaud Adams

President and CEO
IAMGOLD

In what ways are you mitigating political risk at your Essakane operation in Burkina Faso?

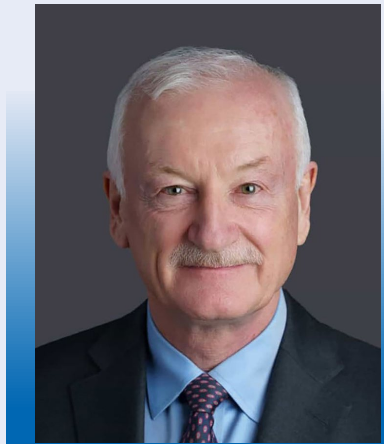
I recently visited our operation in Burkina Faso, and what I can say is that what one reads in the international press and the reality are two different things. During my visit, I engaged with both local communities and government officials, and once again walked away with admiration for the Burkina people.

Despite security challenges in Burkina Faso, which put pressure on the in-country supply chain, Essakane has now operated for two and a half years without interruptions to the supply chain and 14 years without significant interruption. IAMGOLD's social license comes from the fact that we have proven ourselves to be beneficial to the government and people there.

In 2025, we worked alongside the government to make a deal that would work for both parties, which could only come about due to close collaboration and understanding. Our dialogues are ongoing to help us better understand how our partnership with the government can be mutually beneficial in the coming years.

How is IAMGOLD demonstrating discipline despite the current gold price environment?

There is currently an unprecedented opportunity in the gold space, with some net profit margins exceeding 100%. Companies must use the current gold price to their advantage, but need to learn lessons from previous bull markets. In the past, cut-off grades were lowered too much and too quickly, meaning that when the gold price corrected, companies were left mining uneconomic ore. We grew Côté Gold on the assumption of US$2,500/oz. Looking at this year, we are focused on cost control on a unit basis. What does change in this environment is that what was previously waste is now low-grade ore, so we are consciously ensuring our stacking of waste rock is taking this into account to ensure the low-grade ore is accessible in the far future. ■



Ian Cockerill

CEO

ENDEAVOUR MINING

How will Assafou contribute to your goal of reaching the 1.5 million oz annual production?

Assafou is a tier 1 project in Côte d'Ivoire and a key driver to achieving our 1.5 million oz annual production by 2030 target. It is progressing through the DFS with the environmental permit approved in Q3 2025. We are expecting DFS completion and the exploitation permit in Q1 2026. The PFS shows average production of about 330,000 oz/y at an AISC of around US$900/oz over the first 10 years, with strong economics.

In Q4, we set out the next five-year exploration strategy, targeting 12-15 million oz of resources at <US$40/oz, predominantly in West Africa, to expand mine lives and discover new deposits with the potential to become tier-1 assets and replace Assafou in our development pipeline once that mine comes into production.

With Assafou coming into production, Côte d'Ivoire will account for the biggest base for Endeavour's production. So, why Côte d'Ivoire?

Côte d'Ivoire offers extensive, relatively under-drilled belts that are continuous with Ghana and Burkina Faso, as you can see from recent discoveries and new mines such as Lafigué and the Assafou deposit on the Tanda-Iguela property. We like operating in Côte d'Ivoire and we have been successful there through various gold price cycles. We have developed long-term partnerships built on shared values, transparency and responsible investment.

To what extent is your valuation impacted by having an exclusively African portfolio?

We are performing well, and our geographic focus is an advantage. West Africa remains one of the most prospective, relatively underexplored gold regions globally. The combination of geology, supportive fiscal regimes and efficient permitting has enabled us to discover 20.7 million oz of M&I resources since 2016 at discovery costs of less than US$25/oz, and to build five projects over 11 years, delivered on time and on budget.

That track record, plus strong free cash flow and returns, has been recognised in our share price performance. ■

Craig Jones

Managing Director and CEO

PERSEUS MINING

Could you comment on Perseus' recent performance?

In terms of production, we delivered just under 100,000 ounces for the quarter at an all-in site cost of US$1,463 per ounce. Net cash flow for the quarter was US$161 million, and we continued to strengthen our financial position, ending with net cash and bullion of US$837 million. All of this was achieved while we continued to invest in our growth projects and capital programmes. Overall, it was a very strong quarter for us.

Perseus recently obtained approval for the CMA underground project at Yaouré in Côte d'Ivoire - the country's first underground development. Could you share your thoughts on this milestone?

We achieved our first milestone in late October, with the first blast safely completed for the final three underground portals, Assanou, Sika and Blika. All four portals are now online. Overall, the outlook for CMA Underground is very positive and we are excited to be breaking new ground, so to speak, in this first underground development in Côte d'Ivoire.

Do you have any final messages or key points you would like to highlight for the global mining and investment community?

The company has a solid strategy, and we will be focused on delivering the five-year outlook presented to the market. That includes maintaining strong operating performance, ramping up the Nyanzaga project in the March quarter of 2027, and successfully building and operating Côte d'Ivoire's first underground mine. We will also be prioritising life-of-mine extensions across our existing asset base.

This means increasing our efforts in exploration. Beyond that, if compelling opportunities arise, we will assess them on their merits and make decisions accordingly. But our primary plan is to continue running a safe and efficient business that generates strong cash flows, allowing us to return capital to shareholders while simultaneously delivering on our growth ambitions. ■

Jorge Ganoza

CEO

FORTUNA MINING

Could you update our readers on current guidance and strategy?

Fortuna produced 460,000 oz of AuEq in FY24. Following the divestiture of two non-core assets, our guidance for this year is 300–330,000 oz. Our Lindero mine in Argentina contributes about 100,000 oz/y at a competitive cost of US$1,500–1,600/oz AISC, with current reserves to last for over a decade. Meanwhile, our Séguéla mine in Côte d'Ivoire will account for another 170,000 oz/y, with a similar cost base and a 10-year LOM. The remaining ounces come from our Caylloma silver-gold-zinc-lead mine in Peru. On top of this production profile, we have organic opportunities through the Diamba Sud project in Senegal, where we are working towards an FS by 2026; based on current resources, we expect Diamba to produce 120,000 oz/y. Together, these assets support a total production profile of around 450,000 oz/y.

Our strategic objective is to consolidate Fortuna as a mid-size producer of gold and silver in the half-a-million-ounce range at costs that are well within the middle of the curve. At these rising gold prices, we found keen buyers for our assets in Burkina Faso and Mexico, realizing value for our shareholders while remaining focused on our core portfolio. We are on track to meet our annual guidance and benefit from both higher gold and silver prices, generating healthy cash flow and strengthening our balance sheet, which was important as we emerged from the capital-intensive phase of constructing Séguéla, now our largest and flagship asset.

What near-mine opportunities are you exploring at Séguéla?

One of the main focuses is our Sunbird deposit, which could alone be close to 1 million oz. If confirmed, Sunbird would be our single largest deposit within the Séguéla camp. We are already considering an underground component, following a higher-grade portion that's deeper and amenable to underground mining. We had additional success with the Kingfisher deposit, where we continue to drill with encouraging results. With 35 km of the belt under our control, we are very excited about the future. ■

Peter Marrone

CEO

ALLIED GOLD

Could you share the latest operational updates across your asset base in Mali, Côte d'Ivoire and Ethiopia?

Our priority has been to stabilize, improve, and optimize both producing and development-stage assets – getting into development without these three things is like building a house without a foundation.

For example, in Côte d'Ivoire, we treat our two mines as a single complex rather than individual operations: these are relatively small mines, about 17 km apart and connected via a road, but together produce between 180-200 Koz of gold per year. At our Sadiola gold mine in Mali, we have significant mineral reserves and we are transitioning from oxides to fresh ore. Due to the completion of Phase 1 of the expansion near the end of 2025, Sadiola is now expected to produce at a steady rate of 200-230 Koz of gold per year, at improved costs and margins, providing a sustainable foundation for further growth. Indeed, this is only a bridge to the Phase 2 expansion, which we expect will lift output to a comfortable 300-400 Koz of gold per year with a material AISC reduction of up to US$500/oz. Lastly, we continue to advance the development of the Kurmuk project in Ethiopia, targeting first gold pour in mid-2026. Kurmuk is expected to produce an average of 240 Koz of gold per year.

Across all fronts, we are working to grow our production guidance from around 375 Koz in 2025 to approximately 600 Koz with Kurmuk fully online by 2027.

How is the political environment in Mali shaping investor perception?

Today, there are more high-quality return opportunities in Africa than anywhere else, and this is why we are here. Economic nationalism is not Mali-specific, but a global phenomenon, in the US, Canada, and parts of Europe. At our operations, we strive to prioritize local content. It can take longer to create reliable local supply chains, but doing it this way goes very far. Our aim is to leave behind sustainable local economies through training, education, and opportunities that let people build better futures. ■

Dave Anthony

President and CEO
ASANTE GOLD

Can you describe how the recent US$500 million financing package is shaping Asante's strategy?
Since late August, when the financing was completed, we have cleaned up our balance sheet and were able to raise over US$180 million via a bought deal and private placement. Our register now holds 39% institutional shareholders, principally from the UK and Europe, but also from the US and Canada. From a business with two employees back in 2021, Asante has today a workforce of 1,500 employees, and 2,000 contractors. In total, 3,500 people - and 3,500 families - are directly affected by the development of this company, not counting service providers and suppliers.

We are at a point where we have an important role for the Ghanaian economy and the wellbeing of our communities, as part of the company's trajectory towards 400,000 ounces in 2026 and 500,000 ounces by 2028.

Asante is preparing updated NI 43-101 technical reports on both mines by April 2026. Could you update us on the LOM outlook for Bibiani and Chirano?
At Bibiani, the underground development takes the life of mine past 2035, but based on how the orebodies are oriented, we expect Bibiani to be a generational asset with a LOM well beyond 2040. At Chirano, we have had spectacular exploration success, especially at Obra underground, where we confirmed the extension of mineralization. When we bought Chirano, it had an LOM out to 2027, but we are now looking at 2033–2034, and up to 2040 based on current resources. Our belief is that both assets have a long-term production outlook ahead of them. We're drawing out an exploration budget for Chirano and Bibiani, that we will deploy before the end of the year. The results coming out of these aggressive drilling campaigns will feed into the NI 43-101 reports, issued in April 2025.

Since September 24th this year, Asante is listed on the TSXV (ASE). Why did Asante choose the TSXV?
The TSX has demonstrated international governance and reporting requirements that are extremely well regarded. That brand recognition is key. Since the start of trading, our volume has gone from 70,000 shares/day to 1.2–1.5 million shares/day. ■

Segun Lawson

CEO
THOR EXPLORATIONS

What are your current exploration focuses this year?
Though we are a gold producer, we remain a growth-geared company, and growth can happen through successful exploration, so we have leveraged the high gold prices to boost our exploration budgets, with the top end being about US$22 million allocated this year across all jurisdictions.

Starting with Nigeria, our first and most important exploration focus today is around the Segilola mine, where we have been drilling deeper underneath the pit to evaluate whether we can extend into an underground operation or even deepen the current open pit. Segilola currently produces around 80,000 to 95,000 oz/y and has three years' LOM based on current reserves.

In Senegal, we have completed a 12,000-m campaign that will feed into the PFS of the Douta project, and in Côte d'Ivoire we have just completed a maiden drilling program at Guitry, a project acquired from Endeavour Mining. The results showed high-grade mineralization that remains open along strike and at depth. Our goal is to put together a maiden resource of over 500,000 oz by the end of this year.

How do you measure the appetite for investment in gold mining stocks?
Our share price has performed exceptionally well over the past 12 months, up about 300%. That strength reflects a higher gold price, our record revenues, the elimination of debt, and the fact that we are now returning money to shareholders. We are seeing growing interest from both institutional and retail investors.

What is your vision going forward?
I hope to see Thor operating three mines in five years—with the Nigerian operation extended, Douta in production, and a third operation in Côte d'Ivoire. ■

Stephen Mullowney and Khalaf Rashid

SM: CEO
KR: Senior VP and Managing Director Tanzania
TRX GOLD

TRX started production at the Buckreef gold project in 2022 and has since completed several plant upgrades. Tell us about your growth over the last few years.
SM: The Buckreef Project is located in the highly prolific Geita region of Tanzania, about 45 km from Barrick's Bulyanhulu mine and 35 km from AngloGold Ashanti's Geita mine. We started with a modest 350 t/d processing plant, which we ramped up to 2,000 t/d over the past three years.

Could you elaborate on the PEA filed in May this year and the ramp-up plans?
SM: Earlier this year, we filed a PEA outlining the plan to expand and upgrade our processing plant over the next two years, after which we can transition from open-pit to underground mining. This expansion will take us to between 65,000 and 80,000 oz/y of gold production within the next two to three years. Our goal is to demonstrate more than 100,000 oz/y of gold production over a 10-year period.

We are also excited to ramp up exploration once again. We have a target next to the Buckreef Main Zone and we are very confident that we will find more resources on the property.

How is mining understood at the local community level?
KR: In Tanzania, negativity toward mining can sometimes be historical, or stem from a simple lack of information. For these reasons, we take our stakeholder engagement strategy very seriously. Buckreef is a relatively small operation, yet we work with 100 different service providers, all Tanzanian-registered companies ranging from catering to contracting. One contract creates ripple effects on employment, at a rate of roughly 1:5.

SM: In Tanzania, we have been able to develop an asset in a country with the right rules and regulations in place, aligned with Western ESG standards, and open to investment. AngloGold Ashanti, Barrick, Perseus Mining, and Lifezone Metals are all active in Tanzania. ■

Jørgen Evjen

CEO
AKOBO MINERALS

Could you provide an update on Akobo's first year of production?
After 15 years of hard work, we declared first production at our Segele mine in Ethiopia last October (2024). This is the first new international mine to open in the country since 1994. After the inauguration of the plant and producing our first doré bar, we have been focusing on operational improvements and adjustments. Right now, we are mining from two tunnels/winzes that go into the main ore body, that can produce up to 400-500 t/month at 30 g/t, which comes to 10-15 kg of gold/month.

What's your exploration strategy now that you are a producer?
Akobo remains, at its core, an exploration company, with Segele becoming a strategic cash-flow generator for more aggressive exploration. Today, exploration is again a top-of-the-agenda item. We applied for a new, larger license of 1,200 km^2, just north of Segele and following the same geological structure. The new license, called Gilo, is a pure greenfield play.

Could you comment on the ramp-up plans with the introduction of a vertical shaft?
Establishing a vertical shaft is a cost-efficient way to increase mine production from the current 400-500 tons/month to up to 3,000 tons/month – a significant increase, which would result in gold production between 40 and 60 kg/month. The shaft will go down to 130 meters. The capital expenditure (of around US$1.5 million) would be recouped in a month of production.

As a first mover in Ethiopia's mining space, would you recommend the country as a mining jurisdiction?
Yes, but I would caution that you must be prepared. If I were to offer one piece of advice, it is to pick your partners carefully. Over the next five to 10 years, I believe Ethiopia will rise to become a huge mining jurisdiction, absorbing much of the capital that is being pulled out of West Africa. ■

<< 39

es, the country's leading gold producer, acquires the Todi project from recently listed Zodiac Gold. The two companies entered an exclusivity agreement in October 2025.

Transactions that did consummate this year in the classic fashion include Barrick Mining's sale of the Tongon gold mine to Atlantic Group. Australia's Santa Fe Minerals has also acquired several gold projects in Côte d'Ivoire from both Turaco Gold and Wia Gold, marking its first expansion outside of Australia. Only South African gold producers, including Pan African Resources and Harmony Gold, are acquiring assets outside of Africa, the latter diversifying to copper.

How volatile is gold today?

We had the chance to sit down with Terry Heymann, chief strategy officer at the World Gold Council, and the first question we tackled was whether this gold rally is surprising to him. "This is not an asset class with a single investor or purchaser, and that makes it resilient in both an expansionary and contractionary world, with different investors buying gold for different reasons. The rise in the price this year has been phenomenal and, in many ways, unprecedented, but once you start looking at the levels of debt around the world and the desire for real assets of significant liquidity, the rally is not that surprising," he said.

Indeed, the diversity of support that gold is receiving today confers robustness. The current price is underpinned by multiple variables that point to a lasting windfall. They start with the US economy, especially inflation, correlated with US CPI projections and expectations of ongoing Fed rate cuts. These macro factors have led to the weakening of the US$ and the consequential investor migration from US$-denominated assets to gold assets.

Central banks across the world have pivoted to gold, purchasing a record-breaking 1,180 t of gold in 2024, the third consecutive year of over 1,000 t of purchases, according to the World Gold Council (WGC). In particular, BRICS countries have built large gold reserves in recent years, with speculation that some members are exploring the idea of a gold-linked currency as an alternative to the dollar. Institutional money, including pension funds, insurance companies, asset managers, and hedge funds, is following. In the last two years, institutional investors increased the share of their portfolios allocated to gold ETFs from 3.8% to 5.2%, according to a BlackRock report.

The GVZ (CBOE Gold Volatility Index), which tracks an estimate of expected 30-day volatility in gold prices, is currently at 20.7, suggesting a period of relative calm. This is comfortably above the calm baseline seen in pre-COVID years, but well below unsustainable territory, as seen during the 2008 financial crisis, when the GVZ soared to over 40.

For Africa, home to up to 40% of global gold reserves and a third of global production, this backdrop means that mining and exploration companies have time to benefit from the current cycle, which appears to have transitioned from the more chaotic early bull phase into the expansion phase, a sweet spot for attracting more mainstream capital and one that can support handsome valuations. ■

Image courtesy of Minrom Consulting

Gold Exploration and Development

A numbers game

There are two moments in an explorer's life when the biggest valuation jumps can happen: the first is the resource declaration stage, when investors get a first credible estimate of a deposit size, beyond atomised drill results. The second is the run-up to declaring a construction decision, when the markets get a sense that the deposit is derisked, feasible, and will likely secure the needed financing. Across the gold space, and depending on their positions today, African explorers are rushing towards these milestones – and in that rush, they are driving the biggest drilling spell in a decade.

For early-stage players rushing to declare their first JORC or NI 43-101-compliant resource, it is all about the number of meters drilled. This year, we are seeing the largest drilling campaigns announced. Awale Resources, for instance, has over 100,000 meters underway this year at its Odienné project in Côte d'Ivoire. Aurum Resources planned 130,000 meters across its Boundiali and Napié projects in Côte d'Ivoire.

Aggressive programs are launched even by the newest entrants: Kobo Resources, a small junior, is planning 20,000 meters this year at the Kossou project in Côte d'Ivoire, in preparation for its MRE. Zodiac Gold, which only just started trading this year, has 10,000 meters drilling underway over a land package of 2,316 km^2 in Liberia.

Marvel Gold, a company that has shifted from Mali to Tanzania, explained its 'drill to kill' philosophy: "In our view, the best exploration approach is drill-to-kill, which means that we drill aggressively, and if we don't find anything, we move on to the next asset. Too many junior companies, especially on the TSX, are flogging a dead horse, having drilled their properties for years, delineated a small resource of under half a million ounces, and they keep going back, raising US$2–3 million, doing a little drilling, and the cycle repeats. We want to drill as much as we can while evaluating other properties, within or outside Tanzania," said Timothy Strong, executive director at Marvel.

But the companies drilling the most meters this year are those looking to expand on existing resources. Asara Resources, established by the same team that took the Kiniero project in Guinea from 1 million oz to 4 million oz, has adopted a similar mindset at its 1 million oz Kada project, also in Guinea: For this year, Asara is running 100,000 meters of drilling, a number rarely heard of in the junior world. Matthew Sharples, Asara's CEO, explained the logic: "Our strategy is straightforward: Spend the next two years drilling as many holes as humanly possible to grow Kada into a 3 million oz+ deposit and get it construction-ready. In West Africa, scale is everything. Projects need to support plants of 6 million t/y (like the new Kiniero plant) to be truly attractive. At Kiniero, we drilled over 220,000 meters in just three and a half years."

Such campaigns are well-supported by the capital markets. In Ghana, Newcore Gold has increased its initial drilling program several times, going from 10,000 meters initially planned to 45,000 meters following the exercise of warrants that provided additional funding. The company is advancing

the Enchi project towards a PFS earmarked for H1 2026. This is the largest drill campaign the company has run in recent years and is focused on both resource expansion and conversion. The project currently has a mineral resource of 743,500 oz in the Indicated category and another 972,000 oz of gold in the Inferred category, with current deposits open along strike and at depth, and a thesis around larger size and higher grade underground, as seen in other projects in the region, the closest being Chirano.

When we move to the advanced developers preparing to make a claim for financing, the drilling is more closely spaced, and the focus is more holistic: metallurgical testing, permitting, and other de-risking exercises. In this space, projects get judged based on the metrics presented in DFS studies, so the most significant development is the update in the reference price used by engineers in technical studies, from about US$1,700–1,800/oz to US$2,200/oz and above, reflecting a market consensus of gold's long-term sustained value. Developers have been hurrying to revise older studies and rerun the numbers to reflect the material boosts on their economics. That review has had significant ripple effects, catapulting some projects into production in a matter of months.

For West Wits Mining's Qala Shallows project in South Africa, the change from a US$1,750/oz to US$2,850/oz Bloomberg long-term reference price delivers upsides, including a reserve base increase of 10%, a shorter payback period, a funding requirement reduced by US$10 million, and the ability to decrease the cut-off grade from 2 g/t Au to 1.31 g/t. All of these are trickling into IRR. "This adjustment improved nearly every financial indicator - the project now boasts an after-tax IRR of 81% and an NPV (7.5) of US$500 million, with a LOM production of 944,000 oz over 16.8 years," said Rudi Deysel, the CEO.

These improved economics accelerated financing, and in December, West Wits commissioned the Qala Shallows underground mine – the first new underground mine in South Africa in 15 years. The share price of West Wits increased threefold since July, trading at approximately AU$0,060 in December.

The high-price environment has certainly been a precipitating factor for financing across the sector. Theta Gold Mines, which is developing the 1.2 million oz TGME project in South Africa, has received a US$80 million non-binding term sheet aimed at full funding and a production start in Q1 2027, with bulk earthworks and civil works already in progress. By January 2026, Theta is also working to update its 2022 DFS, which used a conservative gold reference price of US$1,642/oz – more than 2.5 times lower than the current spot.

We also see a return to overlooked sources of gold. Theta is looking to unlock 174,000 oz from tailings and rock dump reprocessing. "When we first ran the numbers at US$1,200/oz, they didn't add up. But with gold now above US$3,000/oz, those tailings are looking more like a bank - a low-cost, near-term cash flow source. It's getting harder to start new projects when ESG requirements and permitting delays are adding years to greenfield timelines. But with rising gold prices, brownfield assets and historic waste dumps are gaining new value," said Bill Guy, executive chairman at Theta Gold Mines.

Current gold prices also permit higher throughputs, which in turn become more attractive, as the focus is to see more ounces in production, sooner.

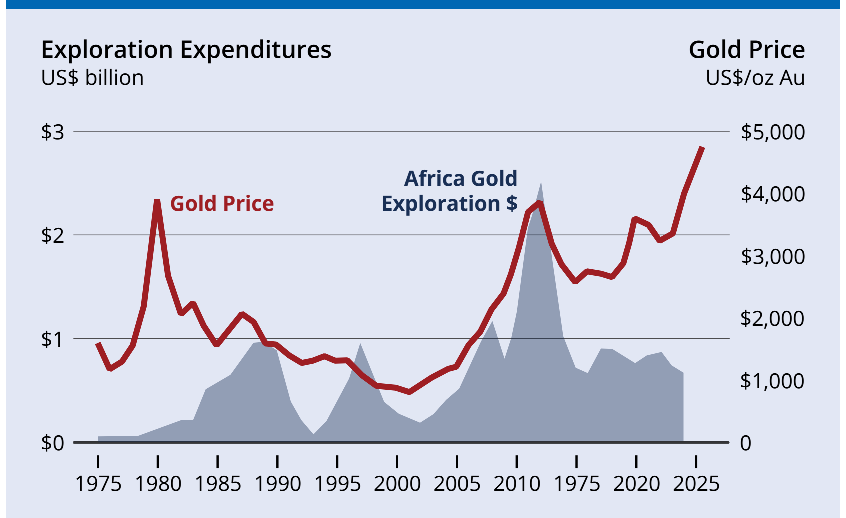
"Market conditions once dictated a 100,000 oz/y, 3 million t/y plan. We have now doubled throughput to 6 million t/y, producing 160,000 oz/y for 9.5 years, with the first seven years fed exclusively from the high-margin oxide resource. Importantly, while annual production increases by 60%, CapEx does not double," said Phil Russo, managing director of Toubani Resources, another company that has recently confirmed financing for its Kobada gold project in Mali.

Toubani has secured a AU$395 million funding package that will see Kobada pour its first gold before the end of 2027. AU$160 million came through

Alan Langridge,
Senior VP Mining and Minerals, APAC & EMEA,
WOOD

"We have seen more reprocessing scopes emerge in recent years, typically on older gold deposits. These reprocessing projects can be technically more demanding, but in the right circumstances, they are getting serious attention."

Gold Price vs Exploration Investment in Africa



Soure: Minex Consulting

Ben Smit,
Group CEO and Founder,
SUTTON GLOBAL

"Ten years ago, the public markets in Toronto and London were obsessed with the golden threshold of one million ounces. Today, we are seeing many more private investors focusing on smaller deposits."

a gold stream with existing shareholder Eagle Eye Asset Holdings, and the remaining AU$125 million was raised on the ASX. As expected, the company's market cap has doubled. Toubani had doubled the throughput in the mine plan in the recent 2024 DFS update at its Kobada project in Mali.

But what we also see is the shift of junior explorers to more near-term production opportunities, including tailings reprocessing, brownfield developments, or even through tolling arrangements. Lake Victoria Gold, an Australian-listed company exploring its flagship Tembo project, has recently acquired a near-term production opportunity in the Imwelo project, which has a 300,000 oz JORC resource, is fully permitted, and could be brought into production in the next 12 months. Executive chairman Simon Benstead explained the shift in strategy: "Having a single-asset exploration story can be a real challenge, as you can easily fall into what I like to call the punitive cycle of raise money, dilute, drill, hope, repeat. By shifting our strategy toward near-term production and cash flow, we have created a solid foundation from which to grow and consolidate other orphan assets in Tanzania. Our goal is to gradually bring these orphans into our portfolio and make them part of the same family."

A company that has successfully used this model of starting with a small production base and expanding from its own cash flow is TRX Gold, also based in Tanzania. TRX started production at its flagship Buckreef Project in 2022, and has expanded the processing plant several times, from 350 t/d to 1,000 t/d and then 2,000 t/d. In May this year, the company published a PEA to upgrade the processing plant and transition from open-pit to underground mining. The US$30 million plant expansion will be self-financed. Upon completion within 24 months, the company will be producing between 65,000 and 80,000 oz/y of gold. TRX's share price has jumped 200% this year.

Needless to explain, each of the companies mentioned, and others interviewed, have seen fantastic share price performance and eager interest. Of course, the valuation gaps at the explorers' level are steeper, taking into account the size and confidence in the resource, time to market, location, and team, but we could argue that every junior company that has found gold, whether proved reserves (best confidence) or inferred resources (lowest confidence), benefits to some degree from the upswing.

And sometimes, it is less so about the raw numbers. Pasofino Gold, a company with a deposit of close to 4 million oz located in Liberia, should normally command strong valuations based on the size of the resource. Like other advanced developers mentioned above, Pasofino is also conducting a gap analysis update on its 2022 DFS to connect the economics to current gold prices, but also to improve the resource model. Brett Richards, the company's CEO, explained the discrepancy between Pasofino and its peers: "We are a US$75 million market cap company, whereas we have peers trading at US$2 billion. That illustrates the gap between being valued on your inventory in the ground versus being valued on multiples of free cash flow. This is the transition companies make from explorer to developer to producer in terms of valuation and we have not even started that transition yet."

The entire continent is flaring with a golden blaze – countries like Sierra Leone, Liberia, Cameroon, Senegal, Guinea, Tanzania, Zimbabwe, South Africa, Ethiopia, and others have projects ready to enter production. These will transform the African gold landscape in the next three to five years. ■

Phil Russo

Managing Director
TOUBANI RESOURCES

The Kobada gold project in Mali is one of the largest gold oxide projects in Africa. Could you introduce our readers to the project and walk us through the latest developments at Toubani?

We carried out an extensive infill drilling program to increase resource confidence, resulting in an updated MRE showing 90% of the deposit is now in the Indicated category and supporting a 1.56 million oz reserve. This reserve strength allowed us to deliver the new DFS released late last year, which showcased robust figures including a post-tax IRR of 50% at US$2,200/oz.

Could you elaborate on the DFS and the new mine schedule?

We have now doubled throughput to 6 million t/y, producing 160,000 oz/y for 9.5 years, with the first seven years fed exclusively from the high-margin oxide resource. Importantly, while annual production increases by 60%, CapEx does not double. For just over US$200 million in pre-production capital, the DFS delivers a post-tax IRR of 50%, a post-tax NPV of US$500 million, and a 1.75-year payback at US$2,200/oz gold. We also see a pathway to 200,000 oz/y with further optimization.

Could you comment on the recent financing?

We announced a A$395m funding package that consisted of a A$125m capital raise as well as a US$160m stream financing from our largest shareholder, Eagle Eye Asset Holdings. This has positioned us to pursue Kobada expeditiously with an EPCM engineer appointed and long lead items placed. The capital raise was incredibly well supported by key institutions across the globe, recognising the significance of the Kobada asset. Upon FID, we anticipate a 19-month build, targeting first gold later in 2027.

Do you have a final message for investors today?

With strong partners, a manageable CapEx, a clean jurisdictional slate, and a steady stream of upcoming catalysts, we believe the value gap will close. On balance, we are in a strong position to unlock the enormous potential of Kobada, a project poised to become Mali's fifth-largest gold mine. ■

Caigen Wang

Managing Director
AURUM RESOURCES

What is your expectation on Boundiali gold resources within the short term?

In August 2025, Aurum updated Boundiali's JORC resource to 2.4 million oz. We are preparing a second resource update early in 2026, with the goal of growing the current resource to approximately 3 million oz. As we advance toward the DFS, we will carry out additional infill drilling in 2026 to upgrade the resource category. Our aim is to complete the PFS in the first quarter of 2026.

How has your experience at Tietto influenced your strategy, and what is different this time?

As Tietto, we were one of the first explorers in Côte d'Ivoire post their domestic crisis in 2011, and we started from scratch, applying for an exploration license ourselves in a region where there was no prior exploration history at all. In five years post Tietto's IPO on the ASX, we delivered a 3.8 million oz resource that we built into a 5 million t/year mining operation with a target of producing 200,000 oz of gold.

At Aurum, we had a head start with two initial tenements acquired. It took us more than four years to move from one DD rig to eight at Tietto, but at Aurum, we grew that same fleet within 12 months. Our in-house drilling fleet provides a unique capacity to develop the resource quickly and at lower costs. Twelve of our rigs are currently drilling at Boundiali, and two are at Napié, our second project, located about 120 km north-east of Boundiali. For this calendar year, we are confident we can accomplish 130,000 m of drilling between Boundiali and Napié.

What motivated the acquisition of Mako Resources and its Napié project?

Napié has 870,000 oz of maiden JORC resource from just a 4 km strike length of the overall 33 km mineralization corridor. With our unique drilling capability, we will continue drilling Napié to advance the resource. The merger between Aurum and Mako has been value-creative for the shareholders of both companies. ■

Bill Guy

Executive Chairman
THETA GOLD MINES

Could you brief our readers on the latest developments at Theta Gold Mines?
Theta Gold Mines is unlocking 1.2 million oz of high-grade gold at the TGME project in South Africa. This multi-mine operation will deliver 120,000 oz/y with clear upside to 160,000 oz/y. In the past year, we have decommissioned the old plant and secured all key permits. The TGME Gold Plant is already under construction, with bulk earthworks and civil works in progress. We are just 12 months from first gold, targeting production in Q1 2027.

Could you expand on the loan agreement with Nebari Partners?
Nebari Partners has offered Theta Gold Mines a US$80 million non-binding term sheet, and we're now advancing through the banking syndicate process. Theta has raised last year US$30 million to meet the project's debt-to-equity structure. We expect full funding to be in place by year-end. Nebari is a highly experienced institutional investor with a strong track record across Africa and Europe, marking a strong endorsement of the TGME project's quality and potential.

Can you tell us about Theta Gold Mines' social license to operate in the region?
We're incredibly proud of the strong social license we've built at Theta. Local communities aren't just stakeholders — they're shareholders, with direct ownership through structured community trusts to ensure benefits flow where they're needed most.

Our operations will bring meaningful change to the region: over 500 new jobs, major local procurement, and a significant increase in regional tax contributions. But it's not just about gold, it's about legacy.

One initiative we're especially passionate about is our river restoration project. By rehabilitating the natural water flow and ecosystem, we'll return more water to the environment than we use. This will benefit local agriculture, biodiversity, and tourism for years to come. It's part of an 11-year environmental offset program, with Theta contributing over US$3.26 million (R58 million) as the cornerstone investor. ■

Rudi Deysel

CEO
WEST WITS MINING

What are the main changes reflected in the DFS update at West Wits' Qala Shallows flagship?
The biggest change emerged from applying a higher reference gold price: at US$1,750/oz gold, we had a reserve of 350,000 oz, but by applying the very conservative US$2,850/oz long-term Bloomberg price, the reserve base increases by 10% to 383,900 oz. This adjustment improved nearly every financial indicator. The project now boasts an after-tax IRR of 81% and an NPV (7.5) of US$500 million, with a LOM production of 944,000 oz over 16.8 years. This brought upsides such as bringing forward our payback period, lowering our funding requirement by US$10 million, and decreasing the cut-off grade from 2g/t Au to 1.31g/t. All of these aspects have a trickle-down effect across all relevant financial metrics, such as IRR.

Qala Shallows is a low-cost operation, mined from the surface at 800 m depth, which is very shallow by South African standards.

Could you comment on the financing for Qala Shallows?
The joint loan facility of approximately US$50 million from South Africa's Industrial Development Corporation and Absa Bank is a huge milestone. The due diligence process has been thorough and as strict as you can imagine, with independent auditors carrying extensive technical, legal, financial, and ESG assessments, all the more reason to be proud of this accomplishment.

In addition, West Wits secured a US$12.5 million facility from Nebari Natural Resources Credit Fund II, with scope for two more tranches of US$22.5 million, providing long-term flexibility. Equity financing has also been mobilised - A$17.5 million was raised through a September 2025 placement, supported by institutional investors. Together, these arrangements fully finance the project into production.

Qala Shallows was officially inaugurated in December, becoming South Africa's first new underground gold mine to open in the last 15 years. First gold pour is scheduled for March 2026. ■

Brett Richards

CEO
PASOFINO GOLD

Pasofino is conducting a gap analysis update on the 2022 DFS for its Dugbe gold project in Liberia. What drove this update and what do you expect will change?
The scope of the project remains unchanged: Dugbe will operate at 5 million t/y; but we aim to improve the resource model through 16,000 m of infill, grade control, and definition drilling over the next six months. CapEx is expected to remain close to US$430 million, while operating costs will likely rise from US$1,005/oz to around US$1,400/oz AISC. This reflects inflation, the cost of outsourced power, and resource development drilling to explore satellite deposits and extend the mine life.

On the processing side, we are collecting metallurgical data to confirm mill sizing, optimize recoveries, and explore ways to reduce construction costs. Infrastructure, geochemistry, and ESIA reviews are ongoing under our consultant, MineScope Services. The full process is expected to run through the end of Q1 2026.

And what is the current production plan?
From the current reserve of 2.7 million oz, we expect a production profile of around 200,000 oz/y, with a goal of maintaining this pace for at least the first five to six years. Importantly, we have explored only about 10% of our property, meaning there is a tremendous number of targets to continue working on throughout this process.

When in production, Dugbe would be the second largest gold mine in Liberia. What can you tell us about Liberia?
I have lived and worked in South Africa, Zambia, Burkina Faso, Guinea, Mali, Sierra Leone, and the DRC, where I spent eight years building mines. I can honestly say that Liberia is probably one of the best jurisdictions, if not the best, that I've worked in across Africa. Liberia has had a stable democracy for 12 years, with none of the issues seen in other parts of West Africa. Geologically, Liberia is part of the Birimian greenstone belt, but relatively few companies operate there. ■

Andrew Chubb

CEO
AWALÉ RESOURCES

What will be the focus of Awalé's current drilling campaign?
In October, we started an 88,000-m drill program on the two permits that form our JV ground (with Newmont) at the Odienné project in Côte d'Ivoire, with a view to moving toward our first resource in Q2 2026. At the same time, this campaign will also include discovery drilling. We want to expand on our existing discoveries by drilling deeper and testing targets along strike. We also see significant opportunity and scalability within the project area through drilling new pipeline targets with the potential to find new high-grade mineralization such as Charger. As part of that effort, we have flown an airborne gravity gradient survey that aims to delineate the many different intrusion types within the system which will aid in our targeting strategy. Our first resource estimate will be quickly followed by a PEA. We are confident that we can progress into PFS shortly after.

Fortuna Mining became Awalé's largest investor, at 14.5% of shares. How is this investment catalyzing exploration on Awalé's 100% ground?
This strategic equity investment by Fortuna is a validation of the potential in our 100%-owned ground. We control 2,346 km² in 7 permits in the Odienné district; the JV covers only 30% of the ground, while the remaining 70% is fully owned by Awalé. Newmont is funding all exploration on the two JV permits (797 km²), and Awalé has $15 million CAD to deploy on the five 100%-owned Awalé permits. We have earmarked a C$8 million exploration budget across these permits between October 2025 and December 2026. We believe this is sufficient to drive new discoveries on the 100%-owned properties. This budget will allow us to complete up to 15,000 metres of drilling in 2026, bringing our combined drilling program for 2025-2026 to over 100,000 metres.

Can you tell us about Awalé's contribution to local skills development?
Côte d'Ivoire is booming, and with that growth comes a real shortage of skilled workers. We run a cadetship or graduate program. Our goal is to mentor Ivorian nationals and build that technical capacity internally. ■

Image courtesy of Atlantic Lithium

Critical Minerals

Africa and the new fundamentals of criticality

The concept of 'critical minerals' was first introduced by the US during the First World War, when they were called 'war minerals.' That original term still holds truth today, not only referring to minerals essential for the defense sector, but also to minerals entrenched in new types of trade, technological and price wars. Contemporary definitions of critical minerals continue to be written in martial language, describing minerals important for protection and control, framed as matters of national security, and subject to state interventionism.

In this article, we will examine how the value of being 'critical' interferes with typical supply and demand fundamentals and what these new fundamentals of criticality mean for Africa, which is believed to hold 30% of the world's critical minerals.

Different countries have developed their own critical minerals lists, which are updated regularly. The US published its updated list in November this year, adding 10 new entries for a total of 60 minerals. This shows that criticality is neither universal nor static, but defined by the nation for which the minerals are deemed critical. This article focuses on the minerals most critical for Africa - those that are significant within the region's geology and of interest to global markets, whether they are already classified as 'critical' or are in the process of being recognized as such. For this discussion, we also include rare earth elements (REEs). While REEs are technically elements rather than minerals, they occur within minerals such as monazite and are treated under the same broad category for simplicity.

As a general rule, a critical mineral must meet two conditions. One is a condition of demand, namely that it should have an important use, such as in high-tech applications, defense, or the energy transition. The other is a condition of supply scarcity, specifically when supply is dependent on an unreliable or untrustworthy party, often a veiled reference to China and Russia, both important producers and refiners of minerals.

Demand

Demand for critical minerals is tied to various wars, literal and more figurative ones. First, some critical minerals are war minerals, with tungsten, cobalt, silver, nickel and some REEs used in defense. The invasion of Ukraine, the Gaza conflict, tensions around Iran's nuclear power, millitary build-up in the Chinese seas, among many other strained global relationships, have pushed up military spending. Over the past 10 years, defense spending by NATO nations has risen from US$279 billion in 2014, to over US$559 billion in 2025, according to NATO data. This year, NATO leaders agreed to ramp up spending to 5% of the GDP of member countries by 2035. That will incrementally drive the demand of minerals like aluminum, graphite, cobalt and tungsten.

The other battlefront that increments demand for critical minerals is the green energy transition (GET), which can be seen as a duel between fossil fuels and renewables, and between the traditional IC car and the EV car. Copper, lithium, cobalt, nickel, lithium, REEs, manganese and silver are all essential for electrification. The International Energy Agency (IEA) estimates mineral demand for clean energy technologies could quadruple by 2040.

One more significant 'war' that stimulates demand for critical minerals is AI, with tech giants like Google, Meta and Microsoft rivalling each other to develop and essentially dominate AI technologies crucial for economic power, geopolitical influence and military strength. AI engines consume large amounts of electricity, which require hyperscale data centers, also called AI factories. According to IEA, data centers may account for over 30% of electicity demand in advanced economies by 2030. Energy storage, semiconductors and supercomputing capacity increase demand for critical minerals like REEs, tungsten, silver, copper, nickel, lithium, and others. AI centers could represent between 2 and 3% of global demand for key minerals like copper, estimates Impossible Metals, a technology company.

Oscar van Antwerpen, Founder and CEO, **MINROM CONSULTING**

"Africa has become the focal point in this tug-of-war over REE, battery minerals, and other critical minerals. This is creating opportunities for the continent to leverage its underground wealth for economic transformation, development, carbon emission reduction, and sustainability."

Supply

There are a few important producers of critical minerals that the world no longer trusts. Russia, with PGMs, nickel, bauxite, titanium, potash and tungsten among the most relevant, has become a no-go supply source since the beginning of the Ukraine war. Then there is China, which dominates not only the production of REEs, graphite, tungsten and lithium, but also has a near-monopoly on the refining of cobalt, graphite and REEs. According to a 2025 US Geological Survey report, China supplies more than half of US demand for 21 mineral commodities. The two countries from which the US is net import reliant by more than 50% are Canada and China.

Copper, cobalt, nickel, tin, tungsten, tantalum, iron ore, lithium, graphite, REEs, manganese, PGMs, silver and others all form part of Africa's vast geology, some to a greater extent than others. Africa is a major producer of copper, cobalt, manganese, PGMs, as well as the 3Ts, through which it can exercise a level of control in pricing. Africa also holds battery mineral resources like lithium and REEs, but current production capacity is limited and processing capacity is negligible. For these materials, Africa is by default a price-taker.

Interventionism

Normally, a supply imbalance is calculated by taking into account total supply minus global demand. But countries have become more isolationist, adopting an 'us versus them' rethoric, which has given rise to more supply fragmentation. Policies have become focused on domestic needs above global ones. For example, the Inflation Reduction Act (IRA) in the US aims to increase the domestic supply of critical minerals like lithium, nickel and manganese by providing tax credits for domestic manufacturing. The EU has launched the Critical Raw Materials Act to reduce reliance on Chinese processing, with a goal to process 40% of critical minerals domestically. China, meanwhile, has launched its "Made in China" policy this year, prioritizing its own local production.

Of course, those sovereign ambitions cannot be realized without external suppliers. Africa's minerals are at the center of both the West's and East's ambitions. The US extends specific incentives and grants to African partners through government institutions like the DFC. The EU has also signed mineral deals and partnership with several African countries, including the DRC, South Africa, Namibia, Rwanda and Zambia, but its actual participation in Africa is underwhelming. China remains to date the most substantial player in Africa's mineral sector, building refineries in Namibia (Xinfeng's US$32.6 million lithium plant), Zambia (investments in the first large-scale pyro metallurgical copper smelter by Chambishi Copper Smelter Company, a Chinese-held company), and Zimbabwe (Zhejiang Huayou Cobalt's US$300 million lithium processing plant), to give some recent examples.

The fundamentals of criticality are essentially fundamentals of fear; fear that overdependence can be exploited in the same way that oil was in the 1970s by Arab producers, REEs when China imposed export restrictions in 2010, or gas most recently in 2022 since the Russian sanctions. But using resources in power plays is no longer the domain of the 'other,' but part of the paraphernalia of both the East and West, as seen in the ongoing tariff war between the US and China.

58 >>

Matthieu Bos

President and CEO

FALCON ENERGY MATERIALS

Could you introduce our readers to Falcon Energy?

Previously called SRG Mining (Sama Resources Guinea), Falcon was a spin-out from Sama Resources. In 2022, we recapitalized SRG with the help of La Mancha, and focused on the 42 million t @ 4.2% Cg Lola graphite project in Guinea. After studying the graphite market with our partners at La Mancha, we decided to move into midstream processing and produce CSPG (Coated Spherical Purified Graphite), a battery anode material.

There are two main approaches to producing CSPG, a market dominated by China, which controls close to 90% of it. One is to try to crack the code yourself, an approach that has been pursued by the majority in our industry. The other is to leverage existing Chinese expertise instead of reinventing the wheel. We chose the latter, forming a unique partnership with China-based Hensen Graphite & Carbon Corporation, and we will be producing high-quality CSPG at our anode plant, currently at DFS level, in Morocco.

The CapEx for the anode plant is estimated at around US$100 million. What explains this low number?

There are a couple of reasons why our capital costs are lower than anything else on the market: The first is that we are copying an existing plant that has been built by our partners, Hensen, in China. There is also a location arbitrage, with Morocco sitting probably in the middle between a very expensive location like the US and a very low-cost one like China. One of the most strategic advantages we have in Morocco is direct access to hydrofluoric acid, used to purify graphite. Our plant sits within the perimeter of OCP Group, the country's largest phosphate and fertilizer producer.

Producing CSPG is a complex puzzle, and we are the only company positioned on neutral ground in Abu Dhabi, with real estate in Morocco, access to raw materials, Chinese expertise, and Western governance, ready to supply Western offtakers. ■

Keith Muller

CEO

ATLANTIC LITHIUM

Considering the long lead time to production for lithium projects, how's Ewoyaa positioned?

Lithium is an abundant mineral, but shovel-ready lithium projects are scarce. It takes about 10 years for a project to move into production. At Ewoyaa, we started fieldwork in 2016, and we still have two years of construction ahead. More than that, there are few jurisdictions where you can be almost fully permitted in two years. We are in Ghana — that is unheard of in countries like Australia, where I am based.

Could you also familiarize us with the process of ratification of your mining lease?

The last permitting item is the ratification of our lease. In Ghana, once the mining lease is awarded, it is a constitutional requirement that it be ratified in Parliament. After receiving our lease in October 2023, it took another eight months to get to Parliament in July 2024. Then elections came, which have impacted business in Parliament and delayed the ratification of the lease.

Ghana is a country that relies heavily on mining, and the regulatory mechanisms are well-oiled. Whereas in other places the regulator is almost a barrier to progress, for us, it has been a true pleasure working with the responsible agencies in Ghana. We approached the new government in February, a month after it was installed in office, and we were pleasantly surprised by the understanding that both the regulator and the politicians showed about the drop in commodity pricing when we engaged them to seek a revision of the fiscal terms of our license.

Could you comment on your regional exploration strategy?

We have taken up over 700 km² across two adjacent tenements in Côte d'Ivoire as part of our strategy of building a pipeline for future reserves. So far, we've confirmed several outcrops of spodumene through assays, and we are completing a soil sampling program to identify auger drilling targets. ■

Peter Geleta

CEO

TRINITY METALS

What have been the latest ESG developments at your mines, Rutongo (tin), Musha (tin and tantalum), and Nyakabingo (tungsten)?

We have been bringing our 3T operations in Rwanda up to global standards, on all levels. After Trinity's commencement in May 2022, we have managed to turn the three mines into significant critical mineral producers in Africa. We have maintained a strong focus on the ESG front. Together with South African-based SLR Consulting, we have completed the updating of our environmental and social impact assessments (ESIA) for each of the three mines. Trinity also commissioned E-TEK Consulting to undertake the development of Closure and Rehabilitation Plans for the mines, an exercise that will be completed by the end of 2025. Another significant milestone achieved at the end of 2024 was the Government approval of new mining agreements confirming our 25-year mining licenses.

With 6,500 employees, Trinity remains the country's largest private employer. 99% of our employees are Rwandan Nationals and 98% of our workforce come from the local communities surrounding our mines.

Are you considering further on-site processing?

With Nyakabingo now firmly entrenched as Africa's largest tungsten producer, and our two tin mines together representing the second largest tin producer on the continent, Trinity holds immense growth potential on all our assets. We are developing declines to open new ground at depth on all three mines, which will expand the LOM beyond 50 years. The next big capital project in our five-year plan is to build mineral process facilities.

In what ways might the DRC-Rwanda peace deal affect cross-border commerce and the mining sector?

The peace agreement really opens the region for investment, and I see a lot of economic synergies developing between eastern Congo and Rwanda. Mining in the Eastern Congo remains still underdeveloped. The peace deal will bring stabilization to the region. With proper economic agreements in place, both countries could prosper together. ■

Robert Martin

Executive Chairman

LINDIAN RESOURCES

Lindian announced a funding term sheet and offtake agreement for US$20 million with Iluka Resources. Could you comment on the significance of this?

The strategic partnership with Iluka, announced on 6 August, delivered 50% of our Stage 1 capital requirement via a US$20 million construction term loan and a 15-year offtake agreement for 6,000 t/y of rare earth monazite concentrate from Kangankunde. Iluka also holds a right of first refusal over 25,000 t/y of Stage 2 production, subject to funding 50% of Stage 2 capital costs. Material from Kangankunde will feed into Iluka's Eneabba Rare Earths Refinery in Western Australia. The Iluka agreement was a critical turning point for Lindian, providing market validation and credibility with tier-one customers.

Shortly after, we raised A$91.5 million through an oversubscribed institutional placement, enabling the Board to approve the Final Investment Decision for Stage 1 construction. With funding now secured through until first cash flows, Lindian will become the next rare earths producer to market, targeting first production in Q4 2026. Kangankunde is set to become one of only a handful of rare earth mines built outside China.

Could you walk us through the development plan and the timeline to first concentrate?

Early works are now complete and we are now targeting the start of mining in February 2026. In parallel, Zac Komur has been actively optimising our current Feasibility Study. The ore body supports a 45-year LOM under the current JORC code, but realistically, it probably has a couple of centuries of production ahead of it. Kangankunde is currently built at 15,300 t/y, but even at 100,000 t/y, it will still produce for decades.

Has the Malawi government been supportive in this journey?

The Malawian government has been extremely professional to deal with. The government sees mining as a way to enrich the country, through contributions to tax and GDP, but also skills development. As part of our government agreement, we will be running training programs and allocating funding for local communities. ■

<< 55

In January this year, the US increased tariffs on Chinese-origin tungsten products by 25% under Section 301 of the Trade Act of 1974. In February, Donald Trump launched an initial round of tariffs on Chinese goods, including steel and aluminum, which provoked China to retaliate with export restrictions of five critical minerals – tungsten, tellurium, bismuth, indium and molybdenum. In April, the US launched an investigation under the Trade Expansion Act of 1962 (Section 232) which allows the President to impose tariffs and other trade restrictions on imports if they are found to be a threat to national security. The final decision is still pending. China responded with further export controls on REEs and magnets. In July, Trump's administration imposed 50% tariffs on imports of copper products (not raw forms). After ruling that China is dumping graphite and anode material on US markets, the US imposed antidumping tariffs of 93.5% on these products. A month later, China introduced strict export controls on graphite. That ping-pong continues.

These actions overlay typical supply-demand fundamentals, inducing more complex price dynamics, sometimes driving prices upward, other times constraining them. These are the new hybridized fundamentals that shape the framework under which African explorers and producers operate.

New price dynamics

Copper

Tariff shocks tinkered with copper prices this year. Prices gained as buyers built up inventories in anticipation of US policies, only to fall sharply after the Trump administration announced that copper itself would be exempted from import tariffs. Nevertheless, the world's third most widely used metal has a diversified production base, headed by Chile, followed by the DRC, Peru, China and the US as the top five producers, which makes prices highly resilient to single-country policies. That means the price is firmly anchored in traditional supply-demand fundamentals, and less subjective to being tossed by tarriff winds.

John Sisay, the CEO of Consolidated Copper Corp (CCC), a privately-held copper developer in Namibia, explained this dynamic: "Once trade tensions settle, the long-term trajectory stays intact. Countries will continue to prioritise electrification, renewable energy infrastructure, and grid modernization, all copper-intensive. These structural drivers will reassert themselves regardless of short-term policy noise."

Long-term demand projections, driven primarily by China (60% of demand) place copper in a supply deficit of over 30% by 2050, estimates the IEA. That is enough to support the record prices reached this year. Citigroup forecasts prices to average at US$13,000/t in Q2 2026, while Goldman Sachs has a more tempered outlook short-term - between US$10,000-US$11,000/t on the LME. Goldman Sachs projects a small decline in 2026 due to continued surplus and weakened Chinese demand, but its outlook is bullish as that structural balance shifts into deficit - it places copper at US$15,000/t in 2035, above the general consensus. Crux exceeds both banks, suggesting that copper prices can reach US$20,000-30,000/t, a price that can incentivize more significant supply additions.

While the US imports most of its copper from South American producers, China remains the largest buyer of African copper. Copper production in Africa has major Chinese shareholders, including Zijin Mining, which holds 39.6% of the Kamoa-Kakula Complex, the continent's largest operation, as well as CMOC, with an 80% stake in the Tenke Fungurume mine, and others. In the article dedicated to copper, we will provide a better overview of the developments on the ground.

Cobalt

Cobalt prices soared this year when the DRC, the world's largest cobalt producer and second-largest copper producer, announced an export ban on cobalt hydroxide in February, citing oversupply. Prices have stayed elevated since, at US$33,335/t in September. This showed that Africa too can play the big cards on its most critical minerals. The initial four-month ban announced in February was extended by another three months.

Lithium

Lithium spodumene prices have gone through a boom and bust in recent years, peaking at US$6,000/t in 2022, and collapsing since to US$600/t. According to Keith Muller, CEO of Atlantic Lithium, a sustainable price that offers good margins for both hard rock miners and converters is somewhere between US$1,200 and US$1,500/t for spodumene concentrate. But the current lithium winter is not only a result of market forces, despite lower-than-expected EV sales, which are the main driver for prices and the cause of the 2022 price flare-up. "There is no doubt in my mind that what we see today is more than conventional supply-demand dynamics. The lithium market is dominated by China—this is a matter of fact. China is very good at taking long-term views on securing its position in critical minerals. Pricing interference through controlling inventory has led all base chemical prices, on which variants of hard rock material containing lithium (spodumene, lepidolite, DSO, etc.) trade, to levels well below the incentive pricing needed for any new production to commence or for existing operators to expand. At these levels, I would go as far as to say that there is probably only one operation that makes a margin, and that is the Greenbushes lithium mine in Western Australia."

Muller expects the price to correct by around 2028, the year Atlantic's Ewoyaa lithium mine is earmarked to enter production. There are currently no incentivizing tariffs for lithium, and the low price itself acts as a demotivator for developers. Nevertheless, a supply shortage is still in sight, and the number of shovel-ready projects is limited.

Atlantic Lithium negotiated the fiscal terms with the Ghanaian government when spodumene prices were at US$3,800/t, more than six times their current level, so the Australian developer is now revising the terms with Ghana's new government (elected last year). "The government is willing to assist us, from a fiscal perspective, to make Ewoyaa more attractive for international investment. They also recognize that there has been no further lithium exploration in Ghana since our maiden discovery, which leaves Ghana behind countries like Mali or Nigeria. In this way, we are working closely together to achieve spodumene production in Ghana," said Muller.

Ghana's previous government imposed a ban on the export of unprocessed lithium during the boom, but during a downcycle, a more incentivizing approach should be considered. This is one small but important way African governments can influence not prices directly, but the future of a more balanced supply. So far, the Ghanaian government has delayed the approval of the permit for Ewoyaa.

Australia, however, does have more sway, and is currently looking at potentially introducing a floor price for its critical minerals, including lithium.

Though Africa's lithium scene has been dominated by junior players, some big firms are now showing interest. KoBold, a relatively new mineral explorer backed by Jeff Bezos and Bill Gates, secured seven new lithium permits in the DRC. Rio Tinto is also in early talks to develop the Roche Dure lithium deposit in the DRC, after expanding its portfolio in lithium with the acquisition of American producer Arcadium Lithium a year ago. Chile's lithium giant SQM has also signed an earn-in agreement with Andrada Mining for the development of the Lithium Ridge project in Namibia.

Graphite

Much of graphite trade transactions are negotiated directly between buyers and sellers, with China dominating 77% of graphite production and 97% of global anode output, according to S&P. However, the price of graphite is primarily influenced by supply limitations: Some are interventionist in nature, like China's introduction of specific licensing requirements for the export of certain high-purity and dual-use graphite products in a tit-for-tat on the US's own restrictions on Chinese technology imports. Other supply pressures are unintended: Though China is the largest graphite producer, it is followed by Madagascar and Mozambique, making Africa a key source of non-Chinese graphite. Nevertheless, post-election national unrest in Mozambique led to the imposition of a force majeure at the Balama mine, Africa's largest graphite mine. Syrah Resources, its operator, resumed production campaigns in June 2025, after a seven-month stall. The restart of the mine was supported by a US$6.5 million loan from the US Development Finance Corporation (DFC).

Another development finance institution (DFI) could shoulder the costs for the development of Kasiya, the world's second-largest graphite deposit and largest rutile deposit, developed by Australian company Sovereign Metals in Malawi. The company is in talks with the International Finance Corporation (IFC) for the US$665 million initial investment. The project is also supported by Rio Tinto, which owns almost a fifth of the company's shares.

Tungsten

China holds over 50% of global tungsten reserves and has declared tungsten a 'strategically advantageous mineral' since 1991. In February this year, Beijing also introduced quotas on exports in a bid to encourage more in-country processing and restrict the export of raw materials and intermediates. By May, the price of tungsten in Europe surged to its highest since 2013. In Q2 this year, tungsten prices were US$88,805/t in the US, much higher than prices in China during the same period (US$52,510/t), according to IMARC Group, a market research company.

After China, Vietnam, Russia, North Korea and Bolivia, Rwanda is the sixth-largest tungsten producer. The largest mine is Nyakabingo, operated by Trinity Metals. Trinity recently announced an agreement with Global Tungsten and Powders (GTP), America's largest tungsten manufacturer, to supply four to seven containers per quarter of tungsten for two years. "This marks the first time that tungsten flows from the Great Lakes region into the US. The partnership opens the door for further US investments into our operations. Earlier this year, we also signed a letter of intent with Nathan Trotter, an American tin smelter, to supply them with tin concentrate once they have completed the construction of their facility in late 2026/ early 2027," said Peter Geleta, CEO of Trinity Metals.

In October 2025, the first tungsten shipment from the Nyakabingo mine reached the US at the Towanda facility of Global Tungsten and Powders, in Pennsylvania. Trinity is looking to invest US$100 million to scale production in Rwanda, an investment which would also include a tungsten processing plant at Nyakabingo, Africa's largest tungsten mine.

REEs

The prices of neodymium (Nd) and praseodymium (Pr) surged by over 40% compared to the same time last year, after MP Materials, an American REE producer, sealed a deal with the US government to stop supplying China. This came after China announced a 125% import tariff on all US goods, along with special licenses for the export of seven out of the 17 REEs in April. Nd and Pr are not on that list. MP Materials accounts for about 10% of global supply, but China controls about 70% of production and most processing.

The US Department of Defense wants to completely remove Chinese REE material from weapon systems by 2027, as part of an update to The Defense Federal Acquisition Regulation Supplement (DFARS). China has also increased imports of REEs, especially from Myanmar, to feed its own downstream industries, like the EV sector and high-tech manufacturing. Both hegemoths are hungry for more REEs.

Several African projects preparing to come online could help tilt the power balance for either of the two mega-players, as well as other regions eager for the material, including Australia, itself a major producer, or the EU. Iluka Resources, a AU$2.7 billion market-cap ASX-listed company, has signed a funding term sheet and offtake agreement for US$20 million for REE concentrate from Kangankunde, a REE project developed by Lindian Resources in Malawi. REE concentrates from Malawi will be processed at Iluka's Eneabba refinery, currently under construction in Western Australia. Following the deal with Iluka, Lindian raised a further AU$91.5 million and reached a final investment decision, with first production expected in Q4 2026. "Kangankunde is set to become one of only a handful of rare earth mines built outside of China. Few producers globally can operate at costs below US$40–50/kg NdPr, and Lindian is one of them. The capital intensity is remarkably low: just US$40 million in CapEx, split evenly between the plant and supporting infrastructure such as roads and construction. This is virtually unheard of in the rare earth sector, where comparable projects, such as ionic clay developments, often require a half-billion-dollar ticket," said Robert Martin, executive chairman at Lindian Resources.

Since the interview, Lindian has conducted an optimisation study, resulting in even stronger economics, including a pre-tax NPV rise from AU$1.8 billion to AU$2.4 billion, and an increased production profile from 15,300 to 20,000 t/y monazite concentrate. Lindian has now launched a study to increase output to 100,000 t/y, reflecting the strong demand for the material.

Another large project of potential geopolitical significance is the Kameelburg REE project in Namibia, estimated at 500 million t of resources by its developer, Australian company Aldoro Resources. The current mineral resource is 280 million t at 2.9% TREO, but a Phase 2 drilling campaign underway could lead to a 40% resource expansion, including 100 million t at 1% niobium. The current drilling campaign focuses on heavy rare earth elements at a secondary permit, Omuronga. Kameelburg is dominated by light REEs. "If Omuronga proves similar in size to Kameelburg but richer in heavy rare earths and niobium, combining the two would make Aldoro's project the largest rare earths plus niobium project in the world," said Stephen Tomsic, Aldoro's CEO.

Joe Belladonna,
Managing Director, HARENA RESOURCES

"The defense sector is naturally the most motivated to seek supply independence, so governments are stepping in with more development funding, covering capital costs that represent the biggest risks for REE projects to be built."

Brad Rogers,
CEO, JUPITER MINES

"The opportunity to increase production is certainly there – the real question is when to do it. The most logical timing would be when some of the major manganese-producing mines elsewhere in the world reach the end of their mine life."

Quinn Li, the company's executive chairwoman, sees Kameelburg at the center of the geopolitical spectrum; a highly valuable asset for both—or either—Western and Chinese companies. "Whoever ends up with this project gains a significant volume and pricing advantage in global critical mineral supply chains. China currently holds the upper hand because it leads in REE separation technology, but the West is catching up. Once the West unlocks this technology, the balance of power will shift from the holders of technology to the holders of resources," she said.

Several other REE projects across the continent, including Pensana Rare Earths' Longonjo project in Angola, Peak Rare Earths' Ngualla project in Namibia, Harena Resources' Ampasindava deposit in Madagascar, Ionic Rare Earths' Makuutu project in Uganda, as well as Rainbow Rare Earths' Phalaborwa and Steenkampskraal Holdings' Steenkampskraal historical REE mine, both in South Africa, each at different stages of development, create a potentially game-changing assortment of future supply.

Manganese

Manganese is one of the metals in which Africa is a price-setter, with South Africa as the largest producer by far, at 7.4 million t/y out of the total 20 million t/y produced in 2024. Gabon follows second with 4.6 million t/y. South32 and Jupiter Mines in South Africa, as well as Eramet in Gabon, are among the biggest producers. The market is currently balanced. According to Brad Rogers, the CEO of Jupiter Mines: "The average freight on board (FOB) price for our grade of manganese over the past four years has been about US$3.34/kg, and today it is at US$3.15/kg, reflecting a balanced market. This is because steel demand, driven largely by China, has been moving sideways in recent years and manganese supply has been sufficient to meet it."

With manganese prices trading flat in 2025, producers are careful not to oversupply the market. Jupiter's Tshipi mine in the Kalahari Manganese Field in South Africa represents the fourth-largest manganese producing mine globally, with another 100 years of life of mine remaining.

Manganese is not yet subject to interventionist policies, but its emerging role in battery chemistries may change this further down the line. While raw manganese is not currently in scarcity, refined materials and battery precursors remain heavily dominated by China.

Nickel and Zinc

Though nickel and zinc are both considered critical minerals and indeed serve in critical applications, like renewable infrastructure, high-tech devices, as well as batteries, markets still predominantly treat them as traditional base metals, primarily because their main use remains steel production.

Nevertheless, they are not immune to interventionist currents. The nickel market, in particular, has been shaped entirely by mineral policy in Indonesia, which is the world's largest producer by a significant margin. Five years ago, Indonesia introduced a full ban on exports of raw nickel ore, replicating a strategy it used in its bauxite sector. The concentration of production (approaching 70% of the market in Indonesia) and consumption (over 80% of global demand in China) created a monopsony – a market dominated by a single buyer.

This leaves the nickel market outside the China–Indonesia axis facing a difficult, highly competitive environment. Nickel prices have been trading in the low US$14,000/t range, but they surged 250% in a single day to $48,078/t in 2022 after Russia's invasion of Ukraine triggered fears of supply disruptions (with Russia itself being a producer). That spike was short-lived, but it illustrates the vulnerability of this market.

Few assets can turn a profit in this environment. First Quantum Minerals, however, is in an advantageous position at its Enterprise Nickel mine, which has completed its first year of production: "Enterprise Nickel benefits from favorable geology and a unique infrastructure setup. Enterprise is a sulfide deposit treated using a flotation plant rather than a high-pressure leaching process. Additionally, Enterprise shares key infrastructure and services with Sentinel, creating a highly favorable cost structure," said Anthony Mukutuma, director at First Quantum Minerals Zambia.

Enterprise is Africa's biggest nickel mine, at a nameplate capacity of 28,000 t/y, expandable to 60,000 t/y. An even larger project, however, is Kabanga, located in Tanzania and acquired by Lifezone Metals in 2021. Kabanga has a mineral reserve of 52.2 million t (at 1.98% Ni). Despite suffering a setback when BHP sold its 17% interest in the project back to Lifezone this year, Lifezone said the project remains on track for a final investment decision in 2026.

As one of the world's largest and highest-grade nickel sulfide deposits, Kabanga would typically fit the mark for a tier-one producer like BHP, but the world's number one miner decided to declare nickel as non-core. Critical is not always core for producers. With the pullback of companies like BHP from the nickel space (the major has also written off its Australian nickel operations), the nickel market is indeed sinking deeper into the China–Indonesia vortex.

Geopolitical tensions are also starting to rub on the zinc market, whose production is concentrated in China. News that the EU could impose steep tariffs on Chinese steel imports to protect its own market has affected demand – and with lower demand expected, prices also fell on the news. Nevertheless, tight supply, resulting from disruptions at major hubs, has helped restabilize prices. Zinc is extracted in several African countries, including South Africa, Eritrea, Namibia and Morocco, with major players like Vedanta Zinc International operating the Black Mountain Mining complex and the Gamsberg mine.

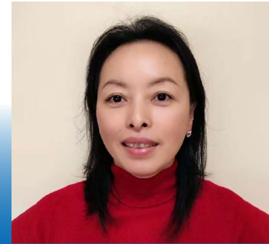
Last year, Ivanhoe Mines also reopened the Kipushi zinc mine in the DRC. The mine had been producing between 1924 and 1993, and Ivanhoe acquired a 68% interest in 2011. With a new 800,000 t/y concentrator innaugurated last year, Kipushi now has a capacity of 180,000 to 240,000 t/y of zinc concentrate. Ivanhoe's president and CEO, Marna Cloete, said: "Kipushi mine is one of the highest-grade zinc deposits in the world. Its ore grades far surpass most currently operating zinc mines, and as we know in mining, high grade generally translates to better margins."

Another historic mine on its way back to production is Rosh Pinah, a 55-year-old mine that was previously operated by Trevali Mining. Appian Capital Advisory acquired the project in 2023 and started an expansion project, 'Rosh Pinah 2.0', that would see production expanded from 700,000 t/y to 1.3 million t/y. Khathutshelo ("K2") Mapasa, head of Africa at Appian, commented on the opportunity: "Rosh Pinah is a 55-year-old mine with a resource that remains open in all directions and at depth, so our investment thesis is that we can move the asset down the cost curve, increase production, modernize the processing facility, and add to the current resource. The current LOM is 16 years, but we believe there is another 50+ years on the mine."

These recent rehabilitations suggest there is appetite for new supply to come onstream.

Investing in battery precursors: With or without China?

Even the best cooking pot will not produce food, says an African proverb. The continent is an excellent cooking pot for battery minerals considering the richness of natural resources available. More than that, Africa's geology and cost structures allow producers on the continent to supply battery minerals at high purities and low costs, even competitive with China's. For example, the Tshipi manganese mine in South Africa produces at US$2.20 to US$2.30 per dry metric ton unit of manganese FOB, which allows it to stay competitive even in a low-price environment, according to CEO Brad Rogers. Lindian Resources' Kangankunde project in Malawi is also expected to stay competitive even



Quinn Li, Executive Chairwoman,
ALDORO RESOURCES

"China currently holds the upper hand because it leads in rare earth separation technology, but the West is catching up. Once the West unlocks this technology, the balance of power will shift from the holders of technology to the holders of resources."

against Chinese prices. "Few producers globally can operate at costs below US$40–50/kg NdPr, and Lindian is one of them," according to executive chairman Robert Martin.

These advantages are key for African companies providing the feedstocks for battery precursors (lithium and manganese for cathode chemistries, graphite for anode). However, beating the Chinese in terms of processing costs is much harder than competing in raw material extraction. To return to our African proverb, the cooking of midstream materials involves many steps, and much more than a great pot and ingredients: it needs the capital for a hob (the facilities and infrastructure), and great chefs (the skills).

One developer thinks some of these items do not need to be started from scratch, since they already exist in China. Falcon Energy Materials owns the 42 million t @ 4.2% Cg Lola graphite project in Guinea, but its vision is to produce CSPG (Coated Spherical Purified Graphite), a battery anode material. "There are two main approaches to producing CSPG, a market dominated by China, which controls close to 90% of it. One is to try to crack the code yourself, an approach that has been pursued by the majority in our industry. The other is to leverage existing Chinese expertise instead of reinventing the wheel," said Matthieu Bos, Falcon's president and CEO.

Falcon chose to partner with a Chinese company, Hensen Graphite & Carbon Corporation, and use existing Chinese technology to produce CSPG for the Western markets at its plant in Morocco. According to Bos, trying to develop CSPG independently of China is futile, since the Chinese have likely invested around US$1 trillion in current technologies that are used in everyday brands like Tesla. In fact, Tesla itself submitted a letter to the US administration to oppose the tariffs imposed on graphite and anode materials, saying US graphite producers were yet to show they have the technical ability to produce commercial quantities of the mineral at the quality and purity required by Tesla and other battery cell manufacturers.

Falcon is building a 25,000-t/y CSPG plant at an estimated capital cost of US$100 million. A key reason for the low CapEx is copying an existing plant built by Hensen in China. The plant will also benefit from synergies with phosphate

and fertilizer producer OCP Group, which will supply hydrofluoric acid, an important consumable used to purify graphite. The capacity of the plant itself is designed strategically. "The reality is, if you are a US$200 million company proposing a US$2 billion project, it's unlikely that the project will ever move beyond the drawing board. Many projects end up chasing massive, multi-billion-dollar CapEx targets because engineers fall into a 'spreadsheet mining' loop, constantly tweaking inputs to hit a 20% IRR, often by inflating planned capacity, since a 10% IRR will not attract financing. At Falcon, we took a different approach: We designed a highly economic, financeable project at a 25,000 t/y capacity. The plant is modular, so we can scale it up over time," said Bos.

Falcon has recently moved its headquarters from Canada to the UAE after the Canadian government did not approve its deal with the Chinese. "There are currently a lot of government grants to incentivize Western production, but you cannot build a business that is reliant on free money and trade barriers because these tools come and go, depending on the political sentiment. Our business model is built to endure without those crutches," he said.

Taking a different approach is graphite producer Syrah Resources. 80% of shipments from Syrah's Balama mine in Mozambique go to the battery anode industry, mostly to China, but the company has also invested in an active anode material (AAM) plant in Louisiana, USA, due to start commerical sales this year. The Vidalia AAM plant has a capacity of 11,250 t/y and counts on an offtake agreement with Tesla. The Vidalia plant will be of strategic significance in the context of serving primarily domestic US demand, and it is benefiting from a US$165 million IRA Tax Credit that could serve as an option for a future expansion: "The capital requirement for an expansion to 45,000 t/y would be around US$550 million. Syrah completed the Feasibility Study for this expansion last year, and we are now working on some capital cost updates that take into account potential tariff implications for Chinese imported equipment. Currently, we are considering both options, Chinese and non-Chinese equipment," said Shaun Verner, managing director and CEO at Syrah.

Prevalence of Critical Minerals (non-exhaustive)

Source: BCG Report (2025), Africa Unleashed: Harnessing Africa's Critical Minerals.

On the cathode side, another leading African producer is also evaluation midstream opportunities. Jupiter Mines, one of the largest manganese producers globally, is currently in the process of a PFS to produce high-purity manganese sulfate monohydrate (HPMSM), an input for lithium-ion batteries. Manganese's role is emerging in both LFP (Lithium Iron Phosphate) and NMC (Nickel, Manganese and Cobalt) chemistries: "Automakers, cathode manufacturers and battery producers are increasingly exploring ways to increase manganese content in their chemistries. Manganese is more abundant, more chemically stable, and cheaper than many other cathode minerals, making it an attractive option for improving EV batteries," according to Brad Rogers, Jupiter's CEO.

However, Jupiter does not want to race ahead of the market. Before moving into a DFS, the company needs more customer certainty around volumes.

In 'war minerals,' to use the original term, African players must use all the resources they have available, whether we talk about resources on the ground that allow them to move downstream, technological resources (Chinese or not), and financial resources (coming from US grants or other sources). Uncertainties are many, again ranging from technological developments to geopolitical shifts, but it is clear that critical miners are no longer moved by natural causes only.

The competition for supply security has also given rise to a potential price premium or green premium, but that is yet to materialize; currently only the US Defense Department is believed to be ready to foot the bill on a premium, according to GBR sources. ■

Image courtesy of First Quantum Minerals

Copper

Kamoa et al. amid a global exploration deficit

Almost every major copper producer in Africa has announced massive expansions in recent years, starting in the DRC with Ivanhoe Mines' multi-billion, four-phased Kamoa-Kakula development, Phase 3 alone costing over US$3 billion, and continuing with China Molybdenum's recent US$1 billion investment in the expansion of Kisanfu Mining. The same goes for Zambia, with investments led by Barrick Mining's US$2 billion 'Super Pit Expansion' at Lumwana and matched by First Quantum Minerals' US$1.25 billion S3 expansion at Kansanshi. This year, Vedanta Resources also committed to spend up to US$1.5 billion to increase production at Konkola. In Botswana, a more emerging play, MMG announced a US$700 million investment to double production at Khoemacau, an asset it acquired for US$1.9 billion in 2023.

Globally, a similar trend exists. Copper producers are plowing billions into expansions. More than that, the big miners are prowling around each other to get even bigger. After the 2023 Glencore bid for Teck Resources and BHP's bid to acquire Anglo American in 2024, which both failed, the two targeted players – Teck and Anglo – are merging in a new US$60 billion venture. Analysts say the Anglo-Teck merger could trigger rivals Glencore and BHP to look for similar deals. According to Discovery Alert, copper M&A activity represented 19% of all metals and mining deals, a 280% surge from last year.

Record-high copper prices, hitting over US$13,000/t on the LME in January 2026, against the backdrop of a looming structural deficit, underscore the aplomb with which these big-ticket investments are being made. However, they are not enough to close the future supply gap. According to BHP, copper demand will grow at 2.6% annually through to 2035; that equates to about 480,000 t of new supply required every year – a yawning gap. Brownfield expansions do not necessarily add new reserves but protect existing supply.

Tethered to the gaping supply deficit is the exploration deficit. With mining companies preoccupied with controlling more of the copper supply, the job of discovery returns more to the juniors. Majors still lead copper exploration, with 57% of the global spend according to S&P Global, but the share of junior explorers is growing, expanding from 21% in 2015 to 33% today.

Africa delivered the most copper discoveries over the past two decades, primarily through the Kamoa-Kakula discoveries made by Ivanhoe Mines. Ivanhoe's triumph in the DRC galvanized exploration to Africa's Copperbelts: the Central African Copperbelt itself (with almost all juniors today focusing on the Zambian side rather than the DRC); the Kalahari Copperbelt (covering Botswana and Namibia mostly); and, re-emerging recently, the Anti-Atlas Copperbelt (in Morocco).

Outsourced exploration

Kamoa-Kakula is the kind of tier-one prospect that has the power to change everything, even transforming the DRC into the second-largest copper producer in the world. The prospect of a discovery of this calibre remains a holy grail for copper exploration. Exploration projects exhibiting the early qualities of a potential tier-one operation have been attracting the most attention from the producers.

Probably the largest undeveloped copper project held by a junior company in Africa today is the 800 million t Haib copper project in Namibia, developed by Koryx Copper, a junior listed on the TSXV. Earlier this year, Koryx published a PEA confirming an NPV of US$1.35 billion (after tax), for a 92,000 t/y operation with a LOM of 23 years. The project used to belong to Rio Tinto and Teck, the latter now retaining a 5% equity stake.

It is Zambia, however, that gathers the most excitement these days. Zambia hosts the newest, largest, and probably most dynamic copper exploration scene in Africa. One of the largest projects in Zambia is Mumbezhi, developed by ASX-listed Prospect Resources. Mumbezhi's current resource of 107 million t at 0.5% copper is expected to be updated to 350 million t by the end of 2026. Internal estimates provided by Prospect Resources suggest a resource as large as 1 billion t. The Prospect team previously developed and sold the Arcadia lithium project in Zimbabwe to Zhejiang Huayou Cobalt for US$422 million in 2022. Just a year after acquiring Mumbezhi, they were declaring the MRE and soon bringing in First Quantum Minerals as a cornerstone investor, taking a 15% equity position.

Sam Hosack, managing director and CEO at Prospect Resources, worked for 13 years on seven global projects at First Quantum Minerals (FQM) before joining Prospect. He reflected on how that experience influenced him: "FQM's reputation for executing large-scale projects in-house, rather than outsourcing to EPCMs, taught me the value of direct control and expertise. This experience is now central to how we preserve optionality and position Prospect Resources for growth."

BHP, the world's largest copper producer with an output of over 2 million t/y, has long exited Africa, but through its accelerator BHP Xplor program, it invested in an early-stage exploration project in Botswana. The project is developed by private company Cobre. As part of the earn-in agreement, BHP can acquire 75% in Cobre's Kitlanya East and West projects by funding US$25 million in exploration.

BHP's involvement in early-stage exploration points to a broader trend, presented by Roger Murphy, managing director of private copper explorer Zamare Minerals, which holds several licenses in Zambia: "Most majors target late-stage projects, but since there are not many, the majors are slowly reorienting toward earlier-stage projects."

Because of that, we expect to see buy-in structures like FQM-Prospect or JV partnerships like BHP-Cobre start spreading to early-stage projects, especially those that sit adjacent, continuous, or on-trend with major mines.

For the moment, Zamare will continue developing Kikana, a recently acquired license just 30 km away from FQM's Kansanshi mine, as well as Dongwe, Zamare's largest and flagship license, presenting signs of a potential iron oxide copper-gold (IOCG) system. Otherwise, Zamare remains open for farm-outs and JVs on its other licenses. "As a philosophy, I think one must stay open-minded," explained Murphy.

68 >>

Anthony Mukutuma

Director, Zambia,
FIRST QUANTUM MINERALS (FQM)

How is the ramp-up at Kansanshi S3 expansion progressing?
We completed the construction of the S3 Expansion during Q2 2025, and the official plant start-up followed on August 19th, marked by the visit of Zambia's President, His Excellency Hakainde Hichilema. We expect a full ramp-up to about 25 million t/y of ore in throughput by the end of this year. This will add to our current 28-29 million t of operating capacity. Key to our on-schedule commissioning was the support from our teams from Cobre Panama and Trident. Ramp-up is being driven by the Kansanshi operational teams.

Could you comment on the structure and significance of the US$1 billion gold streaming deal with Royal Gold?
This is one of the world's largest streaming transactions in recent years. Royal Gold is a large American company, and this marks its first major investment in Africa, which reflects Royal Gold's confidence not only in First Quantum Minerals but also in Zambia more broadly.

Enterprise Nickel has summed up its first year of production. How is the mine performing?
It is operating extremely well. Despite a very low nickel price environment, Enterprise Nickel benefits from advantageous geology and unique infrastructure setup. Enterprise is a sulfide deposit treated using a flotation plant rather than a high-pressure leaching process. Second, Enterprise shares key infrastructure and services with Sentinel, which makes for a highly favorable cost structure. Nevertheless, we are careful to adjust the mine plan to ensure our costs remain competitive. Enterprise Nickel is one of only two nickel operations in Zambia.

What are your thoughts regarding the new Minerals Regulation Commission Act of 2024?
The Act does provide a more robust regulatory framework for mineral and mineral rights holders. What we need to see is the Mineral Regulation Commission and the institutions and officers stipulated in the Act to be put in place and fully functional in a timely manner. ■

Marna Cloete

President and CEO
IVANHOE MINES

Reflecting on the flooding at the Kakula mine, how is the dewatering and rehabilitation process progressing toward resuming activities?
Dewatering of the Kakula Mine is progressing well. While the disruption has been significant, the decisive action of our people has minimized downtime and mitigated long-term impacts. We have revised our 2025 copper production to between 370,000 – 420,000 t and guidance of 380,000 to 420,000 t for 2026 and 500,000 to 540,000 t for 2027. Kamoa-Kakula is still targeting medium-term production of approximately 550,000 t/y. An updated life-of-mine plan for Kamoa-Kakula is on target for completion in late Q1 2026.

How competitive is Kipushi in today's zinc price environment?
Kipushi Mine is in a strong position in today's zinc price environment. It is one of the highest-grade zinc deposits in the world. Kipushi's 2022 feasibility study showed that Kipushi could achieve cash costs that put it comfortably in the lowest quartile among global producers.

Could you walk us through Platreef's ramp-up plan?
We began first concentrate production in November 2025, and we are now ramping up the operation as we work towards steady-state output from the Phase 1 concentrator to ~770,000 t/y.

Project development on Phase 2 expansion is already underway, targeting completion in Q4 2027, to increase production to approximately 450,000 oz of platinum, palladium, rhodium, and gold. The Phase 3 expansion further doubles annualized production to over 1 million oz of 3PE+Au, plus approximately 22,000 t of nickel and 13,000 t of copper.

For investors navigating Africa for the first time, what would be your single most important piece of advice?
When you enter Africa, you need to show up, not as a distant shareholder seeking quick returns, but as a partner committed to mutual growth over decades, not quarters. Real value is unlocked when you work alongside communities and governments. ■

Sam Hosack

Managing Director and CEO
PROSPECT RESOURCES

Prospect declared a first MRE for Mumbezhi earlier this year. What are the goals of Phase 2 drilling?
Our 2025 work program targets three outcomes: doubling the Nyungu Central mineral resource to 200 million t; advancing exploration across the broader tenement to identify additional targets; and evaluating by-product potential, specifically cobalt and gold.

How do you find the regulatory framework in Zambia?
Zambia has one of Africa's most progressive mining codes, supported by over a century of production history. The government's 3-million t/y copper target is ambitious but achievable through new discoveries and rapid project advancement. Recent policy changes, such as "use-it-or-lose-it" provisions, encourage active development and reallocation of idle assets.

Do you have a final message?
Mineral exploration is inherently uncertain, and success depends on deep subject matter expertise. That's why Prospect Resources' strategy is ultimately about people. We invested US$35 million over four years to develop the Arcadia lithium project resulting in a high-quality bankable feasibility study and a significant transaction for shareholders. The same team and expertise are now driving our copper ambitions in Zambia. ■

Karan Rathi

Executive Chairman
CHILLERTON

Could you introduce Chillerton?
Through several acquisitions, we have positioned ourselves as a pure-play copper operator in Zambia. Kakosa, our flagship asset, sits within a 5 km strike distance from both KoBold's Mingomba and Konkola Copper Mines (KCM)'s Konkola mine. Kakosa is a greenfield discovery, but we also acquired historical tailings dumps that we incorporated into our development strategy. Kakosa is located in Chililabombwe, from where the Zambian side of the Lobito Corridor will be connecting. The US DFC, the flagship financier of Lobito, is also a strategic investor in Chillerton.

What is the development plan for Kakosa?
Kakosa will be developed in two stages. The first is an above-ground resource of approximately 10 million t that sits in historical tailings (at 0.35–0.65% Cu). Our strategic partnership with the Government of the Republic of Zambia and Konkola Copper Mines enables a material expansion in scale through access to processing capacity at KCM's Nchanga facility. This is expected to drive a step-change in copper output, with aggregate production projected to exceed 50,000 tones over the next two years. The second phase, the Kakosa Underground, currently represents a much larger resource of about 100 million t at 1.8% copper. ■

Anthony Lennox

Managing Director and CEO
ORION MINERALS

How has the development plan for the Prieska Copper Zinc Mine (PCZM) changed?
There are two fundamental changes compared to the 2020 FS. First, we moved the upper-level portion of the orebody. Second, we shortened the timeline for dewatering the deeper levels from four years to two. This results in a two-phased development strategy: an initial upper-level phase based on near-surface supergene sulphide ore accessible from an existing decline. The "Deeps Phase" follows with dewatering and shaft refurbishment taking place concurrently with development of the uppers, with a combined life of mine (LOM) of 13.2 years. The peak funding requirement for the development of Prieska is A$578 million, and the returns are robust, with post-tax NPV of A$568 million and a post-tax IRR of 26%.

It is the first time Orion releases a DFS for one of Okiep's orebodies. What insights has this study provided?
The DFS at the Flat Mines project is the first to be completed on one of these separate orebodies. We believe Flat Mines will be the first of many mines that Orion develops at Okiep. ■

<< 65

Private capital pours into Zambian exploration

Zamare is one of several privately held companies that do not rely on the public markets to advance projects in Zambia. The largest of this group, and underpinned by seriously deep pockets, is KoBold, a name that has imprinted itself strongly on the African mining scene in its eight years since being founded. Last year, KoBold said it made a Kakula-scale discovery that would be the largest discovery in a century in Zambia. The Mingomba project would be a great feat for US capital coming from the tech world, KoBold being backed by prolific multibillionaires Bill Gates and Jeff Bezos. The company is reportedly valued at close to US$3 billion.

Very close to KoBold's Mingomba project, and also recently benefiting from American capital via the US DFC, is the Kakosa project developed by British private company Chillerton. The Kakosa underground project contains a 100 million t resource at a high grade for the region (1.8% Cu), while the resource remains open at depth, with resource range analysis indicating potential for up to five times resource growth. Kakosa is just 5 km strike distance from KoBold's Mingomba and the Konkola copper mine owned by Vedanta.

Outside of this well-tested district, a local champion proves Zambia does not always need foreign capital to advance exploration: Konige Mining and Exploration was founded by Trade Kings, the largest Zambian FMCG company, with over US$1 billion/y in revenue. Konige has identified gold and copper targets around its Mumbwa license in a district with little modern exploration. According to Brett du Toit, Konige's general manager, the company could consider JV partnerships for the broader regional play, especially if they encounter potential tier-one discoveries on its licenses. In the meantime, it remains 100% in-house financed: "Trade Kings provides execution speeds that are very rare among junior exploration and mining companies. They apply a no-nonsense, non-corporate attitude and are not risk-averse," said du Toit.

A mid-market gap filled by brownfield developments

Between the large producers and the small juniors, Africa has a growing mid-tier segment that has been fairly active in recent years. This group is increasingly contributing to overall supply, albeit in smaller increments.

This space is occupied by producing companies like ASX-listed Sandfire Resources in Botswana, which acquired the Motheo project several years ago and produced first concentrates in 2023. Motheo has a total resource of 64.1 million t at 1.0% Cu and 13.8 g/t Ag. In Zambia, Moxico Resources is a private player operating the Mimbula copper mine. This year, Moxico entered a US$50 million copper stream with Ecora Resources. In Namibia, Trigon Metals sold the Kombat historic mine to Horizon Corporation for US$24 million this year.

Outside of these existing producers, the pipeline of projects for medium-sized operations – many of which are brownfield developments – is growing and attracting elite financing. The most established of these players is Orion Minerals, an ASX-listed South African developer that has been working on the development of its flagship Prieska Copper Zinc Mine (PCZM). PCZM is a historic asset that had been in production between the 1970s and 1990s, and one of the world's top 30 VMS base metals deposits. It has a total resource of 31 million t (at 1.2% Cu and 3.6% Zn). Following the DFS release in March 2025, Orion has announced a US$200–250 million deal with Glencore.

Sifiso Siwela,
Associate Partner and Africa Lead,
ERM TECHNICAL MINING SERVICES (TMS)

"Major players have increasingly prioritized M&A over greenfield exploration. Consequently, the responsibility for exploration has shifted to juniors, which encounter significant challenges in advancing their projects, especially in difficult jurisdictions."

Two past-producing polymetallic mines, the Selebi Ni-Cu-Co and the Selkirk Ni-Cu-Co-PGM in Botswana, have attracted the attention of international financing house Fiore Group. With the backing of the Fiore Group, NexMetals acquired the assets early this year and subsequently listed on the TSXV and most recently on NASDAQ. The two mines contain over 200 million t in total resources and had been put on care and maintenance in 2016 due to a smelter failure. By advancing the two assets in parallel, the company is seeking to create scale.

Scale is also what Consolidated Copper Corp (CCC) is looking to achieve in Namibia, also by focusing on historic operations. CCC is a private company created in 2022 with the plan to mine the 51 million t of resource at the Tschudi mine. CCC also owns what it refers to as the 'Central Operations,' three underground mines with just about 6 million t in total. But the center of the Central Operations is actually an 800 t/y processing plant that CCC wants to bring to life by 2026 and use to consolidate supply in the broader region. "The plant has enough capacity to take feed from other mines in the region. We are in negotiations with adjacent concessions that would not justify the building of a standalone plant on their own. Given current inflationary pressures, building a plant even half the size of ours is very costly, so even though copper prices are high, the lead time to production, which would be between three to five years, creates a level of risk that many resource holders do not want to take," said John Sisay, CEO of CCC.

We cannot complete this overview of brownfield developments without returning to Zambia, and to the Chillerton: As part of the Konkosa underground development, Chillerton has acquired historical tailings dumps with a resource of about 10 million t at grades between 0.35 and 0.65%. The tailings project could produce about 10,000 t/y of copper cathode over five years, providing cash flow to advance the larger, 100 million t underground project. Karan Rathi, the executive chairman of Chillerton, explained the broader opportunity in tailings reprocessing and how that could also solve the issue of spare processing capacity: "Historically, the Zambian Copperbelt has been littered with underground (sulfide) deposits, but up until the late 1990s, technologies like solvent extraction and electrowinning (SX-EW) were not available for the mining of sulfide ores, leaving residual oxide copper going into waste stockpiles. With the capacity for SX-EW growing in the district, it is now possible to reprocess these tailings. While producing close to 900,000 t/y of copper, Zambia has a smelting capacity that nears 2 million t/y. That 1.1–1.2 million t/y spare capacity can serve for the reprocessing of waste to produce metal, recoup lost value, and meet Zambia's production targets."

The copper community has become used to billion-dollar investments, but with the billion-ton deposits so much more difficult to find, the cumulative impact of medium-sized projects must not be ignored. According to a BHP report, the current pipeline of all possible greenfield projects is experiencing delays and will only contribute about 14% of total possible supply by 2035. Brownfield developments, BHP found, will contribute 30% of total supply.

From a business perspective, brownfield projects offer a shorter path to production, but they can present significant technical challenges that require operational expertise rather than junior exploration experience.

A return to short-term gains?

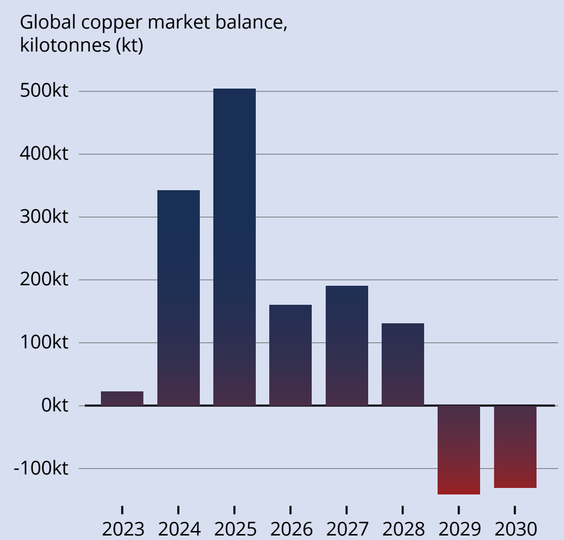
Of all commodities, copper is perhaps the most inherently long-term, reflecting the lengthy journey from discovery to production and the tendency for its fundamentals to be assessed far into the future – the so-called economic barometer is not an instant snapshot of economic conditions, but a more secular forecast. That long-term outlook is well studied, but right now, the market is balanced, 2025 expecting to end in a 500,000 t copper surplus, according to Goldman Sachs.

The recent spot spikes, and investor trading, are not necessarily reading into the far-off deficit. Morgan Lekstrom, the CEO of NexMetals Mining, said the market is actually more focused on short-term gains, the same multiples principle that drives crypto and speculative investing: "Investor attention spans have compressed. Compelling long-term fundamentals do not generate reactions because that 'cliff' isn't yet in sight. Investors want to see companies that turn value from x to y, especially those with a track record of doing so."

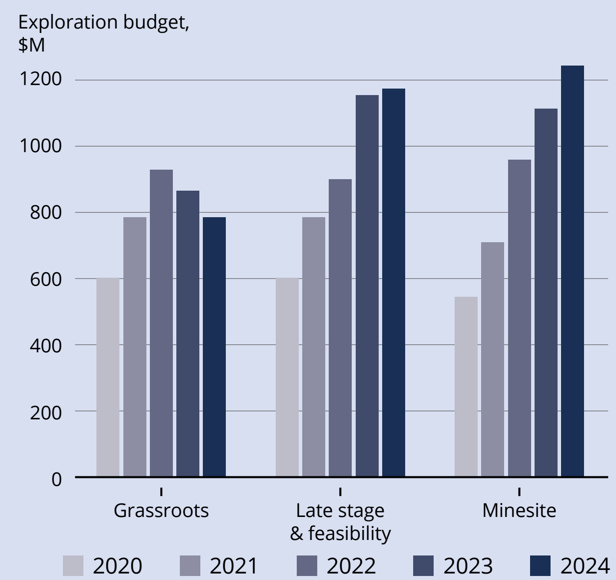
It is true that if we judge by the performance of some of the players mentioned in this article, the companies with the most liquidity and investor traction are not necessarily the ones that will solve the supply deficit. Instead, a lot of the time, it is the classic junior explorer with a great track record of results that generates excitement.

Regardless, with earlier-stage explorers appealing more to the more speculative type of investor, and the advanced projects catching the eye of the producers, there are good reasons to conclude that the copper sector is receiving the endorsement it needs to deliver both short-term and long-term gains. In Africa, investors are in the right place to find both. ■

Copper Surplus/Deficit Projection



Copper Budget per Development Stage, 2020-24



Source: Goldman Sachs and S&P Global


Image courtesy of Marampa Mines (Gerald Group)

Iron Ore and Bauxite

Simandou sets a blueprint

Guinea has a new public holiday: 11 November 2025, the day Simandou officially began operations, has been etched in history. It is rare for the inauguration of a mine to command such an honour, but the development of Simandou is exceptionally significant, for Guinea, for Africa, for the iron ore market, for the shipping market, and maybe even for global geopolitics. This article will unpack the implications of Africa's biggest ever mining project, valued at US$23 billion, for the future of development of bulk commodity projects like iron ore and bauxite in the continent.

For over 3 billion years, more than 3 billion t of estimated iron ore reserves lay hidden in the Guinea Highlands. It took almost three decades since Rio Tinto's geologists first mapped the project before wagons of high-grade iron ore could finally make the 30-hour journey to purpose-built Morebaya port in Guinea. The first commercial shipment departed in early December 2025 and is expected to arrive in China's eastern Zhejiang province by mid-January.

The biggest setback to reaching this point has been the project's remoteness in the Simandou mountain range. The lack of infrastructure seemed insurmountable for a long time, rendering the project a pipe dream until a group of unlikely partners, namely Rio Tinto, Chalco Iron Ore Holdings, and the Winning Consortium Simandou (WCS), climbed that mountain, literally and figuratively. Now they mine it.

The first message the mining world takes from this project is that no mining project is impossible. The other unintentional takeaway is that such an achievement may not have been possible without the strong Chinese inputs. The colossal infrastructure, built in record time, includes 600 km of rail and a port with a capacity of handling 120 million t/y, Simandou's maximum annual output. The speed, scale and engineering designs are reminiscent of China's own.

Ownership, in this case, has broader implications. It is expected that the 120 million t/y that will be added to global annual iron ore production by 2029 will make a dent in iron ore prices. The most impacted country will be Australia, the world's largest producer at about 40% of supply. Whilst not even at full-throttle production, Simandou is already dubbed the 'Pilbara Killer,' referring to the Australian iron-rich region of Pilbara. Material from Simandou boasts the highest grades in the world (65% iron), thus becoming a competitive contender for the green steelmaking industry in China. If Australia stands to be the most negatively impacted, China emerges the clear winner from this development. Simandou is essentially 75% Chinese-owned, and its customers are also mostly Chinese. This gives China an alternative to the iron ore behemoths—BHP, Vale and Rio Tinto. By controlling, for the first time, a larger share of the market, China gains unprecedented pricing power.

In this upended market, Guinea wants to make sure Simandou remains its win, and not a credit to China or the West. Beyond the huge FID, GDP growth, and political gains reaped by the current leadership taking credit for bringing Simandou to life, Guinea is poised to become the second largest iron ore exporter in the world, after Australia – whereas Brazil, currently number two globally, retains much of its 400 million t/y of production for domestic needs. Guinea already holds the status of the biggest bauxite producer globally, bauxite representing close to 90% of its export earnings and 20% of GDP. But bauxite has not done for Guinea what oil has done for the UAE – and this is the development model Guinea aspires to, as reported by African Security Analysis: "What oil was to the Gulf states, Simandou will be to Guinea," declared a senior government official.

To derive more value from its prized resources, namely iron ore and bauxite, Guinea has introduced mandatory processing requirements. Rio Tinto and WCS are expected to submit feasibility studies for a 500,000 t/y steel plant or a 2-million t/y pellet facility in the next two years, according to Reuters. For bauxite producers, time is already running out. Earlier this year, the government cancelled Emirates Global Aluminium (EGA)'s license over its failure to build an alumina refinery, among other tensions. EGA owns one of the largest bauxite mines in the country via its subsidiary, the Guinea Alumina Corporation (GAC).

Guinea wants to see six alumina refineries by 2030. Compagnie des Bauxites de Guinée (CBG), the country's largest bauxite producer and the oldest mining company in Guinea, is looking at plans to invest in an alumina refinery. "Our vision is to participate in the development of Guinea, as we have done for over 50 years," Karifa Condé, general director for CBG told GBR.

CBG is owned 51% by Halco, a JV between Alcoa, Rio Tinto and Daco, with the remaining 49% stake belonging to the government.

Guinea has also signed a deal with China's State Power Investment Corporation to build a large alumina refinery, with construction expected to finalize in 2027. That would produce 1.2 million t/y of alumina – a small share of Guinea's 100 million t/y bauxite exports. Last year, President Mamady Doumbouya also announced a refinery to be built by the French Alteo Alumina in the Boke region.

Companies looking to invest in Guinea's bauxite sector must consider downstream options from an early, conceptual phase. Forward Africa Group, a UAE-based company, is envisioning a wash plant as a first step to create additional local value at its Kindia regional development bauxite project. "When you look at the disparity between the price of raw bauxite vs alumina, one can easily appreciate the government's perspective. Currently, Guinea has only one alumina refinery that is 50 years old and operated by Rusal, probably at under 20% capacity," said James Lumley, the CEO of Forward Africa Group.

While there are many, this writer included, who would like to see Africa's cycle of exporting raw materials end, doubts remain over the feasibility of such projects. And the hurdles are, once again, of a pragmatic nature, like power availability. We spoke to Peter Clearkin, global lead for mining at BCG, who thinks that, in response to the historic wrongs of colonialism, many African governments have gone too far, placing an unrealistic and forced focus on beneficiation: "If I wanted to go to Ireland, my home country, to build an enormous iron ore mine, I could not, because there is no iron ore in Ireland. Likewise, wanting to beneficiate in a country where structurally cheap power is not accessible—so you cannot be competitive in energy-intensive smelting or refining—is just as unrealistic. This is a simple truth."

Even if the infrastructure challenge could be overcome (as investors did at Simandou), there is also the issue of competitiveness. "If your products are not competitive and you are far away from the end markets, then beneficiation does not create actual value. What is important is to capture a fair share of the value from the resources and activities you are competitive in," Clearkin continued.

Growing corridors

It is in this context, impressed by Simandou, that investments are compounding in iron ore and bauxite projects in other parts of Africa. Ivanhoe Atlantic, a company founded by Robert Friedland, is proposing a US$1.8 billion investment to develop the railway infrastructure to transport iron ore from the Kon Kweni project in Guinea to the port of Liberia. The company signed the deal with the Liberian government in July 2025, pending ratification by the Senate.

This investment would not just unlock the 751.9 million t (resource) but also a multi-user port facility in neighbouring Liberia. The Liberian rail access is monopolized by ArcelorMittal, which is mining iron ore from Mount Gangra. Celebrating 20 years of presence in Liberia, ArcelorMittal has announced a US$1.8 billion investment in a Phase 2 expansion, which will increase the company's production four-fold, to 20 million t/y. The investment is the largest FDI in the country's history, according to the Luxembourger company. It is also equal to the investment proposed by Ivanhoe Atlantic.

Africa's share in the iron ore market is growing considerably, but the centre of growth is no longer South Africa, but the broader West African corridor. South African producers have faced challenges, including issues with rail access at Transnet, higher energy prices, and lower grades. This year, Kumba Iron Ore, South Africa's largest producer, has invested in a UHDMS (Ultra-High Dense Media Separation) project at its Sishen mine to improve margins by processing lower grades. African Rainbow Minerals (ARM), through its Assmang business (ARM:Assore 50:50 JV), reported total export sales below capacity at the 14.5 million t/y Khumani operation. Earlier this year, the company announced the closure of the Beeshoek iron ore mine after its sole customer, the steelmaking business of ArcelorMittal, ceased purchases.

Africa's Iron Ore Output on the Rise

Project / Mine	Current Capacity (mtpa)/ Development Stage	Expected Ramp-Up (mtpa)	Owner	Country
Simandou	(testing ramp, small volumes in 2025)	~120 mtpa full capacity by ~2028-30	Rio Tinto + WCS	Guinea
Belinga	(development)	40–60 mtpa (long term potential)	Fortescue / Ivindo Iron	Guinea
Western Range Project	~20 mtpa	~30 mtpa (future expansion potential)	ArcelorMittal	Liberia
Kon Kweni	(development)	~25-30 mtpa (Phase 2)	Ivanhoe Atlantic	Guinea + Liberia
Zanaga Iron Ore Project	(development)	12 – 30 mtpa	Zanaga Iron Ore Company	Republic of Congo
SNIM *(Société Nationale Industrielle et Minière)*	~14 mtpa (current)	~24 mtpa by ~2031 (target)	SNIM	Mauritania
Ngovayang Iron Ore	(development)	~7.2 mtpa (planned)	Jindal Steel & Power	Cameroon
Marampa Mines	2 mtpa	3.7 mtpa (completed)	Gerald Group	Sierra Leone
Baniaka	(development)	~5 mtpa now – ~10 mtpa	Genmin	Gabon

Source: GBR

James Lumley,
CEO, **FORWARD AFRICA GROUP**

"We presented a case to the Guinea government for a regional development strategy, whereby strategic infrastructure can unlock value in several mining projects, creating scale and acting as a catalyst for broader opportunities."

With material from Simandou coming onstream, South African producers are bracing for lower prices, with analysts anticipating prices to slump to US$85/t as Simandou reaches full output.

Meanwhile, the Guinea-Liberia-Sierra-Leone-Mauritania corridor is growing. Simandou aside, players in the region show vigorous appetite for capacity additions. In Mauritania, state-owned company SNIM has received a US$275 million loan from the European Investment Bank and the African Development Bank to increase output from around 14 million t/y to 24 million t/y by 2031. SNIM is also planning to invest close to US$500,000 million to double transport capacity. In Sierra Leone, global trader Gerald Group has commissioned an expansion to increase capacity to 3.75 million t/y at its flagship Marampa Mines.

Development projects are also in order, expanding beyond this known corridor. The largest is Belinga, estimated to contain over 1 billion t of iron ore in Gabon. Australian company Fortesque is preparing a DFS for the full-scale development of Belinga by the end of 2026. With an expected capacity of up to 60 million t/y, Belinga would be about half of Simandou. Another large-scale project is Zananga, located in the Republic of Congo and developed by Zananga Iron Ore, which acquired it from Glencore in 2022. Zananga could produce up to 30 million t/y, according to its DFS.

Smaller projects litter the region: In Gabon, ASX-listed Genmin is preparing for commercial production at its Baniaka iron ore project by late 2026, starting small at 5 million t/y, but scalable. In Cameroon, a Jindal Group subsidiary is developing the Ngovayang Iron Ore, expected to produce 7.3 million t/y according to Wood, its EPC partner. Cameroonian company G Stone Resources is also reporting a high-quality iron ore deposit called Bipindi-Grand Zambi, which could bring to the market another 2 million t/y.

Even when adding all current production (about 90 million t/y), Simandou at full ramp-up is more than the entire contribution of African producers today.

In bauxite, the same West African nexus of countries attracts further developments. For example, Australian company Canyon Resources is advancing Minim Martap, one of the world's richest bauxite deposits (144 million t reserve) in Cameroon. In Guinea, Arrow Minerals is advancing the Niagara bauxite project with a resource of about 185 million t. Forward Africa Group has presented to the Guinean government a regional bauxite project around the Kindia Prefecture. "We started work on a small-scale bauxite project in Guinea in 2011, but as major investors came into the country and Guinea emerged as one of the largest bauxite exporters globally, these smaller projects became isolated in favour of large-scale mining operations. Instead of focusing on a single bauxite project that can produce 3 million t/y, we decided to increase the scope of the project and turn it into a regional play by investing in mining-related infrastructure in an area," said James Lumley, its CEO.

As part of the regional development, Forward Africa Group is looking to build strategic infrastructure, including a new haul road and an independent port that can help unlock projects across the region and help to create scale. In many ways, the investments annotated above are primarily investments in infrastructure. And Simandou, expressed now through a single word without needing any further explanations, could only happen through infrastructure. The infrastructure investments made to unlock these projects will invariably make other bulk mining projects feasible. ■

Karifa Condé

Directeur Général,
CBG (COMPAGNIE DES BAUXITES DE GUINÉE)
President,
GUINEA CHAMBER OF MINES

"Thanks to the quality of our resources and our operational controls, CBG has distinguished itself as one of the premier bauxite producers in the world."

What are your priorities as newly elected President of the Guinea Chamber of Mines?

My first priority is to ensure that the Chamber remains a preferred interlocutor for the government, public authorities, and centralized state bodies, especially during legislative changes in the mining sector. The Chamber is positioned as a reliable intermediary that can assist the government with the implementation of public policies in the sector. Another pillar of our work is to make sure that our members feel safe operating in Guinea. Thirdly, we are the custodian of CSR as a non-negotiable criterion for all operators. We are in the process of reviewing our statutory documents to introduce a clearer and more defined framework aligned with international environmental, ethical, and responsibility standards.

Could you provide a brief introduction to Compagnie des Bauxites de Guinée (CBG)?

CBG is the oldest mining company in Guinea, with a history dating back to 1963. We are also the only mining company in Guinea in which the state holds a 49% stake, with Halco Mining retaining the majority 51%. Halco is a joint venture between Alcoa, Rio Tinto, and Dadco. The Guinean government also receives 65% of revenues. This places CBG as a leading participant in the Guinean economy.

Thanks to the quality of our resources and our operational controls, CBG has distinguished itself as one of the premier bauxite producers in the world. ESG is closely integrated, and we take great care of both our surrounding communities and our direct and indirect employees.

How is CBG responding to the government's push for local refining?

We are looking to diversify our activities and invest in an alumina refinery to contribute to the development of the local value chain and also capture better margins. Our vision is to participate in the development of Guinea, as we have done for over 50 years.

The Simandou US$20 billion investment is projected to turn Guinea into one of the fastest-growing economies. What has enabled the takeoff of this massive project?

The WBG investment only reinforces Guinea as a prime destination for investment. Simandou, with its large scale in a relatively small country like Guinea, has greatly influenced the country's fate. That this project is happening here shows the trust that its investors place in Guinea. Key to that is ensuring that the commitments made by all parties involved—the government on one side and investors on the other—are respected.

Several conditions had to be met to facilitate this flagship investment, going beyond geological richness, including the availability of a skilled workforce that may not have been present several years ago. Today, young people are attending specialized schools, including the Simandou Academy. On top of that, the country is making major strides to offer stability, favorable legislation, and an incentivizing fiscal framework, all of which inspire confidence.

What is your view on the recent revocations of mining licenses?

There is a saying found in legislation around the world that goes, "what the common will do, the common must respect and the common must undo," which means that he who makes the rules must also respect and enforce them. In that sense, all parties must accept their obligations. As the mining sector began to experience a boom, we noticed that some operators were not meeting their commitments. The legislative and regulatory framework gives the administration the responsibility to monitor and ensure that investors are fulfilling their obligations. The recent revocation of mining licenses occurred precisely because the administration is respecting its own duty to enforce the law, and mining companies must do the same.

Do you have a final message?

At CBG, we put our employees at the center of our strategy. We place the greatest value on our human capital, which we believe to be key to our company's longevity.

Another important focus for us is not just looking at what and how much we produce, but also how we produce. Too many bauxite producers in the world disregard local regulations, the environment, and even human rights, so for us it is crucial to set an example of responsible mining and leave the environment in an even better place than we found it, and our communities more prosperous than before mining. ■

Craig Dean

Executive Chairman and CEO
GERALD GROUP (MARAMPA MINES)

How do Gerald Group's assets in Africa align with its global sourcing and trading strategy?

Africa's strategic importance lies in its capacity as a significant producer and supplier of metals and critical minerals. We have a proven track record of investment and trading across the continent and continue to develop our assets as a core component of our global trading operations. We were an early investor in Alphamin Resources' Bisie tin mine in the DRC, the world's highest-grade tin resource, where we continue to finance, transport, and export tin concentrate.

In Sierra Leone, we own and operate Marampa Mines Limited (MML) iron ore mine in partnership with the Government of Sierra Leone (GoSL), which has a 10% share. Our shared vision is to optimize the beneficiation of up to ~1.7 billion t of compliant resources from our Marampa North and South concessions, bringing additional revenues for the country and creating economic opportunities for our host communities.

We are also the owners of Soremi SA, a polymetallic copper-lead-zinc asset in the Republic of Congo (Brazzaville), along with the Government, which owns a 10% stake. Our venture saw the country's first copper cathode processing plant, commissioned in 2016 and more recently commenced production of zinc ingot.

Marampa Mines, a Gerald Group asset, is one of Sierra Leone's largest mining companies. Can you describe its contribution to local economic development, employment, skills transfer, and broader value addition? Does MML's social license open the country for further mining investment?

What distinguishes Marampa Mines in Sierra Leone is its ability to beneficiate iron ore to a 65% high-grade iron ore concentrate product, which we call Marampa BlueTM. This adds significant in-country value and enhances efficiency downstream in the steel value chain.

To date, Gerald has invested over US$400 million at Marampa Mines, developing the asset from its initial production capacity of 2 million t/y to 3.75 million t/y of high-grade iron ore concentrate.

We are proud that our workforce comprises >4,000 direct and indirect employees, of whom 91% are Sierra Leonean nationals. Among our direct, national employees, 30% are women. ■

Phillip Tobias

CEO
AFRICAN RAINBOW MINERALS (ARM)

Could you provide an overview of ARM's diversified portfolio?

Starting with our ferrous metals business, we are focusing on two mines in the Northern Cape under Assmang, a 50:50 JV between ARM and Assore. One is the Black Rock manganese mine, with an installed capacity of 4.5 million t/y, currently operating at 3.7 million t/y due to logistics constraints. The second is the Khumani mine, a high-quality iron ore body and a core asset for us, with more than 20 years of LOM. Khumani has an installed capacity of 14.5 million t/y, but in FY25, the total export sale was only about 12.3 million t/y, with similar guidance for 2026–2028, also on the back of Transnet rail-related limitations. At the Beeshoek iron ore mine, we are currently going through Section 189 and employee voluntary severance processes, and at the end of May this year, we announced the sale of Cato Ridge, a smelting ferromanganese business, to Assore. We have also announced the divestment of Sakura Ferroalloys, which is a smelting business in Malaysia.

In the platinum space, our cornerstone operating asset is the Two Rivers platinum mine, a JV between ARM (54%) and Impala Platinum (46%), where we have a large ramp-up project, bringing production to 200,000 t/m. The second asset is the Modikwa platinum mine, in a JV with Valterra Platinum, with an installed capacity of 320,000 t/m.

How are iron ore prices impacting your operations?

On the iron ore side, oversupply from the ramp-up of Simandou could affect pricing. Nevertheless, we have a high-quality product that attracts a premium, so we have a niche that cannot be displaced. In FY24, iron ore contributed about R4.9 billion of our roughly R5.08 billion total, with an average price around US$107/t. ■


Image courtesy of Paladin Energy

Uranium

Inconclusive incentives

This year, two of Africa's mothballed uranium mines were brought back into production: the Langer Heinrich Mine (LHM) in Namibia and Kayelekera in Malawi. Both were built by Paladin Energy during the uranium boom years when prices hit a record of US$148/lb in 2007, and were later put on hold when uranium prices were gouged to lows of US$20/lb following the Fukushima tragedy. Kayelekera went first, in 2014, and LHM lasted for four more years, finally moving onto care and maintenance in 2018. Shortly after LHM's reopening under Paladin, Kayelekera also resumed yellowcake production, now operated by Lotus Resources, which bought the project from Paladin in 2020.

The reopening of these two mines, prompted by a uranium price that hit US$100/lb in 2024, must have brought a mix of nostalgia and buoyancy to John Borshoff, the founder of Paladin who oversaw the construction of these assets. Borshoff resigned in 2015 at a time when Paladin was on the brink of bankruptcy, unable to make a profit and pay off debt at a US$39/lb spot price. With Paladin now a AU$4.2 billion market cap company and prices holding above US$70/lb, Borshoff's long-prophesied uranium comeback seems to be finally materializing. Yet he remains sober. At the helm of Deep Yellow, the company he founded after leaving Paladin, the so-called 'godfather of uranium' is not rushing into a construction decision at the Tumas uranium project in Namibia under current market conditions. After over 50 years in the industry, Borshoff has just retired from Deep Yellow, but his stance speaks to the broader position in the sector: "My approach, an approach vindicated by others in the industry, is that we will not talk seriously to utilities until the incentive price is enough to justify development of greenfield projects," he told GBR in an interview earlier this summer.

Deep Yellow's decision not to proceed with a final investment decision (FID) at the Tumas project reflects a bigger trend of holding back new supply until the term price for uranium reaches incentivizing levels. The world's largest producer, Kazatomprom, is cutting production by 10% due to weak market conditions, while number two, Cameco, said it will not bring significant new supply online without a higher incentive price, a threshold believed to be at US$100/lb. That said, Kazatomprom has announced tripling exploration activities, indicating confidence in the long-term role of uranium.

In the short-term, it is lower-capital projects like Kayelekera, which benefit from existing infrastructure and permitting, that warrant the risk of bringing supply online at a time of volatile prices.

The coming on stream of LHM and Kayelekera are not conclusive signs that prices have turned a corner, and that breeds caution in the development space. In Africa, among the closest to production is Deep Yellow, currently advancing with detailed engineering at the 137 million lb Tumas resource in Namibia. In a similar position is Bannerman Energy, the developer of the 207 million lb Etango project, also in Namibia. Like Deep Yellow, Bannerman has also decided to "not draw a line in the sand" on the FID date but instead to continue with work at the Etango site, leveraging a significant capital raise of AU$85 million, which leaves the company with AU$140 million in the bank (July numbers). The strategy, in the words of Bannerman's CEO, Gavin Chamberlain, is to be both "patient for market conditions to make sense, and prepared, by continuing with the work at the site."

Patient and prepared

Back during the peak days, most of Africa was enveloped by uranium exploration. Namibia itself was so overwhelmed that it introduced a 10-year moratorium on new uranium licenses back in 2007. The price plague erased much of that hive. Companies like Areva, which dominated, had to be rescued by the French government and emerge from the ashes as Orano. Paladin Energy entered voluntary administration in 2007. It is a small world for uranium today, but the colony is reforming. This started around 2020, when Lotus Resources acquired Kayelekera from Paladin and then proceeded to acquire A-Cap Resources and its Letlhakane deposit in Botswana in 2023, thus creating a purely African uranium player.

The start of Kayelekera added Malawi to the list of uranium-producing countries in Africa, alongside Niger and Namibia alone. In Niger, production has been declining steadily over the past decade, from 4,116 t/y in 2015 to 962 t/y in 2024, according to the World Nuclear Association. Orano's Somair mine was recently nationalized by the junta government, and the operating environment remains difficult. The opposite trend is seen in Namibia, where production has grown 2.5 times since 2015, to 7,333 t/y, from its two large mines, Rössing and Husab, operated by Chinese companies. LHM is now adding to Namibia's production profile.

On course for production by 2030 are several projects. In Namibia, Bannerman's Etango and Deep Yellow's Tumas; in Niger, Global Atomic's Dasa project, which recently announced funding from a US development bank and seeks additional backing from the Canadian government. The financing requirement comes to US$424.6 million for first uranium shipped in 2028. In the lineup to an FID is also Aura Energy with the Tiris project in Mauritania. Both Global Atomic and Aura Energy are advancing toward the FID, which raises the point that trigger prices differ between projects depending on operational costs. In Zambia, Atomic Eagle (formerly GoviEx) released a feasibility study for the Muntanga project and could start production by 2028, according to the company.

At an earlier stage, Lotus Resources is also advancing the 113.7 million lb Letlhakane project toward feasibility in Botswana. Canadian-listed Elevate Uranium in Namibia and Australian-listed Haranga Resources in Senegal continue to invest in the uranium story from a grassroots level. Uranium One, part of the Russian state-owned ROSATOM, owns the Mkuju River project in Tanzania, while subsidiary Headspring Investments owns licenses in the Aranos Basin in Namibia. Chinese companies hold several projects in Namibia, where CNNC dominates production.

Africa is growing a large pipeline of potential new supply, a sign that the industry is slowly healing. But global supply remains broken. Disruptions from current producers, like those seen in Kazakhstan, difficulties with restarts, permitting challenges, long development timelines, and Niger's asset nationalizations speak to some of the challenges of current production. "Years of underinvestment have left a gap, and the first real wave of new supply is unlikely until the next generation of projects comes online in the early 2030s," said Greg Bittar, managing director for Lotus Resources.

In a recent report by the World Nuclear Association, global uranium production could halve after 2030 due to declining yields from active mines. The dozen or so new mines in Africa could respond. With current and upcoming supply unable to materially fill the demand gap, the thesis for a higher uranium price stands stronger than ever.

A matter of When, not If

Current uranium consumption already slightly exceeds primary mine supply, leaving a deficit of about 6 million lb in 2025. By 2040, uranium demand is expected to grow 118% from current levels, reaching about 400 million lb/y, while supply capacity is projected to grow only to 201 million lb/y. According to John Borshoff, large development projects by Deep Yellow and Bannerman in Namibia, as well as NextGen Energy and Denison Mines in Canada, will together only add about 50 million lb.

These numbers are clear. With supply tight, the only calculation left is whether that demand will actually materialize. And demand is influenced by the acceptance of nuclear as an energy source. That acceptance is growing fast and from multiple directions: governments, development institutions, and even energy-hungry consumers investing for the first time in uranium, including tech companies. To give a few examples: in October, the US government announced an US$80 billion deal for new nuclear reactors. The World Bank has just ended its ban on funding nuclear energy, and Amazon, Google, Microsoft, and other tech giants are entering the space in unprecedented fashion, all to secure the energy needed to power huge data centers known as hyperscalers. At COP28, a pledge to triple nuclear energy capacity was backed by 30 countries. India wants to expand nuclear power production by a factor of 13 by 2047. The demand picture is far more complex and diversified than during the last uranium rally, which was primarily driven by China. That is driving growth in the current global nuclear fleet, currently

80 >>

Paul Hemburrow

Managing Director and CEO
PALADIN ENERGY

"With a producing mine in Namibia and an exciting near-term development uranium project in Canada, along with other assets in that country, Paladin now has geographical diversification and a multi-decade production pipeline."

How would you describe the first year of production at the Langer Heinrich mine, and how is the ramp-up progressing?
It's been a very positive year, with ongoing ramp-up of production over the last 12 months. In the final quarter of FY2025 we achieved an all-time record throughput at the LHM, which clearly demonstrates that the debottlenecking work done during our restart project is really delivering. Since the start of mining in the last quarter of 2024, Paladin has deployed just under 50% of its full mining fleet requirements, with the new ore from the pits enabling us to blend fresh material with our existing stockpiles. Looking forward, we will be increasing our mining activity to the point where 100% of the fleet is in place by the end of FY26 and we will be in full production at LHM during FY2027. Sales agreements are in place with tier-one utilities in many nations and deliveries of uranium have been made to North America, Europe and Asia during the past year. It's important for people to appreciate that the LHM is a long-life operation supported by 77.6 million pounds (Mlb) in reserves and we will be in operation for many years to come.

How has the reopening of the Langer Heinrich mine, after six years on care and maintenance, benefited the local economy?
On my first visit to Namibia, there were only 17 employees working at the mine. Now we have approximately 390 employees, plus contractors, working at the LHM, making the mine and plant not just a significant regional employer, but also an employer of choice. Most of our workforce is from the surrounding area, and the demographics of our team reflect the demographics of the community, creating new opportunities for employment across all ages and genders. We have had a focus on ensuring we spend locally in the region whenever we can to ensure the LHM is making a broader economic contribution. Our use of local suppliers for consumables like PPE and reagents has been a key focus from the start. Our maintenance contractors, and various service providers are also drawn from the region, generating a strong economic effect.

We've enjoyed strong support from the Namibian government, both before and since the recent elections. The local government has also been supportive throughout the restart and ramp-up. LHM has also benefited from good working relationships with NamWater and NamPower, the two state-owned utility companies controlling water and energy supply; through our contracts, we can also provide water capacity to the local community, a synergy that is much appreciated by our hosts.

What motivated Paladin to acquire Fission Uranium and the Patterson Lake South project, and how does this acquisition align with your overall strategy?
The Patterson Lake South (PLS) project is a world-class undeveloped uranium deposit in one of the best uranium regions outside Namibia. It's extremely high-quality, long-life, and a shallow deposit by Athabasca Region standards. Deploying conventional (hard rock underground) mining techniques, we will have the potential to produce 9 million pounds (lb) of uranium per annum over a ten year mine life – with a 93.7 Mlb U3O8 mineral reserve (probable) – and supported by a 1,000 tpd mining rate.

With a producing mine in Namibia and an exciting near-term development uranium project in Canada, along with other assets in that country, Paladin now has geographical diversification that will deliver on our strategy of establishing a multi-decade production pipeline.

What's the outlook for uranium going forward and do you expect prices to remain strong enough to support new production?
There are 439 operating nuclear reactors globally, with another 69 under construction and over 100 at various planning phases around the world. This speaks to the increased interest in nuclear power generation in many nations as both a reliable source of baseload power and part of global efforts to decarbonize economies. The uranium price over the past decade has not encouraged additional supply capacity from miners, which has left the supply side of our sector a long way behind demand.

We have one of the highest-quality undeveloped uranium projects globally that is poised for development, along with a strategically important pipeline of exploration opportunities, and our contracts with tier-one global customers worldwide. All of this makes us very well positioned to play an important and strategically important role in uranium supply. ■

Greg Bittar

Managing Director
LOTUS RESOURCES

Could you introduce our readers to Lotus Resources?
Lotus is an ASX-listed company with two key assets: the Kayelekera mine in Malawi and the Letlhakane project in Botswana. We are currently focused on bringing Kayelekera back to full production. Kayelekera has a capacity to produce 2.4 million lb/y uranium. We delivered first production in Q3 2025 on time and on budget and are now executing a ramp-up to reach steady output of 2.4 million lb/y in Q1 2026. LOM is projected at 10 years.

What can you tell our audience about Malawi as a mining jurisdiction?
Malawi is safe, with a stable democracy. The government is eager to learn, adopt international mining practices, and refine its regulatory framework. This has created a supportive environment and a strong foundation for successful collaboration. Kayelekera will be Malawi's only commercial scale mine.

How does Letlhakane complement your portfolio?
The two projects are highly complementary, with Kayelekera becoming the funding vehicle for Letlhakane, which is still several years from development. Letlhakane currently has a resource of 113.7 million lb. ■

John Borshoff

CEO
DEEP YELLOW

What is the rationale for the Tumas FID deferral?
The decision not to proceed with the Final Investment Decision (FID) was based purely on market conditions. Utilities, especially US utilities, need to realize that the uranium industry can only be recapitalized and exploration can only be incentivized when uranium prices rise. So my approach, an approach vindicated by others in the industry, is that we will not talk seriously to utilities until the incentive price is enough to justify development of greenfield projects.

Could you elaborate on the progress at Tumas?
The project has now progressed to Phase Three of detailed engineering, with Ausenco handling the processing plant, while we manage offsite infrastructure, including power, water and roads. Most companies reach FID at 30% engineering completed, primarily on the front end, whereas we will be at up to 70% when Phase 3 finishes. This strategy ensures the project can start construction quickly and efficiently once market conditions justify it. Current consumption is 180 million lb/y—growing to around 300 million lb/y by 2040—which means we need 130 million lb/y of new resources by the mid-2030s. ■

Gavin Chamberlain

CEO
BANNERMAN ENERGY

How is the Etango uranium project in Namibia progressing?
The initial contracts, covering the water supply and the access road, have now been completed, and we placed three additional contracts, including power, the access road and a two-year bulk earthworks contract, awarded in August 2024, which covers the 1 km long by 300 m wide heap leach pad. With the most recent fundraising secured, we will now move ahead with blasting and crushing rock for the heap leach drainage layer.

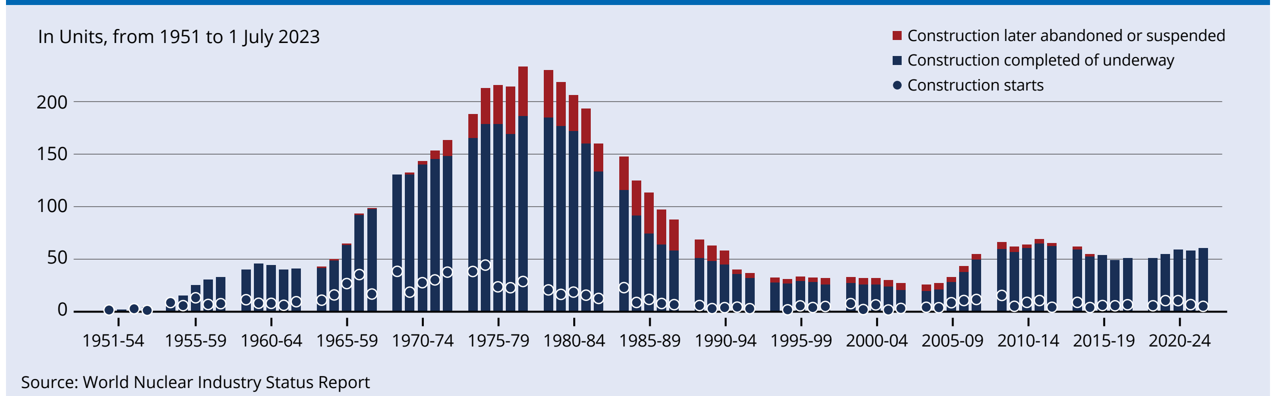
How is Namibia positioned in the global uranium market?
Namibian uranium can be sold to both Eastern and Western markets, and we intend to keep it that way, without getting drawn into aligning with any particular political bloc, the exception being that we have clearly stated that we will not sell uranium to Russia.

One change we have noticed is a clear increase in US interest in Namibia. People are now approaching us, whereas previously it was challenging to establish the right contacts in the US. There is a shift in focus from the US toward involvement in Namibia. Whether that interest will translate into concrete investment remains to be seen. ■

John Borshoff stepped down from Deep Yellow in October 2025.

<< 77

Nuclear Reactors Under Construction



at about 440 reactors, with a push to keep existing reactors alive, bring old reactors back into production, and invest in new ones, with 63 currently under construction globally, according to the World Nuclear Industry Status Report 2025.

In a small, lightly traded market like uranium, the smallest changes cause big reactions in the spot market, which is why news of government support and financial backing has been bringing renewed interest to listed uranium stocks. Global Atomic has attracted support from several state and development institutions. Retail participation is also on the rise. Bannerman Energy, which completed an AU$85 million placement in 2025 and another AU$85 million in 2024, saw its shares rise 23.75% over the last five years, but its stock has been fairly volatile. "Our core shareholders understand uranium. The large institutional investors are in it for the long term, rarely trading in and out of our stock. On the other hand, our share price is largely influenced by retail investors, who do focus on the spot price; hence, our share price is strongly linked to the spot price. Ultimately, the disconnect between the spot price and the long-term price creates volatility in our shares."

The anomaly of uranium prices resisting the clear structural imbalance is explained by the fact that there are indeed two uranium prices: the spot price and the term price. The spot price is only a small part of the market, used for immediate transactions. The term price, however, is the one used by utilities for feeding the current nuclear fleets. This is the price that has remained immovable, because utilities are still drawing from inventories and the secondary market, but when fuel buyers realize the impending shortages, the price is expected to jump. "When it happens, it will happen quickly, with utilities competing for limited available pounds. The question is not if, but when this will happen," said Murray Hill, CEO of Namibian uranium explorer Elevate Uranium.

Wrinkles in the narrative

While the case for uranium is stronger than ever, one must also note certain risks that a discerning reader may have picked up on as this article progressed. There is a salient precariousness in the rapidity with which the context has shifted in recent years. In 2022, the EU decided in favor of the inclusion of nuclear energy as "green" after a divisive vote. At that time, the US was removing uranium from its critical minerals list, but this year it has been reinstated. A few years after Germany decommissioned its last nuclear power plants, there are now political calls to return to nuclear.

John Borshoff referred to nuclear power plants as the "pyramids of our time," given their long lifetimes, with the oldest one in operation dating back to 1969. But that also means investments made today should remain relevant for the next 50 to 100 years. When nuclear energy entered the market about 60 years ago, it was an alternative primarily to coal-fired and oil-fueled plants, alongside hydro. Nuclear energy was welcomed as more acceptable than military nuclear applications. Today, renewables are scaling at an unprecedented pace, with pricing declining rapidly without subsidization.

There are also persistent risks of radiation and the unspeakable risk of another large-scale explosion. Decontamination following the Fukushima disaster is likely to continue until 2050, and it was only this year that China eased import bans on seafood from Japan, measures introduced by several countries to avoid radiation exposure. The disasters of Three Mile Island (US, 1979), Chornobyl (USSR, 1986), and Fukushima (Japan, 2011) have motivated further research into reactor safety. A 2015 study, Of Disasters and Dragon Kings: A Statistical Analysis of Nuclear Power Incidents & Accidents, found a 50% chance of another Fukushima-style nuclear accident within the next 50 years. While errors can be traced in hindsight, they are not easy to predict. In the World Nuclear Industry Status Report 2025, the authors highlighted concerns related to oversimplifications proposed by SMRs compared to traditional nuclear power plants, along with higher amounts of radioactive waste. The feasibility of SMR technologies is another area of debate. Based on the OECD's Nuclear Energy Agency, there are over 120 SMR technologies, but most of these are simply attempts at reviving old concepts dating back some 50 to 60 years.

In Africa, campaign organizations from Burkina Faso, Ghana, Kenya, Nigeria, South Africa, Tanzania, and Uganda prepared a report, "The alarming rise of false climate solutions in Africa — the nuclear energy misadventure," calling for the rejection of nuclear power plants on the continent due to increased vulnerability, especially in conflict scenarios like those seen in Russia-Ukraine, where plants become targets, as well as the increased risk of incidents exacerbated by global warming and incompatibility with renewable energy.

Regardless, a larger nuclear fleet is underway, and overall cost competitiveness and mainstream acceptance will continue to evolve as nuclear scales. ■

Image courtesy of Menar

Coal

Do not resuscitate

South Africa's Minister of Mines and Petroleum, Gwede Mantashe, does not mind stirring some controversy from time to time. His pro-fossil fuel stance has caused consternation more than once. Earlier this year, he unabashedly said that coal is a critical mineral for South Africa, perhaps making fun of the overuse of the term critical and demonstrating the nullity of branding resources as critical, when in many ways, even the most abysmal of fossil fuel is also critical.

South Africa is one of the world's largest coal producers and by far Africa's leader, producing over 200 million t/y. The coal industry, valued at US$7.9 billion in 2025 according to Cognitive Market Research, underpins the entire economy, and has been central to the country's post-apartheid ascent. The national utility company, Eskom, once called itself one of the world's cheapest electricity producers, back in 1994. Today, Eskom's mostly coal-fired power stations generate more than two-thirds of South Africa's electricity, powering industries, households, and the 63 million people living in the country. But prices have escalated and will escalate further as Eskom weans off coal.

Until then, for as long as the majority of energy generation continues to rely on it, it is probably unfair to brush coal aside as some skeleton behind other minerals deemed critical. Whereas most minerals qualify as critical under a hypothetical future, coal is critical in South Africa's present. Today, locomotives barrel along Transnet's lines from collieries to Eskom's stations and on to the ports, and South Africa's economy continues to be energised by coal. Tomorrow is uncertain. At the policy level, South Africa lacks the audacity so often voiced aloud by its most outspoken politicians. Energy policies have been inconsistent, and implementation hesitant. On the one hand, South Africa has made pledges to reduce emissions and phase out coal; on the other, bigger issues at home, such as rampant unemployment, have simply taken precedence over the green agenda.

The current strategy, under the Integrated Resource Plan 2025 (IRP), is an iteration of South Africa's calculated passivity when it comes to coal. Out of a total of 105 GW of new capacity added by 2039, 32 GW will come from wind, 25 GW from solar, 16 GW from gas, and the remain-

Deogratias Laballa, Managing Director,
JITEGEMEE HOLDINGS

"Logistics are a major constraint, rendering Tanzanian coal uncompetitive in key global markets. At the moment, the 690 km of road transportation to the port costs about US$44/ton. By rail, that would come down to US$15/ton."

ing via a mix of distributed generation, battery storage, and nuclear. No new coal capacity is planned, unsurprisingly. Yet, surprisingly, neither is the current coal fleet reduced, with capacity only coming down slightly from the current 45.3 GW to 40.9 GW by 2039. Coal's overall share of the energy mix will effectively halve, but only because total energy demand increases. Vuslat Bayoglu, founder and managing director of Menar, a privately owned South African mineral producer, said: "One thing we need to credit the Department of Electricity and Energy for is that they allow the current Eskom power fleet to carry on. The danger here is that the current fleet is old, and the moment it starts failing, availability is again at risk if the alternatives are not steadily in place."

The government's decision to allow the current Eskom fleet to continue contradicts previous commitments. In 2021, the country announced plans to decommission nine coal power plants by 2035. Based on that pledge, South Africa could access US$8.5 billion in concessional finance from the EU, Canada, and the UK, under an agreement known as the Just Energy Transition Partnership (JETP). Since then, the single plant that has been switched off is Komati, one of the historically largest power stations, which had reached end of life anyway. This closure did not give much reassurance to future transitions: hundreds lost their jobs, and the plans for 270 MW of solar and wind energy that were to create new jobs remain in limbo. Locals now say Komati has turned into a ghost town.

South Africa would risk public uproar if it were to close more plants, especially ahead of their time. Locals see the replacement of job-generative power stations with a green future engineered by others far from South Africa's realities, and as not only neo-imperial but also unpragmatic; a bit like giving up the bird in your hand for the ones in the bush. Above all, everybody fears price escalations. Since Eskom underwent major reforms to improve availability, prices have also risen considerably. In 2025 alone, Eskom announced price increases of around 12%. "Based on this (IRP) plan, the price of electricity will continue going north. Meanwhile, coal is cheap, abundant, of good quality, found in shallow areas, and has created a massive economy on the back of the many collieries supplying Eskom, and yet we are not using these competitive edges. South Africa needs cheap power to create jobs, to attract investment, and to industrialize, and I do not think we can achieve cheap power with this plan," said Bayoglu.

Coal-based energy has turbocharged South Africa into the most advanced economy on the continent. Today, its energy costs are no longer competitive against other developing nations, and investment in high-energy-intensity industries like smelting has shifted out of South Africa. That loss has forced South Africa to slow down its previously announced climate agenda and have another look at coal. The language around coal has become softer. Electricity and Energy Minister Kgosientsho Ramokgopa said: "We are going to get cleaner, but we are not abandoning coal," and: "We don't have a coal problem, we have an emissions problem."

Modern coal-fired plants in China or the US come equipped with carbon capture technologies to make coal use cleaner. Yet South Africa is stuck with old plants left to die a slow death, with no saving intervention or modernization, but a "do-not-resuscitate" sign firmly in place.

On borrowed time

While South Africa is uncomfortable with a withdrawal from the resource that has been its economic lifeline, this sentiment is gaining prevalence in other parts of Africa. "It's absurd to force somebody in Botswana to put up a wind farm if there is no wind in the country but there are over 200 billion t of coal," said Jacques Badenhors, the CEO of Maatla Resources, which is developing a 1.2 million t/y operation to produce branded coal product from the Mmamabula coalfields in Botswana.

The large South African producers (like Thungela, Seriti Holdings, Exxaro Resources and Menar) are quietly feeding Eskom's fleet, self-funded to add more production if needed. In the junior sector, however, finding the capital to finance a coal mine, whether it is thermal or metallurgical coal, requires serious resolve. "In the mining world there are many financing options, whether it's offtake agreements, mezzanine debt, OEM, or contractor funding, but very few parties want to take on the equity risk. Our German partners, HMS Bergbau AG, supported Maatla with the equity and further raised a bond on the market, which they are now using to fully finance the mine. Without that support, the project would not have been possible," continued Jacques Badenhors.

The Mmamabula license sits in an emerging coal district where Jindal is building a 600 MW power station, and that will be connected to South Africa's Waterberg basin and Richards Bay port via a rail link currently pending an RFP. Leveraging high yields of up to 85%—double that of South African producers in Waterberg—Maatla's main focus will be the Southern African regional inland market, where its high-quality, branded coal product can serve boiler, cement, industrial, and ferroalloy applications. Badenhors explained: "South Africa faces a looming coal shortage as existing producers struggle to remain competitive, creating opportunities for Botswana coal. Clients in this space often struggle with inconsistent supply."

Other countries in Africa are shoring up thermal coal production. For Botswana, the outsized reliance on diamond revenue has been storing up trouble for its economy. Coal and coal-fired plants could provide an alternative economic stimulant. Jindal's plant will create a few thousand jobs.

Zambia is not compunctious about coal either. Its recent drought, which brought the hydro system to its knees and left millions without electricity, lowered the moral bar for what is an acceptable energy source. By 2027, Zambia will have increased its current 300 MW of coal-fired plant capacity operated by Maamba Collieries to over 1.5 GW, following Maamba's doubling of capacity, along with another 300 MW recently announced by Amsons Group and Energy Africa, and another 600 MW plant underway, built by Chinese-owned Wonderful Group for US$900 million.

Tanzania, Mozambique, and Nigeria also have large coal resources, but limited rail-to-port infrastructure prevents them from becoming significant exporters, especially at current prices, where long-distance trucking eats heavily into margins. While thermal coal price forecasts are highly uncertain and given the potentially anachronistic role of its use in the future, the mid-term outlook for metallurgical coal is actually strong. This is driven primarily by India and its steelmaking industry, but also by the global shift away from "green steel" toward traditional coal-based processes. India, in particular, is expected to double its steel output to over 300 million t/y over the next 10 years.

As coal's role as a needed and necessary resource becomes more visible, statements like Mr. Mantashe's may no longer sound so outlandish. ■

Jacques Badenhorst

CEO, MAATLA RESOURCES

Could you introduce Maatla Resources to our international audience?

My partners and I acquired the Prospecting license in the Mmamabula coalfields district of Botswana. We developed the greenfield license all the way to BFS and mining license stage, and secured full funding from HMS Bergbau AG, a German-based international trading house that has taken a 51% interest. We are advanced with construction activities and plan to start production in Q1 2026. Our production target is 100,000 t/month of high-quality, low-ash (less than 15%), low-sulfur, low-phosphorus branded coal product. The deposit contains two homogeneous seams, both charable, meaning they can be converted into char for metallurgical uses. Looking ahead, Maatla has a vested interest in the development of a downstream charring and green energy project, pending EMP approval in the coming months.

Could you elaborate on your logistics positioning and the significance of the Mmamabula–Lephalale rail link?

South Africa faces a looming coal shortage as existing producers struggle to remain competitive, creating opportunities for Botswana coal. For the past six years, Maatla has been involved in the Mmamabula–Lephalale rail link, which would connect Botswana's Mmamabula coalfields with South Africa's Waterberg basin in Lephalale. We are part of a consortium of freight owners including Botswana coal and other commodity producers as well as a major producer in the Waterberg basin within South Africa. The consortium has been successful through the RFI stage of the project and await the RFP for the project, which is expected to be released by the end of this year.

Once completed, the line will connect Mmamabula to Richards Bay in South Africa, placing us in an ideal position for long-term exports.

There's been increasing global pressure on coal within the energy transition, with financing houses and development banks tightening restrictions. Do you see a pushback against this trend, particularly in the context of developing economies?

Yes, there has been a mindshift, or more attention paid to the role of reliable power in getting people out of poverty and helping developing economies. It's absurd to force somebody in Botswana to put up a wind farm if there is no wind in the country but there are over 200 billion tons of coal. I believe it all boils down to a lack of knowledge: Few know that the current CO2 level in the atmosphere is at 0.04%, and that at 0.02%, plant life on earth would actually disappear. Another overlooked aspect is that 98% of carbon can be abated using technology, so coal could become clean. While hydrogen attracts many supporters, few know that the cheapest way to produce hydrogen is actually through coal gasification.

The other side is local. Our entire project area, including Mookane, Mpashalala, Dibete, and Dovedale, is going to boom, with Jindal building a 600 MW power station, also in the Mmamabula coalfields. Talks of secondary industries and new shopping centers are starting to take shape. This is a region with high unemployment, and Maatla's project in conjunction with the development of new coal-fired power stations can have a major impact. Maatla alone will employ around 500 people directly, while Jindal is expected to create at least 2,000 jobs. ■

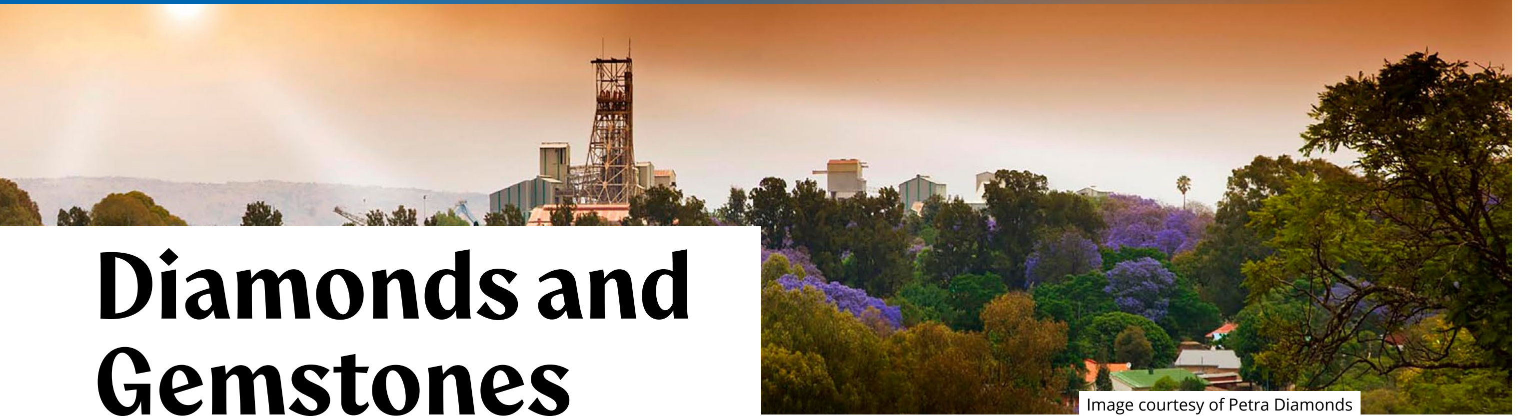


Image courtesy of Petra Diamonds

Diamonds and Gemstones

A bet on permanence

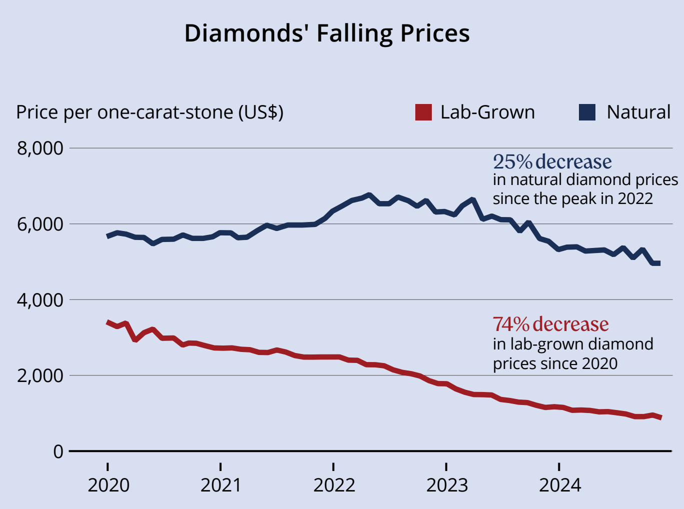
At a time when so many of the Earth's natural resources are more valued than ever, one of its most expensive ones has been bleeding value. Natural diamond prices have almost halved since 2022. The industry had previously crossed several crises, from the early 1980s bubble burst to the 2011 recession-linked price downturn, but the current one is the most complex yet, going beyond temporary profitability and survival. The industry faces an existential question of relevance in the face of growing competition from synthetic diamonds, marketed at a quarter of the price.

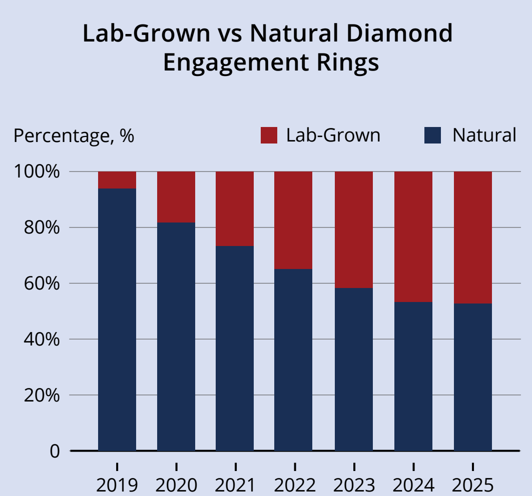
These extreme market conditions have worn down the industry. Earlier this year, Australian company Lucapa Diamond entered voluntary administration. In Africa, Petra Diamonds remains under severe strain, even after selling its remaining stake in the Williamson diamond mine in Tanzania to shore up liquidity. In December, the company completed a refinancing that allowed its long-term issuer credit rating to be raised from 'selective default' to 'B,' a classification that still denotes a high risk of default.

But the story everyone is following is the bidding for the acquisition of 85% of Anglo American's stake in De Beers, the world's largest diamond producer, with assets in Botswana, Canada, Namibia and South Africa. The acquisition, estimated at up to US$5 billion, is the utmost vote of confidence in the future of diamonds. So far, two main contenders have come forth: the Botswanan government, which already owns the remaining 15%, and Angola's state company, Endiama. Ownership of De Beers' assets will settle the tight competition between Africa's two largest diamond producers, after Angola recently overtook Botswana's first place. However, with both economies historically vulnerable to mono-dependence, Angola on oil and Botswana on diamonds, their pursuit of these assets is more than a bid; it is a bet. A bet that diamonds will retain value long-term.

While Botswana's small economy (about US$20 billion) has been strongly impacted by diamond price volatility, Angola's diamond sector felt the repercussions of sanctions imposed on Russian state-controlled Alrosa, which owned 41% of Catoca, the remaining 59% being held by Angola's state-owned company, Endiama. Under pressure, Alrosa eventually sold its stake in Catoca to a subsidiary of Oman's sovereign wealth fund. Details of the transaction remain private, but speculation has circulated that Oman's involvement may be only temporary.

Angola is attracting other international players beyond Oman. At a time when the diamond industry is shrinking, Lipari Mining, Brazil's largest diamond producer, is shifting its focus to the other side of the Atlantic. Lipari won an open bid to acquire the Tchitengo project in Angola. This is a project discovered by Alrosa and Catoca some twenty years ago, and that could produce 1.4 million carats/y for at least 14 years. Lipari aims to bring this first kimberlite, called Tchiuzo, into production within the next three years, at a time when the prices may have recovered. "The supply side is highly concentrated, with only 22 diamond mines operating globally. Many of these are mature. Supply is further constrained by juniors' inability to raise exploration funds for over a decade. As the supply curve continues to tighten, diamond prices should respond," said Ken Johnson, the CEO of Lipari.





Source: The Guardian, BriteCo Inc

Scarcity is certainly a quality and a tool that savvy marketers have habitually used in the diamond space.

Marketing the cachet of natural

Usually, marketing budgets are the first to be scrapped during times of business strain, but in the diamond industry, marketing is a necessity. In response to the successful marketing of synthetic diamonds, which highlights identical stones at lower price points, the natural diamond miners came together to promote the value of 'natural.' In June this year, the industry gathered in Angola to sign the Luanda Accord, each attending company committing 1% of the annual value of diamond exports into a fund operated by the Natural Diamond Council. The fund would be used to market natural diamonds.

Nevertheless, only US$16 million of the US$100 million earmarked to be raised was gathered, Angola and De Beers being the only two participants writing their checks, US$8 million each. De Beers then later took the matter into its own hands, investing more than US$140 million in campaigns of its own. This year, De Beers marketing spend has been the highest since 2008, when the financial crisis obliterated demand for luxury goods. Campaigns like 'Desert Diamonds,' unveiled earlier in October 2025, focus on the association of natural stones with authenticity.

In a letter published by the Antwerp World Diamond Centre (AWDC), chairman Isi Morsel and vice chairman Ravi Bhansali wrote: "While we hesitate, lab-grown diamonds are flooding the market with billions in advertising. Algorithms are replacing emotion with price. And in our industry, missed moments don't just mean lost sales; they mean lost livelihoods."

Africa is the smallest consumer but largest producer of both diamonds and gemstones, accounting for around 70% of diamonds production, 100% of tanzanite, 80% of rubies, and 50% of sapphires. After diamond producers have successfully marketed the luxury stone to the new wealthy classes in the growing economies of China and India, their last remaining untapped market is Africa. But the consensus is that diamonds do not appeal as objects of decoration in the motherland. Instead, they are key for job creation and state revenue. In Zambia, Gemfields' Kagem sapphire mine employs 1,300 people; in Mozambique, its Montepuez Ruby Mining (MRM) provides 50% of world rubies, but even more important, it is the largest taxpayer in the Cabo Delgado region and creates 1,400 jobs. "MRM is something of a lighthouse project for Cabo Delgado," said Sean Gilbertson, the CEO of Gemfields.

The implications are even higher for Botswana, where 30% of GDP and 80% of exports come from diamonds. When Botswanan President Mokgweetsi Masisi presented a fist-sized, 2,492-carat diamond to the press in 2024, he did not just see a stone: "I can see roads being built, I see hospitals, and I can see kids going to school." This was a diamond worth between US$40 to US$160 million, unearthed by Lucara Diamond. Considered a legacy stone, the record-large diamond has not yet been sold to the market or built any hospital. Botswana's GDP has been revised down again this year.

The worth that resources carry for their host nations has no weight in market prices. In many ways, it is ironic that the value of 'natural' stones with real stories of extraction must be artificially manufactured in the studios of marketing agencies. In an article by the Guardian, Jack Ogden, a historian of jewelry, described the natural diamond market as a "very artificial one," saying: "Diamonds are very valuable because people want to pay money for them. People want to pay money for them because they are very valuable."

Even though the retail value of diamonds has been declining, consumers sitting on the fence are not necessarily enticed to buy discounted stones (which would have the compound effect of ultimately driving up prices again); consumers that have lost trust that diamonds can store value can result in even lower prices, in a spiral effect. Competition from identical lab-grown diamonds additionally alters the image of uniqueness beheld by natural diamonds. B2C marketing remains the only way to help reinforce the quality of natural diamonds as "pieces of Earth itself," as Ken Johnson put it.

Lessons from colored gems

It is clear that diamonds are going through an important cultural shift, but we do not believe this decline in appeal to be irreversible. It suffices to look at the performance of lab-grown diamonds to understand that weak demand is not only caused by consumers' shift to artificial, cheaper versions, but speaks of a broader downturn. Although synthetic diamonds have doubled their market share in the last decade, from 10% to about 20%, the price of synthetic diamonds has also collapsed. Secrets Shhh, a jewelry company specializing in lab-grown diamonds, has recently gone into administration, showing the crisis is widespread, touching both mined and lab-grown diamonds.

Meanwhile, the gemstone market is thriving. Gemstones are part of a continuum with diamonds, partly benefiting and partly suffering from this relationship. First, gemstone companies are impacted by investors who think the diamonds' plight also applies to the colored space. "One of the reasons our share price is so low is because we are often brushed with the same spray paint that diamond companies get. People are worried about natural diamonds being replaced by synthetics, so they copy and paste those worries onto colored gemstones," said Sean Gilbertson, the CEO of Gemfields, a London-listed emeralds and rubies producer with mines in Zambia and Mozambique.

However, gemstones have already gone through that competition with lab-grown alternatives more than a century ago, and the sector ended up bifurcating into two, as explained by Gilbertson: "The inexpensive lab-grown gems and the reassuringly expensive ones made by Planet Earth... The same will likely happen in the diamond sector in the next 10 years," he reassured.

That said, gemstones are also benefiting from the declining popularity of diamonds, with consumers shifting to the colored space, especially the big three: rubies, sapphires and emeralds. The prices for colored gemstones have grown between 10% to 20% in the last decade, according to Rapaport magazine. Specialists think the interest in gemstones is driven by a desire for novelty, authenticity, and even a rejection of diamonds' controversy related to Russia being the largest global producer. This trend is also believed to be a return to color. "Color is having a groundswell moment," said Gilbertson.

Ultimately, we believe that the luxury market will continue splitting, from high-end premium luxury to more aspirational and affordable luxury, each profile entailing its own rock category. In the end, diamonds are a special kind of commodity that still bows to market forces. A shrunk supply market will create real scarcity, allowing the principles of supply and demand to prevail and prices to rise. ■

Ken Johnson

CEO

LIPARI MINING

What drove you to acquire the Tchitengo project and expand to Angola and what are the next steps to production?

Brazil offers tremendous potential for diamond deposits, but there were no advanced projects available, so rather than spending another decade in exploration before generating cash flow, we shifted our focus to Angola and this near-production opportunity. We acquired Tchitengo through an open bidding process where our experience in bringing several mines into production worked to our advantage. Last year, we completed a drilling program confirming the resource at the Tchiuzo kimberlite pipe. The next step is a bulk sampling program to recover a diamond parcel to determine the current market value of our stones, after which we will complete an updated feasibility study and advance to production.

Could you elaborate on the upside potential of the remaining 29 kimberlites at Tchitengo?

In addition to Tchiuzo, we have another kimberlite in the north, Tchegi 38, which was previously drilled by BHP Billiton in 2011 and contains an inferred resource grading around 25 cpht. We will need to conduct a bulk sampling program to determine diamond value, but this pipe shows promising economic potential. For now, our priority is bringing Tchiuzo into production within three years, then moving on to Tchegi 38 and other prospects.

How are you finding the transition from Brazil to Angola?

Brazil and Angola share many historical similarities, speak the same language, and have the same legal system, including similar bureaucratic hurdles, for better or worse. One notable difference is the caliber of people at Endiama, the state-owned diamond company and our 25% equity partner at Tchitengo. These are mining professionals, engineers, geologists, metallurgists, many with private sector experience, which gives them an understanding of the industry. By contrast, in Brazil we often dealt with political appointees without mining backgrounds. Not having to explain the nuances of mining has been a major advantage. ■

Sean Gilbertson

CEO

GEMFIELDS

Kagem is one of the largest sources of emeralds in the world. Could you introduce our readers to the operation?

When we acquired the Kagem emerald mine in October 2007, it employed 450 people and generated about US$8 million/year in revenue. Today, we have about 1,300 people and our revenues have increased tenfold to about US$80 million. Kagem supplies about a quarter of the world's emeralds. Due to an oversupply from one of our competitors in 2024 we stopped mining between December 2024 and May 2025, yet made sure no jobs were lost.

Zambia is the first country in Africa implementing the G-Factor for Natural Resources. Could you explain what it entails?

The question of whether citizens get enough from their resources is one of the most perennial debates in Africa. Gemfields is a big promoter of the G-Factor for Natural Resources, a metric that gives citizens in a host country a simple percentage of how much of the value of the natural resource is going to the government. Zambia is the first African country to adopt the G-Factor, with the Zambia Extractive Industries Transparency Initiative (ZEITI) already publishing data online on a handful of companies. 20% of Kagem's revenues go to the government.

Gemfields has also pioneered government supervision of our auctions.

Montepuez Ruby Mining (MRM) supplies over 50% of the world's rubies. Could you tell us more about the operation?

MRM is something of a lighthouse project for Cabo Delgado, Mozambique. We use the same model of transparent auctions monitored by the government, and our G-Factor is 24%. We have been the largest taxpayer in the country for the past decade. Similar to Kagem, we have about 1,400 people working at the mine. This September our new processing plant produced its first rubies. This was a US$70 million investment, half of our market cap and a gargantuan task for the entire team. The new plant will triple our processing capacity. ■

COUNTRIES

"The one thing you need to look at is the stability of the government where you operate. If you are not in the right jurisdiction, you could lose the asset or the economic value of your asset."

Benoit La Salle
President and CEO
AYA GOLD & SILVER

Image courtesy of West Wits

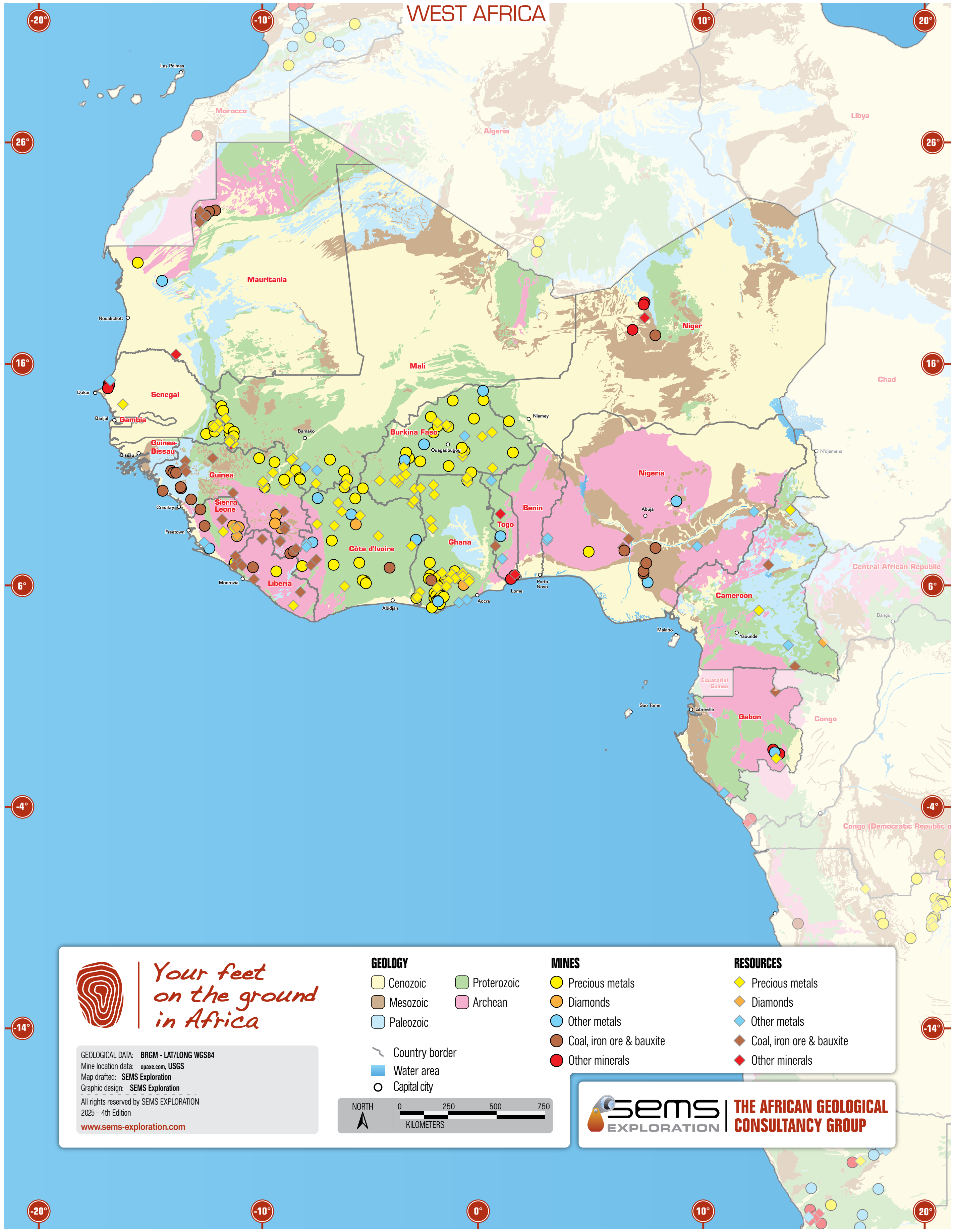


Image courtesy of Newmont

West Africa

The fast lane for growth

"It might sound very bullish, but I can see Thor operating three mines in five years," said Segun Lawson, the CEO of Thor Explorations. With one gold mine in production in Nigeria, a project in development in Senegal, and exploration prospects in Côte d'Ivoire, Segun's ambitions are appropriately bold for West Africa, the world's fastest-growing gold-producing region. Gold output in West Africa has risen by 127% since 2010, with many daring CEOs' goals being fulfilled over this time.

The formula adopted by Thor, which has projects layered across different stages of development and across different jurisdictions in West Africa, is one successfully employed by some of the fastest-growing intermediate gold producers in the region. Perseus Mining is a classic example: The ASX-listed mid-tier producer started with one mine in Ghana (Edikan) and proceeded to bring into production two more operations in just five years, both of them in Côte d'Ivoire (Sissingué and Yaouré).

A more recent example is Allied Gold, a company that, just two years since listing in Canada, built a production platform of about 400,000 oz/y across Mali and Côte d'Ivoire. Allied is led by gold mining veteran Peter Marrone, who built Yamana Gold into a 1 million oz/y company with operations in the Americas. For its new venture, the former Yamana management chose Africa because it provides a faster lane for growth. Another player that crossed the Atlantic to seize opportunities in West Africa is Fortuna Mining; the traditionally Latin American-focused gold and silver producer now calls the Séguéla mine in Côte d'Ivoire its flagship.

The biggest gold mining companies in the world run tier-one operations in West Africa. After all, this is where Randgold Resources, since merged into Barrick Mining, started off. Other heavyweights in the region are Newmont, Gold Fields and AngloGold Ashanti in Ghana, as well as Kinross in Mauritania. Endeavour, the largest pure-play West African gold player, is demonstrating that you can also build world-class scale from West Africa alone. Currently producing at 1.1 million oz/y, Endeavour is aiming at 1.5 million oz/y by 2030. Meanwhile, mid-tiers like Perseus and Allied are springboarding off their West African platforms into East Africa. Perseus is preparing to bring the Nyangaza gold project in Tanzania into production by January 2027. This will be its fourth mine and only mine in East Africa; Allied works against a similar timeline to see its third operation, the Kurmuk project in Tanzania, coming online by 2027. Kurmuk will tip the company's guidance to 600,000 oz/y.

Crossed by the 4.5 million km² Birimian greenstone belt, which dates back to the Paleoproterozoic era some 2.2 billion years ago, West Africa has become a central hub for gold discoveries. 95 million oz of gold were discovered across the Birimian since 2004, outpacing Canada (61 million oz), Colombia (59 million oz), and Australia (29 million oz), according to Crux Investor. Important recent discoveries include Montage Gold's Koné, Turaco Gold's Afema, Centamin's Doropo, Tietto's Abujar, Aurum's Boundiali, Awale Resources' Odienné, all in Côte d'Ivoire. In Guinea, Predictive Discovery's Bankan, Hummingbird Resources' Kouroussa, Robex Resources' Kiniero; in Burkina Faso, West Africa Resources' Kiaka and Orezone's Bomboré. In Ghana, Newmont's Ahafo North, Cardinal Resources' Namdini, and Newcore's

Greg Jackson,
Managing Director,
BYRNECUT INTERNATIONAL

"Over the past 10 years, localization laws have made it more difficult to operate as an international contractor. We have always been very engaged with local communities in terms of building workforce capacity, but we are seeing more pressure today."

Enchi; in Mali, Managem's Boto, Toubani Resources' Kobada, Cora Gold's Sanankoro, Roscan Gold's Kandiolé; in Liberia, Pasofino Gold's Dugbe. And in Senegal, Thor Explorations' Douta, as well as Chesser's Diamba Sud, acquired by Fortuna Mining. The list could go on.

Many of these discoveries, like Ahafo North, Abujar, Kiaka, Kiniero, Namdini and Kouroussa, have since become operational mines, while most others are at advanced stages of development. At 15 million oz produced in 2025, West Africa now accounts for approximately 10% of the annual gold output worldwide and more than half of the gold produced on the African continent. Beyond its geology, West Africa's climb in gold production is also owed to record timelines to production, as governments competing over similar geology are generally eager to fast-track developments. Based on an analysis of 44 gold projects built in the past 15 years, West Africa has the shortest construction timeline at 1.7 years, whereas North America comes at 2.3 years, according to 3L Capital, an equity firm.

Costs represent another important allure of West Africa. Lower exploration costs create lower entry barriers and allow budgets to stretch over more meters drilled, which in turn improves result outcomes. Once at the construction stage, upfront CapEx costs sit at a competitive US$93 per resource ounce, lower than South America, at US$119, according to Crux Investor. Moving on to production, mining companies can also yield better margins thanks to generally lower AISC averages. The World Gold Council warned that West Africa was the region with the highest AISC increase in Q3 of last year, but this may also be a result of moving into deeper mining. Only 30% of West African mines have an underground component, which is half the global average. In mature jurisdictions like Canada and Australia, most mines are underground (89% and 79%, respectively).

In Côte d'Ivoire, the President has just authorized the underground development at the CMA project within the Yaouré mine, owned by Perseus Mining. This will be

Maryse Traore,
General Manager, **AURORA DRILLING**

"Strong exploration momentum, particularly in gold and resource definition programs, has been evident across Côte d'Ivoire, Guinea, Senegal and Burkina Faso. Though gold takes the largest share of African exploration spend, budgets for copper, zinc and lithium are also increasing."

the country's first underground gold mine. Coming next may be Fortuna Mining, which is evaluating an underground operation at Sunbird, a satellite deposit within its Séguéla mine. According to Fortuna's CEO, Jorge Ganoza, this is one of those situations when it is better to be second than first so that the regulatory field is already evened out by predecessors.

While producers are starting to dig deeper underground, the current pipeline of West African greenfield gold projects is a unique peer group of mostly oxide deposits with excellent economics. Toubani Resources, for example, is developing the largest oxide gold project on the continent that is not owned by a larger mining company. "The DFS delivers a post-tax IRR of 50%, a post-tax NPV of US$500 million, and a 1.75-year payback at US$2,200/oz gold. At over 150,000 oz/y over approximately 10 years, Kobada is in the 'big league' of development projects not already owned by a major," said managing director Phil Russo.

Kobada forms part of the new generation of mines coming into production in the next few years, having already secured financing.

Also in Mali, Roscan Gold's Kandiolé has a resource of 1.2 million oz, most of which is defined in the oxides, at about 200 m and above. However, geophysics show extensions down to 1 km on undrilled structures. A 1–2 million oz deposit is a solid start for a West African growth story: "Randgold (now Barrick) started operations at Loulo three decades ago with 1.4 million oz as their maiden resource, about the same we currently have at Kandiolé, with similar geology (surface deposits with underground extensions). Fast forward thirty years, and the Loulo-Gounkoto complex has become Barrick's largest African mine, producing nearly 20 million oz," said Nana Sangmuah, president and CEO of Roscan Gold. ■

Emmanuel Armah-Kofi Buah

Minister for Lands and Natural Resources

GOVERNMENT OF GHANA

"The government has removed key fiscal barriers that once discouraged exploration."

What is your message on Ghana's regulatory stability, particularly in light of proposed legal changes such as shorter licensing periods?

The mining industry is evolving, and hence Ghana is updating its mining laws so that they can be relevant for the industry while empowering its citizens. The reforms also focus on making the sector more responsive to today's environmental and social realities. This also allows Ghana to remain competitive on the international market while allowing the state to retain better stewardship of its resources for its people. Changes, such as streamlining licensing, are not about creating uncertainty but about enhancing governance. Initiatives like the Mineral Cadastre Administration System (MCAS) demonstrate our focus on creating a predictable, transparent, and business friendly environment where investments are secure and processes are efficient for the long term. Despite these updates, investors continue to operate in a predictable system, and Government has made it clear that every existing contract will be respected.

What is driving the recently announced mining audit?

The focus of this audit is our commitment to transparency, compliance, and cleaning up our licensing system. We have successfully concluded a transparent audit of all small-scale licenses and are now replicating this for large-scale licenses. The expected outcomes are twofold: firstly, to ensure that all mining operations are fully compliant with our regulations, and secondly, to improve our internal workflows, which builds greater investor confidence in the integrity and orderliness of our sector. It also enables us to hold stakeholders accountable for environmental standards, production figures, safety practices, and community obligations so we can make corrections where necessary and improve on what works.

What progress has been made with the creation of the Gold Board (GoldBod) and the efforts to formalize artisanal and small-scale mining?

The establishment of the Ghana Gold Board (GoldBod) and the passage of the Gold Board Act in 2025 represent a decisive move to formalize and transform the small-scale mining sector. This strategic institution is mandated to assert national sovereignty over our mineral wealth by overseeing, regulating, and directly participating in the entire gold value chain, from artisanal mining to assaying, trading, value addition, and export. With the exclusive right to purchase and export all artisanal small-scale mining gold, the GoldBod is central to our paradigm shift from raw extraction to value retention, ensuring optimized national benefits and socio-economic transformation for the people of Ghana.

How has Ghana benefited from the recent higher gold prices?

The high gold prices stimulate investments and reinforce the sector's significant contribution to national revenue. With new, world-class projects like Ahafo North coming aboard, we foresee Ghana's gold output not only maintaining its leadership but growing significantly in the coming years.

What is your vision for diversifying Ghana's mining sector beyond gold?

We are actively promoting our vast potential in critical minerals essential for the global energy transition. The country is also advancing lithium development with strong guidelines and local content requirements so that Ghana can take part in the global battery industry. Manganese remains important for steel and battery production. We are also developing deposits of cobalt, nickel, and copper. This is not just about extraction; it is about building local processing capacity and downstream industries to capture the full value chain here in Ghana.

How can Ghana further incentivize exploration and attract investment in the mining sector?

The government has removed key fiscal barriers that once discouraged exploration. Investors also want stability, so Ghana has strengthened its dispute resolution processes and has introduced clearer frameworks for community engagement. We are also incentivizing investment by offering a powerful combination of geological potential and de-risked stability. Our key incentives include:

Do you have a final message for our readers?

Ghana is open for business, but we seek more than capital. The choice of Ghana remains one of an improved business climate with comprehensive regulatory and legal reforms designed to streamline bureaucracy, reduce operational hurdles, enhance transparency, and improve operational costs. We are looking for ethical, innovative partners who share our vision for a mining future that is resilient, inclusive, and prosperous. The data is available, our doors are open, and the opportunity is now. Come to Ghana, the gateway to Africa, and let us write the next great chapter of African mining together. ■

Image by KH Ali Li at Pexels

Recent Developments in Ghana

Ghana's post-election economy

"Over the past few years, Ghana's economy has been characterized by high inflation, debt distress, and currency depreciation, which led the previous government to reach out to the IMF program. Since 2023, there have been significant reforms in terms of fiscal management, debt restructuring, and public financial governance, and the results are starting to show. Inflation has come down to about 18% (from 23%) since the beginning of the year, while the Cedi has also appreciated considerably, up 32% in the past 12 months, which places it as the best-performing currency in the continent (June 2025). Continued fiscal tightening to bring down the debt ceiling to about 45% by 2035 remains in place, with the Central Bank holding policy rates at 28% to anchor inflation. In 2022, interest rates were a lot higher at 54%."

Andrew Osei Akoto, Managing Partner, **KPMG GHANA**

Ghana's recent reform to increase the growth and sustainability levy (GSL)

"As part of the 2025 Budget, Ghana's new government proposed an increase of the GSL from the previous 1.0% to 3.0% on gross production revenues. This amendment has since been passed into law, but not without 'ruffling some feathers,' with multiple mining companies raising concerns. Large companies, in particular, have stability agreements with the Government and therefore are not liable to the new rent increase until the expiry of these agreements. That not-withstanding, several of these agreements will be expiring in the next few years, indicating that these companies will be roped into this bracket and will likely engage government further to reach a common ground."

George Ankomah, Partner, **DELOITTE GHANA**

The creation of the GoldBod

"The Ghana Gold Board (GoldBod) is mandated as the sole buyer, seller and exporter of gold sourced from artisanal and small-scale miners. This sector contributed about 40% of total revenues in the gold industry last year, but there are still many gaps in terms of formalization.

As the sole licensed entity to buy and export gold, GoldBod is expected to help eliminate smuggling, supervise activity, and ensure that proceeds are channelled back into the country. It is also required to use 30% of its surplus to support licensed small-scale miners with financing, equipment and research to promote sustainable mining in Ghana."

Richard Ansong, Partner, **PWC GHANA**

Image courtesy of Fortuna Mining

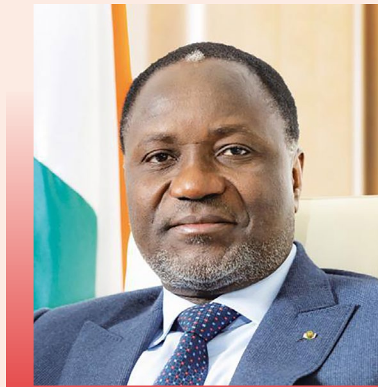
Côte d'Ivoire

A cluster within a cluster

The original West African 'hub' is Ghana, a country with a long gold mining tradition and populated by the largest mining houses in the world. Accra, Tema, Takoradi, Tarkwa and other cities in Ghana have acted as focal points for mining supply and services serving the entire West African region. While Ghana continues to be a brain hub for mining services, order books are filled with requests from elsewhere. And the most exciting of all in the past 10 years has been its northern neighbor along the Atlantic coast, Côte d'Ivoire. Here is where Ghanaian-based contractors like De Simone are moving. "De Simone is currently working on six different mine sites for various clients in Côte d'Ivoire, including the likes of Allied Gold, Endeavour Mining, Perseus Mining and Fortuna Mining. Our Ivorian operation has become the second largest after Ghana, which remains our home base and where we serve every single sector (residential, retail, mining, oil and gas, power, industrial, as well as embassies)," said Federico de Simone, director at De Simone Group.

Côte d'Ivoire is also where most of the new mining developments have shifted to, with newcomers continuing to arrive, including, most recently, Thor through its recent license acquisitions from Endeavour Mining, as well as Atlantic Lithium, the developer of the first lithium mine in Ghana. Côte d'Ivoire holds the largest share of the Birimian belt, at 34%, and has become renowned for rapid gold development, a signature of West Africa itself. Mining permits have tripled over the past decade, according to Africa

98 >>



Mamadou Sangafowa-Coulibaly

Minister of Mines, Petroleum and Energy

GOVERNMENT OF CÔTE D'IVOIRE

"We want to raise the country to the rank of leading gold producer on the African continent within the next ten years."

Côte d'Ivoire has undergone a major transformation in its mining sector, particularly in gold, over the past decade. What have been the main drivers of this growth, and what is your outlook for the future?

The remarkable growth of the Ivorian gold-bearing sector over the last decade is primarily the result of policy incentives for private investment that have been put in place. The mining Code adopted in 2014 has been a powerful catalyst for attracting international investors.

Furthermore, Côte D'Ivoire has exceptional geological potential, with nearly 35% of its rocks being Birimian, renowned as some of the richest in gold mineralization in the world. This potential has long remained underexplored and therefore undervalued.

The political stability of our country and business climate are reassuring factors for investors. In addition, we offer continuously improving infrastructure (roads, energy, logistics) and high-quality human resources. All these factors have contributed to positioning Côte D'Ivoire as one of the most attractive and promising mining destinations in West Africa.

We want to raise the country to the rank of leading gold producer on the African continent within the next ten years. Reforms will be implemented to further stimulate investment and the inclusion of nationals throughout the mining industry value chain. We expect to see increased exploration and mining activity, with greater local processing of mining products.

Could you comment on the mining industry's performance over the past year?

Gold production increased by around 10 t in 2024 compared to the previous year, reaching 59 t. Currently, gold accounts for the majority of exploration and mining licenses. Over the last two years, we have recorded three discoveries of world class deposits. The manganese, nickel, bauxite and cobalt ore sectors are also performing well.

We are witnessing a sharp increase in applications for mining licenses for various metals including strategic metals.

Regarding mining governance, we are digitizing our processes to ensure greater transparency in the administrative management of interaction with investors.

What should investors expect from the new mining code?

The revision of the mining code aims to adapt and improve mining governance and ensures Côte D'Ivoire's continued attractiveness to investors. The process is conducted in a participatory and inclusive manner, involving all stakeholders, namely private actors.

How has the local services and supplier base developed to support the country's growing production and exploration sector?

Although local services and the local supplier base have grown significantly, they are still limited in relation to their potential and our objectives. By reserving an increasing share of the supply of goods and services for Ivorian nationals and companies, prompting partnerships between national companies and specialized international companies, and identifying jobs exclusively for nationals, we will create the conditions for our SMEs to expand and stimulate the employment of national skills.

The local content policy will undoubtedly gradually shape a sustainable ecosystem. The legal framework for local content will be incorporated into the mining code, which is currently under review.

What advantages will a local gold refinery make for the country?

The creation of a gold refining unit in Côte D'Ivoire, destined to be transformed into a refinery, is part of a vision for the structural transformation of our mining sector. Local gold refining will create more added value, which means more wealth for the country.

It should also be noted that the local processing of our raw gold production, mainly from artisanal and small-scale mining, by the refinery will also help to structure and secure the gold sector. This will help to improve the traceability of gold, combat smuggling more effectively and offer small producers a legal, transparent and better paid outlet. It is therefore a key instrument for formalizing artisanal mining and strengthening the governance and transparency of our gold sector.

Finally, local processing will create skilled jobs, develop Ivorian technical skills and stimulate the emergence of domestic services and suppliers throughout the value chain.

What is the government's approach to formalizing the artisanal and small-scale mining sector?

Artisanal mining and small-scale mining are already formalized in our country through the Mining code. We have also accelerated the issuance of authorizations for this activity.

What we need to combat is illegal gold mining, which is a real scourge with multifaceted consequences. We have adopted a socio-economic approach, in addition to law enforcement, which involves all stakeholders, particularly communities. Its deployment is intensifying. ■

Hamed Diaby, General Manager Francophone Africa, SEMS EXPLORATION

"When one team has a larger project, staff from another country can join to provide support. Likewise, if all teams are fully engaged, we can even bring in staff from Ghana. This mobility allows us to respond quickly to client needs."

Federico de Simone, Director, DE SIMONE GROUP

"Many of the projects we have taken on were probably targeted at multinationals, yet here we are executing them at the highest international standards and with a local team. Our goal is to work on bigger tickets and more complex projects."

<< 96

Energy Portal. The number of mines is almost on par with the number of active explorers, and that is for the simple reason that explorers very quickly evolve into production.

Though it has been popular for larger West African companies to take equity positions in smaller peers, like we see with Kinross (operating in Mauritania) in Asante Gold (operating in Ghana), or Perseus Mining (operating in Ghana and Côte d'Ivoire) in Predictive Discovery (operating in Guinea), Ivorian players have been more loyal to investments within the country. Montage Gold, backed by shareholders like Lundin Group and Zijin Mining, and led by a former Endeavour Mining executive, has become the largest shareholder in two Ivorian explorers, namely African Gold (at 17.5%) and Aurum Resources (at 9.5%), the former ending up acquired by Montage this year. "Montage has been quite outspoken about wanting to become a multi-asset producer, so naturally, they want access into what could be the next company to go into production," Adam Oehlman, the CEO of African Gold, told GBR earlier this year, prior to the acquisition of the remaining shares by Montage.

Laurence Goodacre, VP Africa, ORICA

"We recently ran the largest Safe and Efficient Blasting course in the world in Ghana and see great appetite for more such training opportunities. Our mission is not to do everything ourselves but to transfer that knowledge base."

With neighboring tenements owned by Montage, Perseus and Allied Gold, African Gold's Didievi project was exposed to multiple optionality paths. That proximity is typical of West Africa and most pronounced in Côte d'Ivoire, a gold helix for the rest of the region. To offer some other examples, Kobo Resources' Kossou project is located next door to Perseus' Yaouré mine, benefiting from existing infrastructure like power, water and a paved road directly to the license area. Koulou Gold, which holds a large land tenure of 3,500 km² in Côte d'Ivoire, also has its projects strategically close to existing deposits, starting with the Sakassou project in the vicinity of the Yaouré mine; the Assuéfry exploration permit adjacent to the Tanda-Agba project of Endeavour Mining, with Endeavour uncoincidentally a large investor in Koulou; and the Kouto project along strike and adjacent to Aurum Resources' Boundiali project.

Aurum's largest shareholder is Zhaojin Capital, the company that bought Tietto Minerals and its Abujar gold mine in Côte d'Ivoire. Tietto was founded by Caigen Wang, now managing director of Aurum. He built the Abujar gold project from scratch, as one of the first explorers in the country following the end of the civil war. It took about five years to bring Abujar to a 3 million oz+ deposit. At Aurum, things are moving a lot faster. "It took us more than four years to move from one diamond drill (DD) rig to eight at Tietto, but at Aurum, we grew that same fleet within 12 months. Two more are on their way so we can start infill drilling to increase confidence in the resource in preparation for the DFS."

Aurum is preparing to release an updated MRE for Boundiali, hoping to increase the resource from the current 2.41 million oz to over 3 million oz. The current resource is based on only three of the seven tenements that make up the project, leaving significant upside potential in completely untouched areas over a 1,500 km² landholding. Between Boundiali and Napié, a project acquired last year with the takeover of Mako Gold, Aurum is planning 130,000 m of drilling for this financial year, leveraging its in-house fleet of drill rigs. That kind of drilling intensity shows the speed at which the explorer is moving is much faster than Wang's first rodeo.

Crossover investments within Côte d'Ivoire create an important nucleus within the broader West African capital network. The success stories within the country also help channel more investment into the region, and the synergies created between operators sitting in close proximity to one another create opportunities for consolidation and operational efficiencies. This rapid scale of development further pulls in more service providers to the country. All of these forces are turning Côte d'Ivoire into the new gold mining capital of West Africa. Given Ghana's stagnation in exploration and the turbulent politics in leading gold producers Burkina Faso and Mali, the region needs a positive reference like Côte d'Ivoire. Now the Ivorian government is to decide whether the country will maintain its good reputation through the new mining code currently underway. ■


Image courtesy of Millenial Potash

Where the gold belt meets the coup belt

Burkina Faso, Mali, Niger, Gabon

Perhaps not unrelated to the gold boom, West Africa has also seen a boom in political instability and insurgent violence since 2020. A wave of coup d'états in Mali, Guinea, Niger and Gabon, as well as failed coup attempts in Sierra Leone and Guinea Bissau, all happening between 2020 and 2024, has wrapped the affected Birimian belt into a "coup belt."

Burkina Faso

The worst coming out of this coup season is Burkina Faso, where Al-Qaeda and Islamic State-affiliated insurgents control large swathes of the country, territories which the junta government is seeking and failing to recapture. Confrontations have been on the rise. According to Africa Center, fatalities linked to militant violence have almost tripled in the last three years since Captain Ibrahim Traoré took power in 2022. Traoré's crusade also extends to the mining sector. Burkina rattled investors when it made a solicitation to acquire an additional 35% of West African Resources' Kiaka gold mine this year. The government has since come forth to say this is an option, not a demand, seeking to reassure investors. Burkina has also enforced a mandatory dividend rule under its new 2024 mining code. The country's newly created state-owned SOPAMIB now controls multiple mines previously owned by companies like Endeavour.

The main publicly listed companies in the country are West African Resources and Orezone. West African Resources is a producer trading at a significant discounts to peers. Orezone is on track to pour first gold by the end of this year at its Bomboré gold mine, which will produce between 170,000–185,000 oz in 2026, and up to 250,000 oz/y once Stage 2 hard rock expansion is complete. Both companies temporarily halted trading following the government's 'option, not demand' to acquire more interest in their respective mines.

Mali

In Mali, Général d'Armée Assimi Goïta launched a coup in 2021. The following year, the military government started an audit of the mining sector, which resulted in a new mining code (2023) demanding increased state participation and higher royalties. In October that same year, Mali started a review of all existing mining contracts. This is when the saga with its largest operator, Barrick Mining, began. In November last year, four of Barrick's employees were detained, leading to Barrick initiating ICSID arbitration against the state. In January 2024, Barrick was forced to halt operations after the government denied export authorizations, essentially blocking the gold at the site. According to Barrick's official timeline, in February 2024, the government filed a request before the Bamako Tribunal of Commerce to place the massive Loulo-Gounkoto complex under provisional administration, which the tribunal dutifully did in June the same year. "On July 10, 2025, government helicopters landed unannounced at Loulo-Gounkoto and took over one tonne of gold potentially for sale by the provisional administrator. As of July 24, our request to the provisional administrator for information about the whereabouts of the gold and its intended fate has remained unanswered," informed Barrick.

The dispute ended recently, without many details provided, but Barrick is reported to have agreed to pay US$450 million as part of the deal to regain control of the complex. The mining and exploration sector in the country has suffered both the direct consequences of these events, and indirectly from the negative image Mali projected to the broader investor community. For Roscan Gold, a junior developing the 1.2 million oz Kandiolé project, the moratorium imposed in November 2022 put most things on hold. "We were just about to process our exploitation permit when this happened, but we had to wait for the new code to be published before we could move forward. During this interim period, security was one of our top priorities. After the partial lifting of sanctions, we re-engaged in the permitting process. The environmental permits were obtained in record time (just three months)," said Nana Sangmuah, president and CEO of Roscan Gold.

Roscan is still waiting for the exploitation permit at the time of writing. Roscan's larger peer in the country, developer Toubani Resources, sees a silver lining in the fact that the new code provides clarity. Its DFS was developed in line with the new regulations. According to Toubani's managing director, Phil Russo, the main issues had to do with historical tax liabilities and therefore concerned previous operators, whereas new companies not yet in production can start from a clean slate, without any backlog issues. "One of our largest shareholders sees the recent code change as a positive, offering stability compared to jurisdictions that have not yet modernized their mining laws—and who may, eventually," said Russo.

Niger

Niger's climate has also been very fragile. The junta seized control of Orano's uranium mine this year in escalation of a dispute with the French giant. The mine will now be nationalized. However, the government is cooperating with Canadian company Global Atomic for the development of the Dasa project, one of the largest in the space.

Gabon

The 2023 coup d'état in Gabon ended the Bongo family's six decades-long hold on power. Coup mastermind and leader, General Brice Oligui Nguema, won the elections held earlier this year with an absolute majority. Nguema has reaffirmed that Gabon is an ally to the West and assured foreign investors of political stability. The government aims to increase mining's contribution to GDP from the current 6% to 25% by 2030. It also wants to see more industrialization; this year Gabon announced plans to ban the export of raw manganese ore, its main mineral output, by 2027.

Comilog, a subsidiary of French giant Eramet, manages Gabon's largest manganese operation. The country ranks third globally in manganese production and second in reserves, after South Africa. Beyond manganese, Gabon could become a significant iron ore producer, with the Belinga project potentially rivaling Guinea's Simandou. Australian company Genmin, together with China's Sinohydro, is advancing the Baniaka iron ore project, while South Africa's Menar has signed an MoU to explore both manganese and iron ore in the country.

Potash provides another source of diversification for Gabon's oil-dominated economy. The Banio potash project, developed by Canadian company Millennial Potash, could become the first potash operation in the country. Farhad Abasov, president and CEO at Millennial Potash, was in the country during the coup in 2023, and describes the transition of power as very peaceful. "We met the new President twice, and both His Excellency and the Vice President have visited the site. The President also attended the agreement with the US DFC in Washington, DC. The new leaders want to see FDI in the mining sector and diversify from oil, Gabon's historically dominant revenue source. The government has shown support for the logistical needs of the project, including port construction, power plant construction, and an extension of the natural gas pipeline. The project is of great importance to Gabon, poised to become the country's first commercial potash operation," Abasov said.

Farhad Abasov,
President and CEO, **MILLENNIAL POTASH**

"The new leaders want to see FDI in the mining sector and diversify from oil, Gabon's historically dominant revenue source. The government has shown support for the logistical needs of the project, including port construction, power plant construction, and an extension of the natural gas pipeline."

This December, Gabon announced the launch of an audit of the mining sector, following in the footsteps of other countries in the region like Ghana, Mali and Guinea. However, the audit is said to be linked to the ongoing engagement for a potential IMF financing program, which was suspended due to the coup. ■

Image by Fabian at Adobe Stock

Guinea

Under the auspices of a mining boom, new rules are laid out

Several missed election deadlines later, and three years since the junta leaders have taken power, Guinea has announced that elections would be held in December 2025. Guinea launched a referendum to allow the current leader, General Mamadi Doumbouya, to stand in the election, a similar mechanism to what Gabon has done to allow its junta leader to be elected. Unsurprisingly, Doumbouya polled 86.7% of the votes and is now a legitimate leader.

Doumbouya has taken credit for bringing Simandou to life in his election campaign. The country's economy has accelerated in 2024 on account of huge FDI flowing for the Simandou iron ore project, and is expected to grow further as Simandou ramps up production in 2026. Rio Tinto, which is part of the consortium behind Simandou, estimates GDP could grow by 26–55%. At 1.5 billion t in ore reserves, Simandou is the world's largest known untapped iron ore reserve. Its development is similarly impressive, deemed as the largest mining and related infrastructure project on the continent, according to Rio Tinto. It will include a 600 km trans-Guinean rail line connecting the project to the port, and the construction of the port itself on Matakong Island, near the border with Sierra Leone. The entire country is 500 km (north to south) and 800 km (east to west).

"Simandou, with its large scale in a relatively small country like Guinea, has greatly influenced the country's fate. That this project is happening here shows the trust that its investors place in Guinea. Key to that is ensuring that the commitments made by all parties involved—the government on one side and investors on the other—are respected," said Karifa Condé, general director at CBG (Compagnie des Bauxites de Guinée) and president at the Guinea Chamber of Mines.

Rio Tinto and its partners announced in 2025 that the project secured corporate tax concessions at more than half off the standard rate for key parts of the US$23.5 billion development. Guinea usually has a 35% corporate tax rate, but it approved a slashed 15% rate for the first 17 years of operations at the railway and port transporting the ore to global markets. This is an important win for the developers.

At the same time, Guinea has canceled the licenses of over 53 mining companies across bauxite, gold, diamonds and graphite this year. Axis Minerals, one of the companies that lost its license during the purge, is seeking US$1 billion in compensation in the New York arbitration courts, saying that there was no prior warning and its 5,000 employees and subcontractors were left without work overnight. The country has created a new state-owned company, Nimba Mining Company SA, which operates a concession seized from Emirati firm Guinea Alumina Corporation, another company found non-compliant. Nimba has already shipped its first 200,000 t of bauxite and has appointed Patrice L'Huillier, former COO at Eurasian Resources Group, a Luxembourg-based player with operations in Kazakhstan and the DRC, as CEO.

Karifa Condé, representing the Chamber of Mines, assented to the government's move: "All parties must accept their obligations. As the mining sector began to experience a boom, we noticed that some operators were not meeting their commitments. The legislative and regulatory framework gives the administration the responsibility to monitor and ensure that investors are fulfilling their obligations. The recent revocation of mining licenses occurred precisely because the administration is respecting its own duty to enforce the law, and mining companies must do the same."

Those familiar with the jurisdiction also insist that Guinea is a country where it is possible to operate as long as you respect the rules. "I keep telling people: The rules in Guinea are straightforward. If you comply with the mining code, submit your quarterly reports on time, and pay your taxes, you have nothing to worry about. The issue is that many came in thinking they could bypass the system. More than 90% of the licenses that were revoked were bogus to begin with," said Matthew Sharples, the CEO of Asara Resources.

Sharples was formerly involved in developing the Kiniero project (acquired in 2022 by Robex Resources), also in Guinea. When looking for projects back in 2018, his team narrowed their search to Mali and Guinea, but settled on Guinea for two reasons, which both stand true today: "First, Mali, along with Côte d'Ivoire and Burkina Faso, have been heavily explored, while Guinea remains an elephant country with big deposits and far fewer holes in the ground. This makes it much easier to make discoveries and add ounces. Second, safety. If I would not go to a country myself, I cannot ask anyone else to go either. Over the past eight years, I have been to Guinea 34 times. I have never had a problem, and I still feel completely comfortable walking around in the bush. I cannot say I've ever felt that way in Mali." ■

Image courtesy of Pasofino Gold

Copious New Ground

Sierra Leone, Liberia, Cameroon and Senegal

For a tropical region, West Africa has seen a lot of shifting sands in recent years. The rules of selection have changed drastically. While Côte d'Ivoire has become a first pick, less explored Guinea, Sierra Leone, Liberia, Cameroon and Senegal are garnering increased attention. In Sierra Leone, private company FG Gold is developing the 5.8 million oz JORC Baomahun gold project, set to become the country's first large-scale commercial mine. In Liberia, Pasofino's Dugbe gold project, with a reserve of 2.76 million oz gold at 1.30 g/t Au average grade, is also opening the curtain on the extremities of the Birimian. Meanwhile, the traditional main gold producers, Mali and Burkina Faso, are considered with caution.

Underexplored jurisdictions offer capacious land for exploration, allowing juniors to take very large tenements, justly called 'district-scale': Oriole Resources is basking in a 4,400 km² land position in Cameroon, and Zodiac Gold has control over 2,300 km² in land tenure in Liberia.

Systematic efforts and subsequent exploration successes are putting these countries on the map, at the same time filling these maps with new geological data. In Cameroon, Oriole has declared the first JORC resource in the country at its Bibemi project. It later followed with a second resource definition at its Mbe gold project, which proved its largest to date, at 870,000 oz.

Martin Rosser, the CEO of Oriole Resources, explained that during the colonial period, European powers focused their attention on other jurisdictions, overlooking Cameroon. That lack of early data and discoveries turned into a self-fulfilling cycle: "If you do not bother looking, you will not find anything. However, geologically, Cameroon is sandwiched between two cratons, the West African and Congo cratons, with a structural shear zone running through the center of the country. Cameroon's potential has been dismissed in the gold sector, and our ambition is to change that," he said.

Capital IQ places West Africa as a higher risk across all categories compared to South America, its counterpart for high-risk and high-opportunity. But M&A in West Africa defied these risks. The total value of West African gold M&A reached over US$4 billion in 2024, compared to approximately US$300 million in 2023, according to Crux Investor. Considering the pipeline of projects available and the success of first-movers in countries like Sierra Leone, we expect activity to pick up in coming years. New investors will need to tread carefully as they step onto these shifting sands. History shows that some emerging frontiers could become the next Côte d'Ivoire—or the next Burkina Faso—within a decade.

In a region with so many moving sands, the West Africa we write about in a few editions' time may look very different. ■

Image courtesy of Dyno Nobel

Selected Projects in West Africa

The Baomahun Gold Project in Sierra Leone

"In under two years, we completed a DFS confirming a 5.81 million oz JORC resource and 2.05 million oz of reserves at 2.10 g/t Au. The project is being developed around a 2.5 million t/y processing plant, supporting production of approximately 200,000 oz/y. Construction is 30% complete, and we remain firmly on schedule for first gold in December 2026."

Oliver Andrews, Founder and Executive Chairman, **FG GOLD**

The Enchi Gold Project in Ghana

"Enchi is still underexplored and untested at depth, with most drilling to date testing an average vertical depth of 100 to 150 m. The Chirano mine, our closest neighbour located 50 km to the north, expanded its Mineral Reserve by 6.5x since its initial estimate over 20 years ago, largely from the high-grade feeder zones defined at depth."

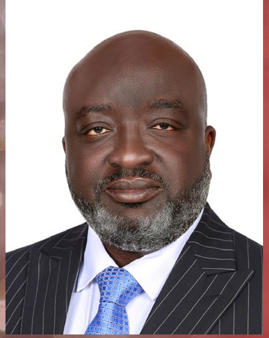
Luke Alexander, President and CEO, **NEWCORE GOLD**

The Bibemi and Mbe Gold Projects in Cameroon

"At Bibemi, we declared the country's first JORC resource, which we updated earlier this year to 460,000 oz contained gold. Bibemi was our most substantial project until recently when we reported a JORC resource estimate of 870,000 oz of contained gold for the MB01-S deposit within the Mbe project. Having a resource that surpasses 1 million oz will certainly put Cameroon, and Oriole, on people's radars."

Martin Rosser, CEO, **ORIOLE RESOURCES**

The Kandiolé Gold Project in Mali



"Kandiolé is a very simple project: the current 1.2 Moz resource sits mostly in oxides delineated to about 200 meters, but geophysics shows extensions down to a kilometer on structures yet to be drilled. The surface opportunity is also far from exhausted. About 18 months ago, we made a second discovery at Mankouke West, where we've traced a mineralized strike of 450 meters within a geochemical anomaly stretching 2 km by 5 km."

Nana Sangmuah, President and CEO, **ROSCAN GOLD**

The Didievi and Konahiri Gold Projects in Côte d'Ivoire

"At Didievi, we are drilling both down dip and along strike to expand the Blaffo Guetto resource, while also following up on other prospects like the Pokou trend, three km east of Guetto, where we followed a nine-km-long soil anomaly. Konahiri sits on a different greenstone belt, about 3.5 hours from Didievi. With the Montage crew now focused on Didievi, we moved our own team to Konahiri. This is an early-stage gold project with an 18 km-long soil anomaly and non-mechanized artisanal mining nearby, providing strong evidence of a gold-bearing system in the area."

Adam Oehlman, CEO, **AFRICAN GOLD**

Early-Stage Gold Portfolio (1,200 km²) in the Siguiri Basin, Guinea

"Just as we did with Predictive, this is greenfields exploration, and if you want to succeed in greenfields exploration, you must have multiple chances of discovery. So far, we completed about 5,000 m of RC drilling, preceded by auger drilling and multiple geochemical programs. Our initial focus is on the Dadjan and Tolé projects, with assays currently pending."

Paul Roberts, Chairman, **DESOTO RESOURCES**

African Gold has been acquired by Montage Gold at the end of 2025.

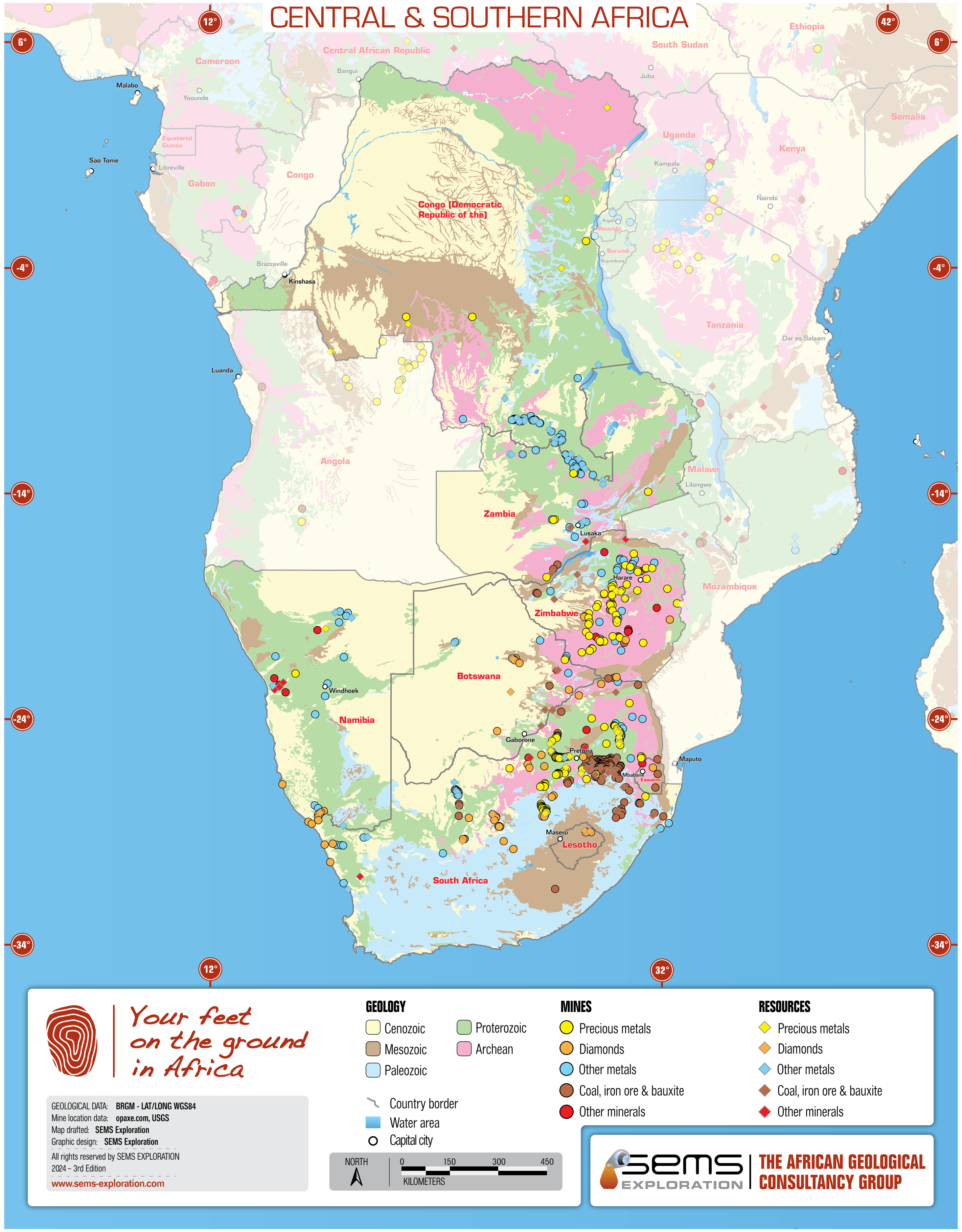


Image courtesy of Jupiter Mines

South Africa

In the coil of change

A common affliction among once-highly successful performers, be they retired athletes or once-leading mining countries, is never being fully over the taste of those peaks. Despite material output improvements and a stronger performance in 2025 compared to the previous year, the South African mining industry cannot help but feel a sense of regress when placed in its broader history. The year was headlined by the closure of several smelters and thousands of job losses, affecting South Africa's most emblematic sectors—PGMs, chrome and manganese. Positive developments, such as the inauguration of the first underground gold mine in the last 15 years, feel small when considering South Africa once mined 10 times more gold than it does today, reaching peaks of 1,000 t/y in the 1970s.

Contemporary South Africa is not short of accomplishments nor low in the global rankings: it is the largest producer of PGMs, chrome, manganese and vanadium; fourth for diamonds; seventh for coal; and the second-biggest producer of gold in Africa. Unlike every other jurisdiction treated in this book, South Africa has majority control over the supply of multiple commodities. More than that, it has gone beyond ore extraction, establishing processing capacity for PGMs and in the ferroalloys industry. Yet the smelting sector is faltering, the industry is reverting to raw exports, and its once mining-fed economy is gasping for growth. That leaves a country with supposed mining leverage feeling rather powerless—a position that stings and pinches against its former stature.

After suffering economic losses, Glencore started a retrenchment process at its Rustenburg ferrochrome smelter and vanadium operations, halving capacity. This follows Samancor's downsizing, with only three of its 24 ferrochrome facilities currently in operation. Years of losses also left ArcelorMittal, a steelmaker, with no option but to shut down its steel plants at Newcastle and Vereeniging. Some 4,000 jobs were lost. The closure of the steel smelter impacts upstream iron ore mines. African Rainbow Minerals (ARM), whose only customer was ArcelorMittal, placed the Beeshoek iron ore mine on care and maintenance. Over 600 workers have been let go. The ferromanganese sector has had it even worse. At the end of December, Transalloys, the last of South Africa's manganese smelters, announced its potential closure. Assmang's Cato Ridge operation closed earlier this year. All of these players cited high power tariffs as the main reason they cannot continue operations. Energy costs represent up to 60% of production expenses.

One company trying to bring a manganese smelter back into production is Menar, a traditionally coal-producing company that acquired the Khwelamet manganese alloy smelter from Samancor—a 500,000 t/y capacity operation. Menar is considering restarting two of the four furnaces, but that also hinges on Eskom power tariffs and ferromanganese prices. While South Africa's smelting sector is rapidly decimating, the ferroalloys business is thriving in Asia, led by China, where the cost of electricity is roughly half of South Africa's. Vuslat Bayoglu, founder and managing director at Menar, boiled the crisis down to job losses: "South Africa's ferrochrome, ferromanganese and steel industries are currently going backwards. Thousands of people are losing their jobs."

Unemployment is South Africa's foremost problem, as well as a symptom of broader economic malaise. In the latest figures released by Stats SA, unemployment reached

33%, with youth unemployment at 46%. Slow economic growth and skills mismatch are blamed for these alarming figures. The mining sector, which is the 10th-largest employer in the country, accounting for over 450,000 jobs, is contributing to rising joblessness rather than generating more employment. Just as the closure of a dozen smelters in recent years has put thousands on furlough, the PGM sector has shed 10,000 jobs this year alone, according to the Southern African Institute of Mining and Metallurgy.

The impacts reverberate beyond the affected unemployed or lost tax revenues. If we consider the 1-to-10 multiplier effect calculated by South Africa's Mineral Council, each job written off leads to the dissolution of 10 others. For every person laid off, households of three to five people are left without an income. Then we must also take into account the supply chain multiplier, namely the impact of systematic closures of steel production and smelting facilities on the construction and manufacturing industries. With South Africa's ability to produce domestic steel hampered, so is its competitiveness. A chain reaction—from mining, to smelting, to manufacturing, to South Africa's industrialization—winds up in a deindustrialization trend, undoing years of progress.

The entire continent has been trying to break out of the so-called resource curse by ensuring the minerals extracted stay longer on Africa's shores and become part of longer, more productive value chains. South Africa is the country that has been most successful in doing so. And now it is caught in a seemingly inexorable trend where smelting capacity is decisively moving East.

Christian Gerhard, Managing Director, LOESCHE

"Across the continent, there are over 2,000 projects in pre-feasibility, feasibility, and bankable feasibility stages, but few of these look at beneficiation. While governments talk the talk, implementation is another story. Investors are typically caught in between."

Vuslat Bayoglu, the chief at Menar, gives Indonesia as an example: Indonesia banned nickel ore exports in 2014 and has since built 60 ferronickel smelters benefiting primarily from Chinese investment.

In the new Mineral Resources Development Bill (MRDB), a proposal to introduce a 25% export levy on raw chrome has been met with mixed reactions from the industry. The tariff has two purposes: firstly, to reduce illegitimate operations by requesting a special export permit from the International Trade Administration Commission (ITAC). According to an article published by Mining Indaba, 10% of South Africa's chrome output is being traded on the black market. The other purpose is to prop up the local smelting sector. However, the move has not attracted a common front. Many worry the tariff will end up having the opposite effect, choking the upstream mining sector that supplies the feed.

A more widely accepted policy intervention is the negotiation of a special electricity tariff for the ferrochrome industry. In December, Eskom signed an MoU with Samancor Chrome and Glencore to work on a more competitive interim tariff. This is under review by the National Energy Regulator of South Africa (NERSA). The smelter operators committed to suspend the retrenchment process and bring 40% of their furnace capacity back online once the interim tariff is approved. The government is also looking at 'complementary mechanisms' to support the struggling sector in the long term.

It is no exaggeration to say that mining has built modern South Africa. Mzila Mthenjane, the CEO of the Mineral Council, provided a brief history: "If we look back over the past 150 years of mining in South Africa, mining, especially gold mining, had a significant role in shaping the country we see today. Mining enabled the government to industrialize, leading to the creation of the IDC and several other financial institutions, as well as the development of Eskom, which produced the cheapest electricity for the longest time, supporting our industrialization."

After 150 years of mining history, South Africa is reflecting on what the next 150 years may hold. According to Mzila, the country can pursue a more inclusive development path, one that moves beyond racial divisions, promotes

Vuslat Bayoglu, Founder and Managing Director, MENAR

"The minute you become serious about beneficiation, you must put rules in place. At the end of the day, you need nickel, so you have to comply with Indonesia's rules, and you need chrome and manganese, so you must come to South Africa."

the inclusion of women, and builds an education system capable of supplying the high-skill workforce required by a technologically modern mining sector.

The Bill currently underway is hoped to bring the necessary policy shakeup that will make room for the type of inclusive growth desired. Some of the main points addressed by the new legislation are the closer harmonization of mining legislation with other regulations, especially pertaining to the environment, in a way that streamlines and shortens the licensing process. According to Ntokozo Nzimande, deputy director-general at the Department of Mineral Resources and Energy (DMRE), it will also strengthen provisions for community consultations; legislate the 'once empowered, always empowered' principle; and remove Section 11 of the MPRDA (Mineral and Petroleum Resources Development Act, 2002), which meant that changes in a company's ownership or structure required ministerial approval.

The industry, represented by the Mineral Council, has recently expressed optimism about the document. Mzila Mthenjane said that if the Bill implements the feedback offered during consultations, "it will be a framework that supports investment and growth in the South African mining industry."

The Bill is expected to be published in 2026. The new year brings other reasons for hope in South Africa's mining sector. Most importantly, a major rebound in the PGM sector is expected, after several years of low prices. The basket price for PGMs declined by over 40% in 2023 on account of the seemingly imminent rise of electric vehicles (EVs) taking over traditional internal combustion (IC) cars. That drove fears that demand for platinum, palladium, rhodium and iridium, used in traditional cars, would consequently decline. However, it appears that ICs will be around for longer than previously thought. In December 2025, platinum prices recorded their highest monthly gain in almost four decades after the European Union, a key EV market, dropped the 2035 combustion engine ban, setting 90% of new cars sold from 2035 onward to be zero-emission instead of the 100% previously imposed. Earlier in the year, the US also withdrew its EV tax subsidy that had been active for the past 15 years.

The revised projections on EV sales come as a relief for South Africa's PGM sector. For the past few years, the industry has been in a frozen state: low prices halted capital expansions and prevented large-scale operations to achieve the type of economies of scale necessary for survival during low prices. African Rainbow Minerals (ARM), one of the largest players in the country, operating the Two Rivers platinum mine (a JV between ARM and Impala Platinum) as well as the Modikwa platinum mine (a JV with Valterra Platinum), dropped its 'early ounces' 60,000 t/m operation at Bokoni, reclassifying the mine to 'project' status until it can bring it to a minimum of 240,000 t/m. "With platinum assets, even if you have a good ore body and grade, you need scale to dilute the cost structure," explained Phillip Tobias, ARM's CEO.

ARM has also paused its Two Rivers Merensky project, also due to low PGM prices, though the plant has been cold commissioned. Secondary PGM producers, like Sylvania Platinum, treat historical tailings dumps, current arisings from host mines, and run-of-mine material at its Dump Operations. The company reported record production in the FY ending June 2025 and sits at the bottom of the PGM production cost curve.

The only new large-scale PGM mine entering production in 2025 is Ivanhoe Mines' Platreef project, with a milling capacity of 770,000 t/y from its Phase 1 concentrator. Phase 2 and Phase 3 will bring the operation to over 1 million oz/y of 3PE+Au, along with 22,000 t/y of nickel and 13,000 t/y of copper. "Once Phase 2 is online, Platreef will rise to an entirely different scale. We are talking about annual production that will place us among the largest PGM producers globally," Marna Cloete, president and CEO of Ivanhoe, told GBR.

Several other projects are taking shape in South Africa. ASX-listed West Wits Mining inaugurated the Qala Shallows gold project, which will produce about 70,000 oz/y. Located in the Witwatersrand Basin, the Qala Shallows project is one of three past-producing reefs held by West Wits. The company is confident it can produce nearly 200,000 oz/y by tapping into these latent resources on its property. West Wits calls Qala Shallows a "greenfield-brownfield hybrid" since the block accessed is brand new, but the infrastructure is not, which allowed the company to move quickly into production, capitalizing on the high gold price.

Theta Gold Mines, another Australian-listed developer, has signed a non-binding term sheet for US$80 million from Nebari Partners to finance its TGME project, also a brownfield project with over a 6 million oz resource. On the copper side, Orion Minerals is in a similar position, having signed a non-binding term sheet with a subsidiary of Glencore for the financing of its Prieska Copper-Zinc Mine (PCZM) brownfield project.

South Africa's mining industry may feel like it is moving in reverse on some fronts, but the advancement of its mining regulations, ongoing reforms at its two key SOEs, Transnet and Eskom, the rebound in PGM prices, and several major financings in its exploration and development sector all push it forward. Viewed from the other end of the telescope, South Africa's past laurels in ounce production metrics veil startling inequality, unspeakable violence, and a high death toll in the mining sector. Today, we do not see South Africa as an industry past its prime, but as one with the history to learn from. How South Africa arrests the downward trend in its sector will likely set the pace for the rest of Africa for years to come. ■

Ntokozo Nzimande

Deputy Director-General

DEPARTMENT OF MINERAL AND PETROLEUM RESOURCES (DMPR), GOVERNMENT OF SOUTH AFRICA

"The objective is to ensure that the entire licensing process is streamlined across different departments, reducing red tape and shortening processing timelines."

How does the proposed Mineral Resources Development Bill (MRDB) address current industry concerns?

As part of a broader economic reform agenda, the MRDB aims to improve the ease of doing business by harmonizing mining legislation with associated regulatory authorities—such as the Department of Water and Sanitation and the Department of Forestry, Fisheries and the Environment—as well as with other legislation, including the National Environmental Management Act (NEMA). The objective is to ensure that the entire licensing process is streamlined across different departments, reducing red tape and shortening processing timelines for mining licenses.

The Bill also seeks to strengthen provisions for meaningful consultation, an area of concern raised by communities. In addition, the industry has expressed concerns around the "once empowered, always empowered" principle, which the High Court ruled unenforceable because Mining Charter III is a policy document rather than law. The MRDB brings this principle into legislation, providing investors with certainty that if a mining right is granted for 30 years on the basis of compliance with the 26% empowerment requirement, that compliance will be recognized for the full duration of the right, even if the empowerment partner exits during that period.

Another issue raised by the mining sector relates to Section 11 of the MPRDA, which governs mergers, acquisitions and the transfer of rights. The Bill removes the requirement for ministerial consent unless there is a material change to the mining right itself, and also eliminates the need for ministerial approval for changes in company ownership or structure. The Minister's role, therefore, is focused on oversight of the mining right, rather than on the internal affairs of the company.

What is the progress made so far in terms of the new mining licensing system?

The system has been introduced in the Western Cape, and we are in the final stages of ensuring that it is operating properly in the province before gradually rolling it out to other provinces.

How does the government encourage exploration in the country?

The Council for Geoscience (CGS) has launched a national Integrated and Multidisciplinary Geoscience Mapping Program, which is providing greater clarity and visibility on South Africa's mineral potential. This program demonstrates that we have barely scratched the surface in terms of mineral extraction, with significant untapped reserves in the country, particularly in the Northern Cape, Limpopo and North West provinces. Interestingly, in the Free State province—which was historically a gold hub—discoveries are being made in rare earths and other commodities that were previously not considered to occur in that area.

In partnership with the IDC, the DMPR launched a R400 million (DMPR R200 million; IDC R200 million) Junior Mining Exploration Fund (JMEF) in February 2024. Over the past year, we have catalyzed interest from the private sector, with Anglo American committing R600 million to the JMEF, taking the Fund to R1 billion. We have also seen the PIC allocate R1.35 billion to support exploration projects in South Africa and the rest of Africa.

How have reforms at Eskom and Transnet benefited the sector?

Eskom has made tremendous improvements, achieving an energy availability factor (EAF) of approximately 70%. The utility has announced reforms that were largely informed by the Electricity Regulation Amendment Act, which allows for the creation of an open electricity market. This has been encouraging to investors, and South Africa is now moving away from Eskom as a sole power generator, with many new players entering the energy space. The legislative reform also allows for the wheeling of power, whereby a generator can deliver (wheel) electricity to a customer in another area using existing distribution or transmission networks. This will allow consumers to choose their power supplier, enabling competition and lowering electricity prices.

Battery storage solutions, particularly in the Northern Cape area, are also becoming a key part of the new energy landscape. With the establishment of an independent transmission company within Eskom, and the planned installation of 14,000 km of transmission lines, we can tackle some of the bottlenecks emerging from increased solar capacity.

On the rail side, Transnet has a robust program to improve rail infrastructure. We are taking an "all-of-government" approach, where the DMPR, Eskom, the Department of Transport and Transnet are in conversation about how we can collaboratively unlock these bottlenecks to enable us to derive maximum benefit from the mining industry. ■

Mzila Mthenjane

CEO

MINERALS COUNCIL SOUTH AFRICA

"The mining industry today has an opportunity to continue the development of South Africa in a much more inclusive way compared to the past."

How has the South African mining sector performed over the past year?

It has been a mixed commodity price performance, with gold outperforming, PGMs have been showing momentum and strength after the Platinum Week in May, and chrome prices remain elevated. But coal and iron ore prices have remained muted. Double-digit increases in electricity prices have put some pressure on mining and processing operations. Eskom announced a 12.8% increase for the year, which is adjusted up to 30% during peak demand. Nevertheless, there have been improvements in terms of availability – as we speak, Eskom sits with excess electricity thanks to a combination of increased renewable capacity outside the grid, with both businesses and residents investing in off-the-grid solutions. Improvements at Transnet are also notable, though not on target.

Despite the overall positive price environment, production performance has not responded commensurately. In terms of precious metals, gold production remains flat at best or in decline, while PGM production is coming off a low base from the beginning of the year.

How does the Council read the Mineral Resources Development Bill (MRD) published by the DMPR this year for public comment?

Currently, the DMPR is reviewing all submissions. We are anticipating that when the Bill is released next year it will be a framework that supports investment and growth in the South African mining industry.

How is South Africa set up in terms of investment protection and what do you think about suggestions to introduce stability agreements?

South Africa's legislative system is designed for investing, earning your return on investment, and protecting your investment. From where I am sitting, I do not see stability agreements as relevant for South Africa. What we need is policy certainty.

How has mining shaped South Africa?

If we look back over the past 150 years of mining, especially gold mining, it had a significant role in shaping the country we see today. In 1970, we produced a peak of 1,000 t/y of gold, 10 times more than today. Mining enabled the government to invest in significant infrastructure development and industrialize, leading to the creation of the IDC and several other financial institutions, as well as the development of Eskom that produced the cheapest electricity for the longest time, supporting our industrialization. We are now sitting at a point where global demand for critical minerals is strong, and it so happens that 30% of the world's critical minerals sit in the Southern African region. The mining industry today has an opportunity to continue the development of South Africa in a much more inclusive way compared to the past, where South Africa achieved industrialization, but it separated between Black and White people and excluded women. Going forward, another positive impact of mining is that it will increasingly employ some of the most highly skilled people. Historically, mining in South Africa relied heavily on low-skilled labor, which also shaped the education system. If the economy needed mostly low-skilled workers, there was little incentive to educate people beyond a certain level. Now, however, mining is innovating and adopting the latest technologies, and this is driving a shift in the workforce skill levels, and in turn influencing the education system. Education is amongst the highest areas of investment from the mining industry.

What is the current multiplier effect of mining in South Africa?

Today, mining directly employs about 475,000 people, with a huge multiplier effect. For every one person employed on a mine, around 10 other jobs are created, and each mine employee typically supports three to five individuals in their households. So, with 475,000 people employed in mining, close to five million people are employed and the wellbeing almost 2.5 million people is maintained, benefiting society and the economy. We have recently completed a study that shows that for every R1 million spent on capital expenditure, approximately R1.5 million in taxes is generated.

Do you have a final thought for our readers?

Growth is not an entitlement, investment is not charity, and having mineral resources in the ground is not enough to achieve development and the social progress we need. Growth will come from doing the right things to extract those minerals and convert them into valuable products, both to meet our economic development needs and to contribute to the global economy and energy transition. ■

Image courtesy of Paladin Energy

Namibia

Playing a different hand

For the first time, the income from other minerals this year has exceeded that of diamonds in Namibia. The shift came from two directions: declining diamond revenues due to falling prices, and rising tax receipts from the gold and uranium sector, where prices surged. This reversal could mark a watershed moment for Namibia. The country can replace a precarious dependence on diamonds with a more satiable reliance on a diversified commodity mix. After all, geologically, Namibia has all the cards: uranium, gold, copper, zinc, lithium, rare earths, and diamonds. It is time to play them.

Through Namdeb Holdings, a 50:50 JV between De Beers and the government, Namibia extracts diamonds from the Namib Desert as well as from the seabed, some 100 meters below the surface. De Beers recovered 2.2 million carats from Namibia in 2024. While Botswana and Angola, both countries hosting De Beers operations, jumped at the prospect of buying Anglo American's majority 85% stake in De Beers, Namibia has taken a more cautious approach, agreeing in principle to a conjoined acquisition that would see Namibia taking a minority stake, between 10% and 15%. As the smallest economy of the three, Namibia is looking at a more diverse future than its peers, both familiar with the risks of depending on a single resource, Angola on oil and Botswana on diamonds.

Namibia holds a strong hand in the uranium sector, as the third largest producer in the world, accounting for about 10% of supply. Uranium production in the country grew by over a fifth since last year. Besides Rössing and Husab, its long-standing producers, Namibia inaugurated in April the reopening of the Langer Heinrich Mine (LHM), which had been on care and maintenance since 2018. Operated by Paladin Energy, the LHM mine produced 3.0 million lb U_3O_8 in FY25. The reopening had a deep impact on the local economy, according to Paul Hemburrow, managing director and CEO at Paladin Energy: "On my first visit to Namibia, there were only 17 employees working at the mine. Now we have approximately 390 employees, plus contractors. Most of our workforce is from the surrounding area, and the demographics of our team reflect the demographics of the community, creating new opportunities for employment across all ages and genders."

Several other uranium projects at advanced stages position Namibia as an increasingly significant player in the uranium space. These include large deposits like Bannerman Energy's Etango project, Deep Yellow's Tumas project, and Forsys Metals' Norasa (Valencia and Namibplaas).

Beyond the recommissioning of LHM, Namibia has seen other big milestones in recent years: In 2024, total exploration expenditure by members of the Chamber of Mines increased by almost 40% to US$74.53 million, a record since Namibia gained independence in 1990. As well as seeing its third large uranium mine come into production, the country is now expecting its third gold mine to also start operations in 2027: The Twin Hills gold project has been developed by Osino Resources, a company acquired last year by Shanjin International. The half-a-billion-dollar mine would pour 162,000 oz/y and create over 800 long-term jobs. The other gold mines currently in operation are B2Gold's 198,142 oz/y Otjikoto open-pit mine and QKR's

116 >>

Nangula Nelulu Uaandja

CEO

NAMIBIA INVESTMENT PROMOTION AND DEVELOPMENT BOARD (NIPDB)

"Like many African countries, we recognize that exporting raw materials limits local economic benefit. The current administration is committed to deepening value chains and processing more minerals domestically."

**Nangula Nelulu Uaandja has stepped down from NIPDB since the interview.*

What makes Namibia an attractive investment destination?

Namibia has established itself as a safe, secure and politically stable country, where the rule of law is respected. It's also a country where we respect transition of power and we are now on our fifth president, H.E. Netumbo Nandi-Ndaitwah, the first female President of Namibia.

Namibia is located in a logistical sweet spot, neighbouring five countries, three of which are landlocked. We also have an abundance of natural resources including diamonds, gold, copper, zinc and uranium, to mention a few. On the other hand, we have large tracks of land, solar energy, wind energy and the sea, giving Namibia unparalleled advantage to produce green hydrogen.

Could you introduce the NIPDB?

Our investment department handles sector-specific work to identify investment opportunities and align them with domestic capabilities and global market needs. The NIPDB has global representation through our international offices in London, New York, Beijing, Pretoria, and Cairo. These offices operate through diplomatic networks and engage directly with potential investors. They also provide support during outbound investment missions.

In terms of investment attraction, we are focused on ten priority sectors. Among these are oil and gas and mining, which are particularly strategic. This prioritization is based on internal analysis and alignment to national developmental goals. We also remain responsive to opportunistic inquiries.

What investment trends have you observed recently?

Namibia operates under a fiscally conservative framework. The government has historically managed public debt cautiously, especially after the pandemic. As a result, large-scale infrastructure development has not been prioritized in recent years. However, infrastructure is now a strategic priority with the new administration. Focus areas include rail network expansion into Zambia, the DRC, and Botswana. Road connections with Botswana will strengthen Namibia's ambition as a logistics hub.

Namibia remains a net importer of energy, which presents risks and opportunities. We are working with neighbors and international financiers to upgrade the national grid and allow it to handle more domestic power production. These developments are coordinated with the Ministry of Mines and Energy and NamPower.

There are also promising gas-to-power initiatives. For example, BW Energy is re-evaluating legacy wells using updated technology. If shared infrastructure costs can be agreed upon between companies such as BW, TotalEnergies, Shell, and Rhino Resources, gas development becomes more viable. Such infrastructure is expensive and difficult for a single company to undertake alone. Battery storage and dispatchable renewable power technologies have advanced significantly. If grid stability can be maintained, we expect renewables to supply more than 60% of the country's electricity.

How important is mining to Namibia's economy and the NIPDB's work?

While commodity prices are volatile and ownership structures are shifting, especially with increased interest from Chinese companies, mining continues to be a key driver of growth and employment. Namibia's mineral portfolio includes uranium, copper, lithium, and other critical materials. While copper prices have recently softened, Namibia's diversity of mineral resources provides a cushion. Uranium demand is rising, partly driven by geopolitical concerns and the global push for clean energy. Namibia is the third-largest producer of uranium globally. Several new projects are in development, and exploration activity has increased significantly. These developments present strong opportunities for job creation and economic growth.

Value addition is a top priority. Like many African countries, we recognize that exporting raw materials limits local economic benefit. The current administration is committed to deepening value chains and processing more minerals domestically. We have seen early examples of this approach but are now looking to scale it further. Value addition enhances returns, creates skilled jobs, and enables broader Namibian economic participation.

How does oil and gas revenue factor into funding diversification across other sectors?

We view oil and gas as a catalyst. If managed responsibly, the revenue can be used to fund long-term diversification in sectors such as agriculture, energy, and manufacturing. We work closely with the government to materialize investment opportunities across these areas and drive inclusive, sustainable development. The green hydrogen sector is one such area. Despite softening hydrogen prices, projects like Oshivela High Iron—where iron ore is converted into green iron using hydrogen—demonstrate the potential for industrial development. With proper coordination, oil and gas income can support the development of the green economy, enhance infrastructure, and strengthen our power grid, all of which underpin broader industrialization. ■

<< 114

90,000 oz/y Navachab mine. Otjikoto is the largest in the country but at the end of its life, though B2Gold is looking to potentially continue mining from the Wolfshag underground beyond 2027. Meanwhile, QKR announced this year a US$240 million underground expansion, alongside additional investments in surface exploration. Also contributing to Namibia's gold pipeline is Wia Gold, which updated the MRE at its 3 million oz Kokoseb gold discovery and published a scoping study earlier this year.

Namibia's base metals sector is also seeing increased activity. The Haib copper project is now considered the largest in Southern Africa by value, with an NPV of US$1.35 billion according to its recent PEA. In a country of mostly brownfield assets, including the Kombat copper mine recently acquired by Horizon Corporation from Trigon Metals, and the Tschudi copper mine, where developer Consolidated Copper opened the country's first refined copper cathode plant, Koryx Copper's Haib project proves that large-scale, greenfield opportunities still exist. Namibia also holds strong prospects in zinc, where the Rosh Pinah historic mine is being brought back to life. Appian Capital is expanding the project from 700,000 t/y to 1.3 million t/y. Dubbed "Rosh Pinah 2.0," the development includes the installation of paste backfill, a first for the country.

Namibia promises great prospects in REE and lithium too. Namibia Critical Metals' Lofdal heavy REE project, which has JOGMEC as a JV partner, announced a PFS this December, highlighting a pre-tax NPV of US$389.2 million and a pre-tax IRR of 21.7%. Aldoro Resources, which acquired the Kameelburg REE project three years ago, has expanded its Phase 2 drilling program. When we spoke to the team earlier in 2025, Kameelburg was estimated at around 500 million t in resources. If confirmed, it would make for the third-largest REE and niobium project globally. Namibia already produces tin concentrates from the Uis mine, with significant byproduct potential for lithium and tantalum. The operator of the Uis mine, Andrada Mining, wants to define a 200 million t resource from the 180 pegmatites identified so far. However, lithium prices are currently disincentivizing. Lepidico, an explorer with a focus on the Karibib lithium project in Namibia, entered liquidation this year, highlighting the harsh realities of the lithium sector.

Nevertheless, Namibia's diverse geology and high-value projects across multiple commodities mean that the country can look forward to a future where it is not solely at the mercy of diamond prices, but can ride the cyclical surges of its strategic metals.

Reshuffle the deck

Namibia is first in class as a mining jurisdiction: Its position on the famous Fraser Institute Annual Survey of Mining Companies reached its highest to date, ranking 30th in the world and fourth in Africa for 2024. The country recommends itself as one of the most stable and safest in Africa. The 2024 election of Nandi-Ndaitwah, the leader of the SWAPO party that has been in power for 35 years, counters a broader regional trend where post-independence 'establishment' parties have been challenged, sometimes through protests and other times in democratic votes. For instance, in South Africa, the post-apartheid leading party, ANC, lost its parliamentary majority for the first time, while in neighbouring Botswana, the BDP party lost the election

Peter Christians, Associate Mining Engineer, **QUBEKA MINING CONSULTANTS**

"One of the most visible changes is the government taking a more active role in the sector, promoting greater national ownership of mining assets. The approach has shifted from hands-off to more direct intervention and involvement."

for the first time since 1966. Meanwhile, in countries like Mozambique and Tanzania, the victory of the ruling parties sparked major protests.

The mining industry generally perceives Namibia to be an excellent place for doing business. "President Netumbo Nandi-Ndaitwah is keen to facilitate mining investment and has shown a firm hand in dealing with any signs of corruption," said John Sisay, the CEO at Consolidated Copper Corp, evoking broadly held industry beliefs.

However, the berg winds typical of Namibia are bringing a change in the legislative environment. The country is working on a new mining law to update the 1992 Prospecting and Mining Act. The new regulations propose introducing a 10% free-carried state share in all new mining and energy projects. Epangelo, the state-owned company, would automatically be a party to any new project. Stricter ministerial consent over ownership changes, similar to what South Africa currently applies and is looking to eliminate, is also in the air. The royalty rate is expected to double from 5% to 10% for some minerals. Corporate tax (37.5%), coupled with royalties (up to 10%) and export levies (up to 2%), would eat up to 50% of a company's profit. That can prove challenging for tight-margin operations.

Beneficiation, local content, and new environmental expectations are also expected to be enshrined into the new law. The country is calibrating the new rules of the game so that it can still preserve its reputation as a stable and predictable country while internalizing its natural resource wealth to a greater extent. The balance is delicate. To achieve it, Namibia must raise the stakes all around, not only through regulation but also in terms of the infrastructure and governance it offers.

As concerns infrastructure, Namibia's strategic port location makes it a perfect gateway for Africa. The Walvis Bay port has been modernized and expanded, and is a key trade hub for the SADC region. Most mining projects in the country enjoy good infrastructure, which supports competitive operations even in a more stringent fiscal environment. For example, the Kameelburg REE project will benefit from infrastructure superior to any other REE project in Africa, according to its developers. "We are located just 350 km from Walvis Bay, one of Africa's largest and most

Elisabeth Nicolas,
Mining Director, **AFRICA GLOBAL LOGISTICS**

"Walvis Bay is becoming a more popular destination for ships and an important stop on Africa's west coast. Vessel traffic at the terminal has been increasing, especially in connection with diversions from the Suez Canal, and we anticipate more ships rerouting via Namibia."

important ports. The TransNamibia heavy-haul freight railway runs just 2 km from our tenement, while the bitumen C33 highway also crosses it, providing excellent access. A 220 KV hydropower transmission line passes within 7 km of Kameelburg, giving us easy access to the national grid," said Stephen Tomsic, the CEO of Aldoro Resources.

Water is a challenging topic in sub-Saharan Africa's driest country. According to Hunterbrook Media, existing operations like the Uis mine have already put pressure on water resources. The growing pipeline of uranium projects in the Erongo region could further strain supplies. Several mining developers are signing agreements with NamWater, the national utility, to pipe water to site. China General Nuclear Power Group (CGN) is currently building the country's largest desalination plant near Walvis Bay. With the notion of a 'social license to operate' expected to be introduced into the new mining law, companies will need to show proper environmental stewardship, including a clear water-use plan, as well as meaningful local engagement so that host communities understand the source of the water used (ideally treated or desalinated water). This is all to be included in more strictly regulated environmental impact assessments.

As for energy, Namibia imports up to 60% of its energy, mostly from neighbouring South Africa. But the country has several cards up its sleeve. According to Energy Capital Power, Namibia has 100 GW of technical wind potential, hydropower potential of 10,000 GWh/y, and 10 hours a day of sunshine. Several projects, both by the national utility, NamPower, and international IPPs, are in construction. The well-known 'Hyphen' US$10 billion green hydrogen project could produce enough energy to support not just the production of green hydrogen and green ammonia but also decarbonize Namibia's grid.

Namibia already stands out as a premier jurisdiction. To avoid being seen as an overly premium one, it must ensure strong infrastructure fundamentals and implement its new regulations with characteristic predictability. ■

Image courtesy of First Quantum Minerals

Zambia

On its best behaviour

This December, Zambia held its sixth and final review of the 38-month IMF credit facility. Once the final disbursement of US$190 million is approved by the IMF board, Zambia will have received a total of US$1.7 billion since August 2022, and will have closed a difficult chapter following its 2020 default on foreign debt. Over this period, Zambia has shown financial probity and achieved a significant economic turnaround, credited mostly to President Hakainde Hichilema (HH), elected in 2021. The reforms under HH's administration aligned with IMF fiscal conditions and centred on a mining-led growth agenda, making the President extremely popular with the international community.

However, at a time of unprecedented mining investment and improving macroeconomics, the local population has become weary of the austere measures, including the removal of food and fuel subsidies that have increased the cost of living. A severe drought impacting both food and energy production has exacerbated local grievances. At the next elections in August 2026, HH faces disgruntled parts of the electorate who see him as a 'President for foreigners, not Zambians,' as expressed in an article published by the Lusaka Times.

Indeed, for the foreign mining investor, Zambia has risen to the top. The country's pro-mining reforms, fronted by the ambitious goal of reaching 3 million t/y of copper production by 2031, have attracted close to US$10 billion in mining investment over the past four years, according to Bloomberg.

Zambia delivers the message every investor wants to hear. "Zambia is open for business. We guarantee a stable fiscal regime, predictable policies, strong leadership, and the peace and stability Zambia has long been known for," Minister of Mines and Minerals Development Paul Kabuswe told GBR in an exclusive interview in Lusaka.

Mining executives echo the same laudatory language. Sam Hosack, the managing director and CEO of Prospect Resources, a copper explorer, said Zambia has one of Africa's most progressive mining codes, while distinguishing itself as "peaceful, investor-friendly and reform-minded."

Last year, GBR wrote about Zambia's task of regaining investors' trust by repairing the damage caused by the unstable environment under the previous administration. We can safely say that Zambia has achieved this mission. Today, it must convince Zambians that private-sector–led growth driven by mining is the way forward, especially after the high-profile environmental disaster at the beginning of 2025, when 900,000 cubic meters of toxic tailings, including cyanide and arsenic, spilled into the Kafue river near Kitwe. The operator, a subsidiary of China Nonferrous Metal Mining, is facing over US$400 million in compensation claims from affected communities.

After rolling out the red carpet for investors in the red metal, it was the right time for Zambia to start including local content provisions. At this year's Insaka Mining Con-

122 >>

Paul Kabuswe

Minister of Mines and Minerals Development,

GOVERNMENT OF ZAMBIA

"We guarantee a stable fiscal regime, predictable policies, strong leadership, and the peace and stability Zambia has long been known for."

Could you share your perspective on Zambia's progress toward achieving the 1 million t/y copper production target this year, and the 3 million t/y goal by 2031?

The numbers are shaping up better than expected, with mines reinstated into production (like the Konkola Copper mines) projecting surprisingly high volumes. The sentiment is particularly positive, and that has helped tremendously toward the rush to 1 million t/y this year, which is an essential psychological threshold into the larger picture 3 million t/y target. The policy environment created by President Hakainde Hichilema has helped attract in excess of US$9 billion in investment over the past four years, an unprecedented figure for Zambia in a very long time. We are seeing large-scale commitments: First Quantum Minerals has invested US$1.25 billion in its S3 expansion, Barrick Lumwana is investing US$2 billion, and Mingomba's investment likewise involves over US$2 billion in new mine development. Three mining firms are sinking new shafts: Lubambe, Mingomba mining project, and the Shaft 28 project. The 20-month process to dewater 28 Shaft at the Chinese-owned CNMC Luanshya copper mines, which started earlier this year, is progressing as planned, bringing a copper mine that had been dormant for two decades to life. The dewatering has been done in record time—these types of capital commitment point to a firmly held faith in the economy's long-term stability.

Moreover, the two-year government contract with Xcalibur for a whole country geological mapping will help Zambia establish much more targeted licenses, underpinned by data on the suspected copper, gold, and other minerals. Through more targeted drilling, exploration will be significantly accelerated.

As Zambia continues to increase copper production, how will it overcome structural limitations around transportation and energy?

Zambia recently signed a US$1.4 billion agreement with the China Civil Engineering Construction Corporation (CCECC) for the modernization of the Tazara Railway, which is a key route for exporting copper to the port of Dar es Salaam. Rail will be a game-changer for cost competitiveness and durability. The other crucial structural challenge is energy. The historic drought which affected Zambia last year was God's sign that we need to diversify our energy mix. We are targeting 1,000 MW of solar energy alone. Additional thermal plants are also coming into the mix.

How would you describe Zambia's regulatory stability and investment attractiveness today, following the implementation of the new Mines Act earlier this year?

The regulator's primary role is to ensure transparency and accuracy in Zambia's mineral production figures across all commodities. This is essential to prevent underreporting, curb illegal mining (which costs us revenue and lives) and promote formal, structured mining and trade.

It will also serve as a bridge between government and industry, ensuring clear communication and policy consistency. By enhancing predictability and investor confidence, the regulator will help build a stable economic environment that benefits local and international players.

Ultimately, the goal is to ensure that mining revenues translate into real value for ordinary Zambians, through job creation, increased Treasury income, and social investments like free education and community development funds. That's the broader purpose behind all these efforts.

How is the Ministry accounting for tariffs and geopolitical shifts in its long-term strategy, and what other commodities could provide diversification in Zambia?

We recognize that copper can be volatile, but projections show global demand is poised to rise over the next decade. That gives us confidence in the pricing stability and our positioning to capture more value in a very strategic commodity – value which we want to channel back into our national development.

Zambia hosts other minerals, including lithium, phosphates and coal. The nationwide mapping exercise will help us better understand Zambia's full mineral potential.

What message would you like to send to the mining and investment community?

Zambia is open for business. We are ready to form mutually beneficial partnerships and joint ventures with investors who share our vision that Zambians must benefit from the country's mineral wealth.

We are not pursuing resource nationalism; Zambia remains a private sector–driven economy. However, within that framework, we expect real value creation for our people. We guarantee a stable fiscal regime, predictable policies, strong leadership, and the peace and stability Zambia has long been known for. ■

<< 118

ference, held in the country's capital, Minister of Mines and Minerals Development Paul Kabuswe signed on stage the Statutory Instrument (SI 68) for the country's new Local Content Bill. The new regulation, enforceable from January 1, 2026, introduces local procurement thresholds of 20–40% of annual spend, reserves non-core services for 100% local companies, and stipulates a 15% margin of preference for local firms.

According to Jason Kazilimani, the CEO of KPMG Zambia, the legislation is designed to compel businesses to work with more Zambian suppliers, aligning more closely with what we see in other parts of Africa, but it is not draconian. In our conversation with the Minister, he said explicitly: "We are NOT pursuing resource nationalism. Zambia remains a private-sector–driven economy. However, within that framework, we expect real value creation for our people."

Last year, Zambia replaced its Mining and Minerals Act (2015) with the Minerals Regulation Commission Act (2024), which establishes the Minerals Regulation Commission as the responsible body for licensing, separate from the Zambia Revenue Authority and the Mining Cadastre. The reforms, now laid out on paper, must be followed by implementation.

The new regulations are hoped to speed up the licensing process, which is often described as a labyrinth in off-the-record conversations. Zambia issues three types of licenses: Artisanal licenses, which are directly offered to landowners, and which are often abused by treatment providers who process material from artisanal miners without regard for environmental, health or safety standards. The second tier, small-scale mining licenses with a 10-year tenure, are also sometimes mishandled, with operators setting up small operations for the easy material and then abandoning them, at which point the sites become targets for artisanal miners. Lastly, the long-term, 25-year mining license requires the level of commitment that foreign companies typically seek.

Already the second-largest copper producer in Africa after the DRC, Zambia is racing to take the first spot by 2031. Current investments are not sufficient, and the timing is too short to achieve this goal. But the enthusiastic reform designed for copper has benefited other commodities in Zambia. "The government's strategy to triple copper production in the next five years is putting everything in motion—rail, power, regulation—and if these things are sorted for copper, then they are sorted for all other commodities," said Daniel Major, the former CEO of Atomic Eagle.

Sixtus Chileshe Mulenga, Founder and Executive Chairman, **MUSAMU RESOURCES**

"Given processing constraints stemming from the energy crisis, as well as prevailing global market prices, our strategy is to produce strictly on a demand basis. The Luongo mine produces approximately 20,000 tonnes of manganese ore per month."

Even though copper is one of the most lucrative commodities today (Barrick's US$2 billion expansion at Lumwana can be recouped in just two years if current copper prices hold, according to Mining.com), growing a diversified mineral production can save Zambia from unilateral commodity shocks. Zambia's mining opportunities extend to gold (through Konige Mining), gemstones (through Gemfields and several local players), uranium (through Atomic Eagle, previously known as GoviEx Uranium), manganese (through Musamu Resources), nickel (through Consolidated Nickel Mines), and coal (through Maamba Energy).

In terms of the source of capital, Zambia is hedging between Western and Eastern interests. This December, the country became the first in Africa to accept mining taxes and royalties paid in Yuan (CNY). This, in turn, will help Zambia with its own reserve management, since China is the largest buyer of copper in the country as well as one of Zambia's biggest creditors. Renminbi payments will make the Chinese debt slightly cheaper. At the same time, Zambia is negotiating with the US over a controversial deal that involves granting access to mining concessions in exchange for US$1.5 billion in health aid, an unwonted barter that some critics argue borders on the unscrupulous. The Trump administration has delayed the MoU for the landmark aid package, which was supposed to be signed in December.

The main playoff between China and the US can be observed in the logistics space, where both countries seek to finance and therefore control the route to port, one eastbound, one westbound. The Western side, which includes investments by the US DFC, has allied to finance the 1,300-km rail link connecting the Copperbelt with Angola's Lobito port on the Atlantic. The Lobito Corridor is believed to be the biggest rail investment in Zambia since the 1975 Chinese-funded Tazara railway, connecting Zambia to the east coast in Dar es Salaam, the exit port to the Indian Ocean. While the West has been dithering over the financing of Lobito, China committed US$1.4 billion to refurbish Tazara over the next three years. Tazara's 50-year history has been marked by chronic delays, deterioration, and general underperformance, with the rail line currently operating at 10% of its cargo capacity, and its 46-hour trip often taking a harrowing four days, according to an article by Al Jazeera.

In macro terms, Zambia is outperforming the continent. Buoyed by a near-record copper price and steady production increases, from 760,000 t/y in 2023, to 820,000 t/y in 2024, and up to 1 million t/y (expected) in 2025, the country is poised to achieve an average 5.6% GDP growth between 2026 and 2031, according to the IMF. Inflation is also expected to subside to within target at 6–7%. The kwacha was among Africa's best-performing currencies in 2025, gaining 26% against the dollar, thanks to increased export revenues and foreign capital inflows from the copper sector. The Lusaka Securities Exchange All Share Index also ranked among the best performers in Africa in 2025, with Copperbelt Energy, an energy supplier to the mines, as well as ZCCM Investment Holdings, a state-controlled mining investment firm, rising to over US$1 billion in market cap. These are the first Zambian-listed companies to cross the US$1 billion mark.

Nevertheless, one of the worst droughts on record has distorted how these metrics translate on the ground. Driven by El Niño and climate change, the draught during the 2023–2024 rainy season destroyed nearly half of the country's planted crops and curtailed power generation. More than that, it caused discontent among the population, in a similar way that record levels of load-shedding have eroded ANC's power in South Africa. This has been the biggest challenge of HH's mandate, the main obstacle to his reformist agenda, and is likely to shape the focus of his main opposition as he seeks re-election next year. Therefore, energy availability will be one of the biggest factors influencing election sentiment.

Rather than exiting the IMF program, Zambia has requested an extension, which means the fiscal measures imposed will remain in place. As is often the case in election years, attention will also likely shift more toward the population and social spending. ■

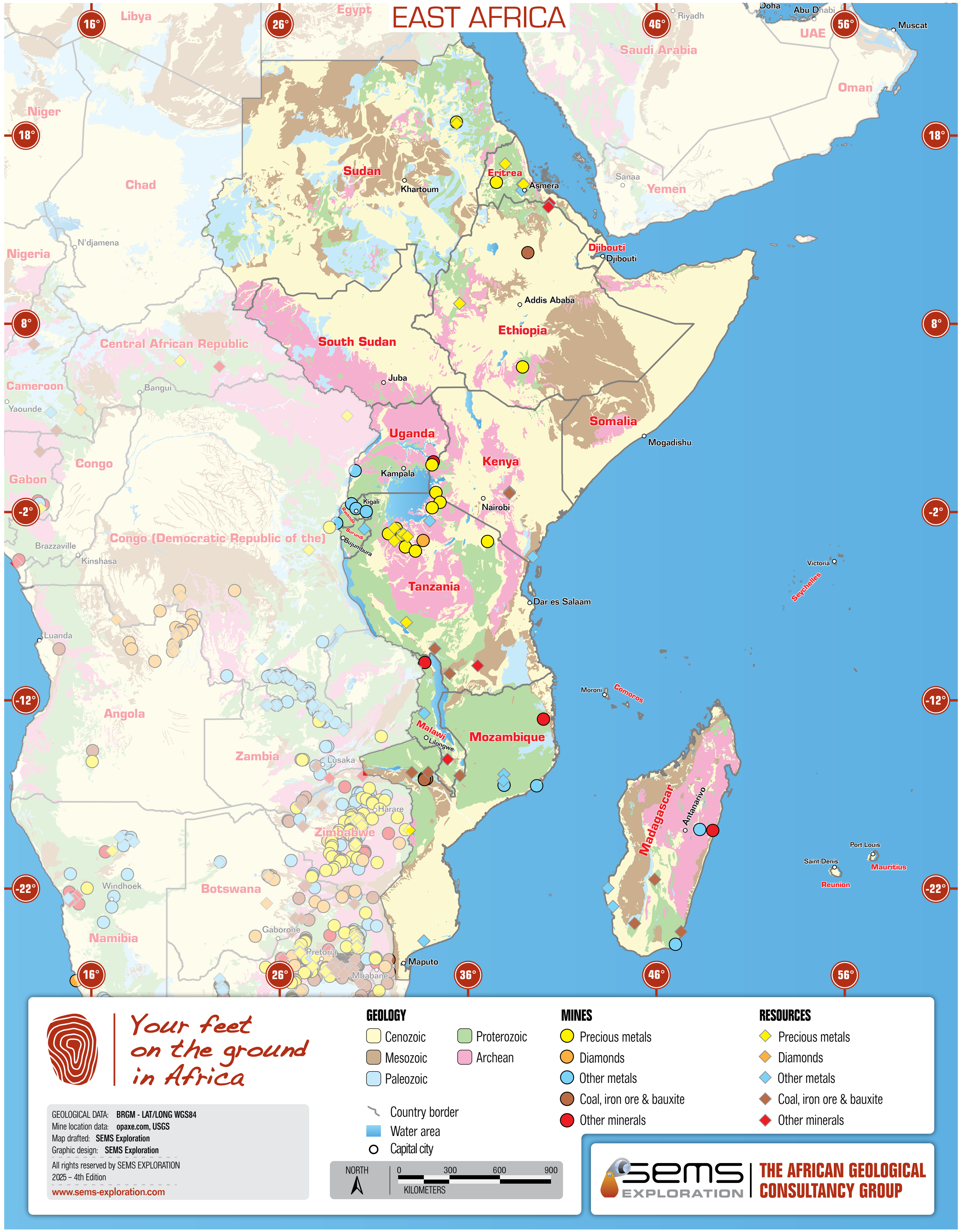



Image courtesy of TRX Gold

Tanzania

A before and after elections

When we landed in Dar es Salaam in September this year, about a month before national elections, we were preparing to cover Tanzania's progress as one of the newly favoured investment destinations; a turnaround story largely architected by its leader, President Samia Suluhu Hassan. Yet Tanzania surprised this editorial team as much as it surprised the rest of the world, and perhaps itself, when, on October 29th election day, protests broke out, unleashing a brutal crackdown and exposing deep issues in this country's democratic foundations, as well as a slide into authoritarianism. That exposé has painted a Tanzania very different from the country long revered as an island of stability in Africa.

Since President Hassan took power in 2021 following the sudden death of John Magufuli, the former leader, things began to improve for the mining sector and the economy at large. The newly instated President Hassan was feted for putting Tanzania back on its democratic track and opening the economy to foreign investment.

In 2024, FDI inflows increased by 28.4%, according to UNCTAD. The economy also expanded at between 4–5.5% GDP growth, and the mining sector started to recover from the slumber imposed by Magufuli's policies. "Amendments to the Mining Act in 2017 entitled the government to a 16% free carried interest in mining companies. That changed the operating environment, deterring investment and causing a spike in arbitrations by foreign firms in the mining sector against the government especially concerning the abolition of retention licenses. Regulatory challenges have since been addressed and clarified," explained Cyril Pesha, principal partner at local law firm CRB Africa Legal.

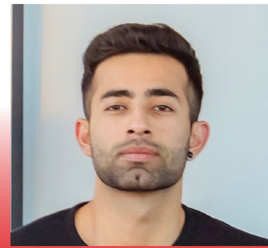
Barrick Mining, the operator of the North Mara and Bulyanhulu gold mines, told GBR it added over 4,000 km² to its exploration grounds in the country, seeking the next tier-one asset. This year, Perseus Mining pressed the go button on the Nyanzaga gold mine construction, which is expected to enter production in 2027.

New players were entering the country, including Resource Mining Corp, which acquired Mpanda and Mbozi copper-gold projects this year, and Marvel Gold, a gold explorer which sold its assets in Mali and acquired the early-stage Hanang gold project in Tanzania.

Tanzania's mining sector has also become more diverse, with interest in critical minerals adding to the country's more traditional gold mining base. The gold sector is represented by actors like Barrick Mining, AngloGold Ashanti, Perseus Mining, TRX Gold, Shanta Gold (now acquired by Saturn Resources), Marvel Gold, and Lake Victoria Gold. In the base and critical minerals sector, noteworthy players include Lifezone Minerals (nickel), Volt Resources, Black Rock Mining, EcoGraf Resources, and Tanz Graphite (graphite), Evolution Energy (copper), Shenghe Resources (REEs), Jitegemee Holdings (coal) and Mantra Resources (uranium).

Kineneko Mtei,
Managing Director,
AFRIKA KAZI

"Regulations require locals to hold 20% in entities providing mining services, but most local companies lack the capital to secure that stake. Recent regulatory changes could allow local companies to access loans on more de-risked JV structures."

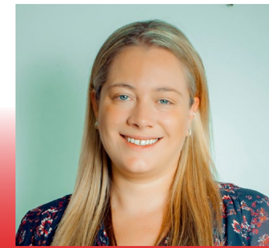


Aakash Phulwani,
Managing Director,
LYNX SUPPLY AND SERVICES

"Doing business in Tanzania comes with completely different challenges than the more streamlined environment in the West. Tanzania is not short of red tape, and the way of doing business has a different pace."

Most people expected a landslide win for Ms. Hassan. Once arriving in Tanzania, it was easy to see why: From entering the airport, every wall, pole and building on every street was plastered with posters of the candidate's face, a sort of omnipresence more akin to autocratic regimes. The lack of credible opposition left no room for a real contest in the election. Even though there were 16 official candidates, the serious opponents – Tundu Lissu of Chadema party and Luhaga Mpina of ACT Alliance for Change and Transparency-Wazalendo – were unable to run, the former being placed on trial for treason and the latter disqualified. The sham premise of the election was reminiscent of the 2020 elections, when John Magufuli was thought to have throttled the opposition. The ongoing suppression and lack of democratic choice infuriated Tanzanians.

Election day started quietly, with reports of near-empty polling stations. As protests broke out, the government responded with a heavy hand, blocking internet access, deploying the police and military, and restricting local media. Parts of Tanzania were suddenly under curfew. The results of the election were both expected and implausible. Ms. Hassan polled at 98% of the vote, with an 88% turnout. The Southern African Development Community (SADC) reported irregularities in the process, and the African Union found "evidence of widespread intimidation tactics, pre-election abductions, and the expulsion of observers during counting." Amnesty International said security forces used unlawful lethal force in the crackdown, targeting peaceful protestors.



Anna Rabin, Managing Director,
ABOVE GROUND ADVISORY

"Tanzania is incredibly diverse, and that makes it attractive, particularly to junior exploration companies. But the country has a backlog of projects that have transitioned from a prospecting or exploration license to a mining license, and they are struggling to secure project funding."

Francis Raballa, General Manager,
DUMASPEED COMPANY

"While many African countries have struggled with the availability of US dollars, Tanzania had a more buffered economy thanks to mining. That marked a turning point: Tanzania no longer looked at the mining sector as a threat, but as a cornerstone economic driver."

The aftermath is tragic. Crisis Group reported that the police executed hundreds of people, even targeting people at their homes; Chatham House also has intelligence on hundreds of civilians killed under the cover of a communication shutdown. International media and diplomatic sources estimate the death toll at around 1,000 – this would be the highest number of casualties since the 1978 Uganda-Tanzania war. The government's reaction and the dire consequences have come as a shock in a country with a strong track record of stability in Africa. The democratic backsliding has been noted by Freedom House, which reports Tanzania to score just 35% or 'partly free.'

The reputational stain is unlikely to be seen as just a blip. Tanzania is already at risk of losing donor support, as one of the main recipients of foreign aid and development assistance, which are conditional on democratic reforms and a good human rights record. The EU is debating a freeze on its development assistance, citing democratic backsliding and human rights deficiencies. In 2023, Tanzania was the largest recipient of European Investment Bank funding in Sub-Saharan Africa. How international actors respond will set a precedent for other African countries and their upcoming elections.

In terms of private investments, Tanzania was targeting US$15 billion in FDI by 2026, courting US capital especially for critical minerals projects. According to TICGL Economic Consulting Group, the unrest could result in a 20% decline in FDI, translating to an US$800 million loss. The same source projects reduced GDP growth. Inflation is also expected to rise, and additional impacts could come from manufacturing and supply chain disruptions due to strikes.

The mining sector has been quiet, maybe too quiet. None of the main mining companies have issued statements regarding the recent unrest. Not even the Chamber of Mines has made a public declaration. Yet the initial premise of this article continues – the mining industry has been growing – and projects already financed (like Black Rock Mining), as well as existing operations, will carry forward the momentum built in previous years, but early-stage ventures may struggle when it comes to raising money.

For now, some transactions have come through. This December, Volt Resources executed a binding term sheet with Unbounded Opportunities Fund SPC (UOF) to finance the development of the Bunyu graphite mine, which will produce 40,000 t/y graphite concentrate at 94% TGC. ■

Benjamin Mchwampaka

Executive Secretary
TANZANIA CHAMBER OF MINES

"The government recognizes that mining is the backbone of the economy and a key driver of socioeconomic progress, especially in rural areas. Overall, mining enjoys a positive perception among the Tanzanian population."

How would you describe the Tanzanian mining industry today?

The contribution of the mining sector to GDP has risen from approximately 5% before 2017, to 10.1% in 2024, reflecting a positive trend. The government is creating a conducive environment for investors and engaging the private sector in policy making. The Mining Commission and several task forces were established to assess and regulate legal and fiscal regimes, thus addressing industry concerns. Local content regulations introduced in 2018 have contributed to the increased Tanzanian participation in the mining value chain, having a significant impact on the mining sector's balance on the economy. The government has also established formal markets and buying centers for minerals produced by artisanal and small-scale miners. Today, approximately 30% of the revenue generated by the mining sector comes from artisanal and small-scale mining, which would have previously been lost in informal markets. The government is also ensuring that small-scale mining activities are improved by tasking the State Mining Corporation (STAMICO) to render technical support to these operations.

Tanzania has entered the critical minerals space, and a good number of companies have shown interest in exploration. With various projects already in the pipeline, including the Kabanga nickel project, the Nyanzaga gold project, the Ngualla rare earth project, the Mahenge graphite project, and the Tajiri heavy mineral sands project, the future looks bright.

What still needs to be addressed to drive more investment?

To be competitive, you need to be comparable with your peers in the region. The Chamber is a member of The Mining Industry Association of Southern Africa (MIASA), which consists of approximately 11 countries. In contrast with our peers in the region, in Tanzania royalties are a non-deductible tax item. Another deterrent or disadvantage in comparison to other jurisdictions in the region is that exploration expenditure in Tanzania is not eligible for VAT refund. The way we see it, exploration is the lifeline of mining, and the government should incentivize this sector more to encourage investment.

Another issue the Chamber is addressing with the government is ring-fencing, which means treating expenses incurred in each prospecting license separately, even if these are adjacent, owned and operated by the same company. Our view is that the ring-fencing law should not apply to exploration activities on adjacent licenses, as this is a sunk cost and disincentivizes exploration.

How are local content regulations encouraging true partnerships, and are there any fine-tuning items that should be addressed?

Previously, local content regulations required that any foreign company wishing to supply products or services to the mining industry form a Special Purpose Vehicle (SPV) with an Indigenous Tanzanian Company (ITC). The ITC was mandated to hold at least 20% equity in that joint venture. However, this arrangement proved difficult in practice, as few local companies could afford the required 20% equity contribution.

The regulation has recently been amended. Now, instead of forming an SPV, a foreign company can enter into a joint venture agreement with a local company operating in the same line of business. Both companies continue to operate independently, but 20% of the contract awarded to the foreign company must be executed by the local partner.

This new model allows local companies to use the mining company's contract and tender as collateral to secure financing from banks for their portion of the work. Banks, in turn, have greater assurance that the funds will go directly into project execution, with a clear path for repayment. As a result, local companies can now participate actively and meaningfully in project delivery, rather than merely being partners on paper.

In addition, the Ministry will publish a list of goods and services that can only be supplied by 100% Tanzanian-owned companies. These include services such as catering, laundry, and certain logistical operations.

Do you have a final message?

African countries should harmonize their policies to ensure that they are complementary instead of competing. To attract investment, mining jurisdictions must ensure stable, predictable, and competitive legal and fiscal frameworks.

In Tanzania's Vision 2050, mining is identified as one of the top nine sectors that will drive the country's next stage of development. The government recognizes that mining is the backbone of the economy and a key driver of socioeconomic progress, especially in rural areas. Overall, mining enjoys a positive perception among the Tanzanian population. ■

Image courtesy of Lotus Resources

Malawi

Mining imprints on economy in new 'ATM' strategy

Of the three economic sectors Malawi identified as core in its new "Agriculture, Mining and Tourism" (ATM) growth strategy, mining is currently the outlier. The sector accounts for less than 1% of the country's GDP, whereas tourism contributes around 9%. Agriculture remains the mainstay of the country's fragile economy, accounting for 30% of GDP, 80% of export earnings, and the majority of employment. This balance may shift. With its first large-scale commercial mine now in operation and half a dozen projects at advanced stages, Malawi's mining sector could grow to contribute up to 10% of GDP over the next four years. If this boom materializes, the sector could add as much as US$30 billion to the country's economy by 2040, according to the World Bank. This article examines how Malawi is positioned at the foothills of this mining awakening.

Malawi needs mining. The country is one of the poorest in Africa, with nearly three-quarters of Malawians living below the poverty line. Its reliance on under-mechanized, rain-fed agriculture, mostly tobacco farming, has left it vulnerable to weather events such as protracted droughts, cyclones, as well as volatile global prices. GDP growth has lagged behind population growth, and the shortage of foreign exchange has widened fiscal deficits to some of the highest levels in Sub-Saharan Africa. In a vicious cycle, the lack of foreign exchange haplessly hampers the ability to pay for fertilizer imports needed to support the farming sector, pushing this agro-dependent nation into recurrent food shortages.

Lake Malawi, which covers a fifth of Malawi's surface, has given the country its name, Malawi meaning "flames," in reference to the resplendent water. The lake has also defined the country's agrarian focus, with fertile soils surrounding the shores and rift valleys supporting the growth of tea, sugar, cotton, and tobacco. But Malawi's rich geological endowment, with deposits of rare earth elements (REE), uranium, graphite, bauxite, gold, mineral sands, as well as gemstones like ruby, sapphire and emeralds, could redefine its future. Malawi already produces small amounts of coal (64,250 t/y), as well as gemstones (793 t/y), and now uranium (2.4 million lbs/y of U3O8 as the Kayelekera mine ramps up).

This year's restart of the Kayelekera uranium mine, more than 10 years after being placed on care and maintenance, has already jolted the economy, propelling mining's contribution to 5% of GDP. "Kayelekera will be, once again, Malawi's only commercial-scale mine. The mine will contribute in the low single-digit growth to GDP and generate significant employment, particularly in northern Malawi. The government is currently the largest economic partner in the project, receiving around 55–60% of the project economics through their 15% equity interest, a 5% royalty, and expected corporate tax revenues," said Greg Bittar, the managing director of Lotus Resources, the company operating the mine.

Outside of uranium, Malawi has several projects that stand out at a global level. In REEs, Lindian Resources' Kangankunde project is one of the largest and highest-grade in the world. The mine is on track to start production in early 2026 after receiving financing from Australian company Iluka Resources. That will make it one of the few REE projects built outside of China. Another standout project is Kasiya, the world's biggest natural rutile deposit and second-largest flake graphite deposit, developed by Australian-listed company Sovereign Metals. Sovereign is not short of first-rate investors, with 18.45% of shares owned by Rio Tinto and the IFC securing the financing rights. By Q1 2026, Sovereign is expected to publish its DFS and advance toward a construction decision. In niobium, Australian company Globe Metals and Mining is developing its Kanyika niobium project, which would make it Africa's first large-scale niobium operation. The company is slated to complete a final DFS (BFS) in 2026, after several delays.

Other players, including Chilwa Minerals (focusing on REEs and mineral sands), Mkango Resources (focusing on REEs), and Chinese-owned Mawei Mining (focusing on mineral sands), could further contribute to Malawi's new generation of mining companies. Considering Malawi's geographical positioning, the country shares some of its neighbors' geological prospectivity, especially Tanzania's, which holds the largest graphite and REE resources in Africa. In a first for Africa, Malawi made its geological survey data open to the public. The results of the GEMMAP (Geological Mapping and Mineral Assessment of Malawi) were presented almost three years ago and contain an updated geological map and a draft inventory of mineral potential.

The quality of the resources have made up for the country's shortcomings, like an underdeveloped supply chain and poor infrastructure. The attraction has also been spurred by the government's pro-mining stance. Greg Bittar, the managing director of Lotus Resources, said: "Malawi suffers somewhat from being relatively unknown. However, we have demonstrated that it is possible to do business successfully there, with the government as our partner and with strong support from the community. We have learned how to operate effectively in Malawi, overcoming logistical challenges that come with being a relatively isolated, small-scale jurisdiction where many inputs must initially be imported, and capacity built by employing and training the local workforce. The country itself is safe, with a stable democracy. Importantly, the government is eager to learn, adopt international mining practices, and refine its regulatory framework. In our experience, this has created the hallmarks of a supportive environment and a strong foundation for successful collaboration."

Indeed, the country has put mining at the front of its economic strategy for the long term. As part of the Malawi 2063 Policy, which would mark the year before Malawi's 100th year of independence, the government envisions a wealthy, industrialized upper middle-income nation whereby mining is key to industrialization, through local processing and refining. However, the country is impatient to see those linkages. Malawi passed a series of reforms through the Mines and Minerals Act of 2023. The most concerning of them has been the stipulation that the government can take a free ownership stake in any new mining project. The cap is not specified; an omission that creates uncertainty.

Through an Executive Order in October 2025, President Peter Mutharika introduced a ban on the export of raw minerals, saying the country could earn up to US$500 million/y from the Kasiya rutile site and Kangankunde REE site if these do not export run-of-mine, unprocessed ore. The President said: "We must add value to our minerals right here in Malawi, create jobs, and keep the profits within our borders," echoing a rhetoric heard more and more in Africa.

By asking mining operators not to skip (processing) steps, Malawi is itself skipping steps. The move may seem heedless—these projects are not even in production yet. At the same time, a clear framework established prior to production sets the bar from the start. The operators of the two projects mentioned by the President said the ban does not harm them. Lindian is planning to process the rare earths into a concentrate before export, which is already the highest possible level of value-addition achievable in the country, while Sovereign Metals will be beneficiating to premium-quality rutile (+95% TiO_2) and graphite (96% C) projects.

There remains another project that we have not yet mentioned: a proposed large-scale bauxite and aluminium project by Malawian company Akatswiri Mineral. The contracting and consulting firm has conducted a feasibility study for a US$820 million aluminium production project, aiming to produce 100,000 t/y of aluminium. The bauxite feedstock would be extracted at a capacity of 580,000 t/y from Mulanje Mountain. The developers say the project would create over a thousand jobs and generate US$260 million/y in revenue. The catch is that Mount Mulanje was declared Malawi's first UNESCO World Heritage site just this year.

The project's proponents emphasize the game-changing transformation the Malawian government itself has been targeting: increased export revenues, job creation, economic diversification, local beneficiation, and green minerals. But do these priorities expiate the potential despoiling of a site considered sacred, tied to local belief systems and cultural practices, and believed to be inhabited by gods, as UNESCO described it?

One of the lowest CO_2 emitters on the planet, Malawi has a chance to expand from a tobacco economy into a hub for green minerals. However, as a frontier market, its room for overly taxing policies is narrow. So is its room for over-permissiveness toward controversial mining development like the bauxite project. Where it strikes the balance, and how the industry responds, will provide an important case study for emerging mining markets. ■

Jean Mathanga

Minister of Natural Resources, Energy and Mining

GOVERNMENT OF MALAWI

"The government of Malawi realises the importance of the mining sector in development and has identified mining as a priority sector within its national development agenda."

How has the mining industry in Malawi grown over the last few years, and what are your projections going forward?

The mining industry has experienced a tremendous increase in mineral exploration; however, extraction and exportation have been steady. This is evident from the constant contribution of the sector to GDP, which has hovered around 1% accounted mainly from extraction and exportation. The increase in mineral exploration is evident from the current status of six main exploration with proven reserves. The projects include Kayisa rutile and graphite project, Lilongwe; Songwe rare earth project, Phalombe; Makanjira heavy mineral sand project, Mangochi; Bwanje cement project, Ntcheu; Kangankunde rare earth project, Balaka; and Kanyika niobium project, Mzimba.

With favourable investment from the aforementioned projects, it is expected that development of these projects to mining stage by 2030 would have contributed to GDP by 10%.

What is the Ministry's strategy to drive investment and development in the sector?

We are promoting sound mining policies and regulations that encourage a win-win situation for investors, providing incentives to mining companies, promoting in-country value addition of minerals to spur job creation and development, and we are attempting to formalize and establish cooperatives for artisanal and small-scale mining (ASM).

Could you update our readers on the regulatory developments, including the ban on raw exports?

Currently, to ensure continued development in the mining sector, the government has issued a waiver and strengthened exportation of samples, value-added minerals and finished products. To ensure adherence to the ban, the government is developing regulations to guide management of mineral exportation.

Different countries have created "National Critical Minerals Lists." What are the most critical minerals and materials for Malawi's future?

Uranium, lithium, copper, aluminium, rutile, graphite, galena, rare earth elements, limestone, nickel, coal, zinc and gold are all critical for Malawi's future.

What are the main bottlenecks the government must address to support long-term growth and value creation in the sector? Could you comment on recent infrastructure developments, such as the Nacala Logistics Corridor?

The main bottlenecks in the mining sector are infrastructure including transportation, energy and support services, limited human capacity including processing engineers, mining engineers, drill operators and exploration geologists; and technology transfer including mineral refining, product development.

Realising the aforementioned challenges, government is implementing several reforms. On infrastructure development the government is promoting Private and Public Partnerships (PPP) to leverage infrastructure development risk and financing. The Nacala corridor is a successful example on transportation development. The rehabilitation and extension of the Nacala corridor has improved transportation of mine products. Currently, Mozambique utilities the corridor to transport coal from Moatize to India. From this initiative Malawi benefits in revenue collection. Furthermore, Malawi has bankable mineral deposits including Songwe rare earth project in Phalombe District and Malingunde graphite project and Kasiya rutile/graphite project in Lilongwe District, which are expected to utilize the corridor. The proposed use of the corridor helped to qualify these projects to bankable feasibility.

On energy development the government is developing the Mpatamanga hydropower plant to reduce our energy deficit. However, the framework for the development of the Mpatamanga hydropower plant designates one third of the power generation towards the mining sector. In addition, the government promotes development off-grid power generation.

What role do you see mining playing in Malawi's economy?

Mining has the potential to significantly contribute to the country's socio-economic growth. In development, mining is a catalyst for industrialization, research and technology. Specifically for Malawi, mining provides raw materials for the construction industry, revenue generation and employment. It is envisaged that mining will contribute to GDP by 10% by 2030.

Do you have a final message for our readers?

The government of Malawi realises the importance of the mining sector in development and has identified mining as a priority sector within its national development agenda. The abundance of mineral resources makes Malawi a good frontier for mining investment. The current bottlenecks also provide opportunities for business. However, it is the government's responsibility to ensure that principles of sustainable development are implemented in the course of doing business in Malawi. I, therefore, welcome all investors to Malawi. ■

Selected Projects in SADC

Image by Tobias Reich by Unsplash

The Thaba Chrome and PGM Project in South Africa

"At Thaba we will treat a combination of historic chrome tailings and run-of-mine (ROM) material, recovering and retaining both chrome and PGMs, which diversifies our revenue and reduces our risk exposure. With a 2-million t tailings dam and significant ROM material, Thaba has the ability to last several decades; Thaba was successfully commissioned in Q4 2025, and we are ramping up to reach nameplate capacity."

Jaco Prinsloo, CEO, **SYLVANIA PLATINUM**

The Selebi and Selkirk Polymetallic Mine Restart Projects in Botswana

"The past-producing Selebi Ni-Cu-Co mines and the former Selkirk Ni-Cu-Co-PGM mine are assets with exceptional scale and grade. The two Selebi mines produced 40 million t in their lifetime. Our plan is to advance these assets in parallel. Today, we are drilling for resource expansion and applying the expertise of global labs to optimize recoveries. At Selkirk, we are re-sampling historic ore for additional elements and running a drilling program to collect metallurgical samples for pre-concentration and flotation studies."

Morgan Lekstrom, CEO, **NEXMETALS MINING**

The Tschudi Copper Project in Namibia

"Since 2022, when CCC was created, we have done extensive drilling and put together a detailed business case, with a total resource of about 51 million t, which gives us between 8 to 12 years of life of mine depending on the cut-off grade. Our hope is to reach the PFS level by April 2026. Tschudi is primarily a leaching operation, but we are doing a trade-off study to look at the possibility of introducing flotation in the future."

John Sisay, CEO, **CONSOLIDATED COPPER CORP (CCC)**

Morgan Lekstrom stepped down from Nexmetals Mining in January 2026.

The Imwelo Gold Project in Tanzania

"Two years ago, we underwent a corporate reshuffling and implemented a new strategy to move towards near-term production. To that end, we acquired the Imwelo asset, an advanced project with a 300,000 oz JORC-compliant resource, fully permitted with a 10-year mining license, and a clean path to production in the next 12 months. By shifting our strategy toward near-term production and cash flow, we have created a solid foundation from which to grow and consolidate other orphan assets in Tanzania."

Simon Benstead, Executive Chairman, **LAKE VICTORIA GOLD**

The How, Mazowe and Redwing Gold Mines in Zimbabwe

"How mine produced 37,000 oz last year, but we are working to ramp up capacity while also advancing exploration to unlock further resource potential. The mine license hosts multiple mineralized zones, both along strike and at depth, presenting significant upside. In addition, the Mazowe and Redwing gold mines together hold 1.2 million oz and 2.5 million oz in total resources, respectively. These assets were placed under care and maintenance between 2019 and 2020, and we are now finalizing a reopening and ramp-up plan targeting a combined 10-year LoM."

Ibrahima Sory Tall, CEO, **NAMIB MINERALS**

The Mumbwa Gold and Copper Licenses in Zambia

"Our exploration has identified gold and copper targets around our Mumbwa license. This district had multiple mines in the 1920s, but activity largely ceased after this. Konige was awarded a mining license to make Dunrobin, an open-cast operation that was rife with artisanal mining and where multiple fatalities have occurred, safe again. Through ongoing brownfield exploration, we anticipate doubling or tripling the resource declared in a previous NI 43-101–compliant report."

Brett du Toit, General Manager, **KONIGE MINING AND EXPLORATION**

SUPPLY CHAIN

"There tends to be an over-engagement in sourcing talent in places like Australia or Canada, but the future of the industry lies in the local communities. The investment should go to the countries hosting the mines and that lack employment prospects."

Nichole McCulloch
Managing Director
STRATUM INTERNATIONAL

Image courtesy of Menar

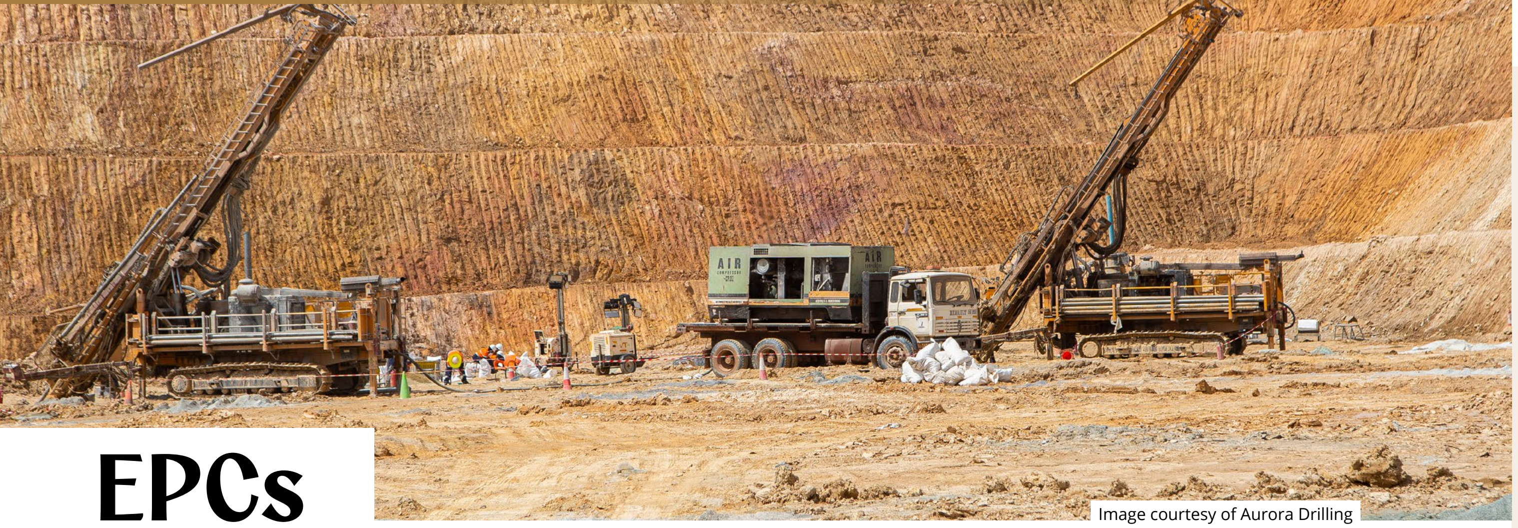


Image courtesy of Aurora Drilling

EPCs

In the era of study complexity

Recent years have been marked by intense study work and tantalizing capital decisions. In the "Mission Critical: Resilient mines for a modern society," ERM found that 60% of capital projects in Africa were being delayed two years ago, a higher rate than in the rest of the world (50%). However, in the second half of 2025, development work reached a palpable tipping point, financing started flowing through, triggering FIDs and moving projects into the execution phase. According to James Smith, the CEO of DRA Global, a large EPC firm headquartered in South Africa: "Many projects experienced delays at the study and funding phase last year, largely a consequence of geopolitical factors, but I believe 2026 will be a *build* year."

As such, 2025 has been very much a *study* year. Mining companies and developers have engaged in avid preparatory work: ample due diligence ahead of transactions; more drilling to inform better resource confidence; conscientious metallurgical testing to prove resources are extractable; a flurry of technical feasibility, trade-off, and optimization studies; and acceleration of the necessary environmental and social assessments (ESIAs). These are all typical steps in a development journey, with two differences: The sense of urgency with which these are run today, keeping pace with a good market, especially for gold, copper and uranium, and the geopolitically driven sentiment around battery minerals. The second difference is in the growing complexity that the sector heads into, bringing EPC partners along with it.

One of the main areas of emerging complexity is the transition underground, a natural evolution in maturing jurisdictions — a bridge that several countries in West and Southern Africa are now crossing. South Africa, with a well-established underground history, can lend expertise in this sense. Companies like Ukwazi, a South African engineering firm, are deepening their capabilities in underground mining in anticipation of greater demand. This year, Ukwazi has launched the Center of Excellence for underground mining, putting together expertise in mining methods like massive mining and sublevel caving.

A combination of factors, including a higher commodity price environment, the unavailability of easy-to-mine, simple-metallurgy deposits, and the incremental demand for critical minerals, is leading the industry to more complex

138 >>

Insights

Processing Can Make or Break a Project

"Early testwork is key. We have seen many cases of enormous amounts of assaying and drilling, only for the metallurgical tests to show the ore was too complex to treat, rendering the project unfeasible. Junior companies should tick that box very early on to ensure the deposit is not refractory or too difficult."

Damian Connelly, CEO, **METS ENGINEERING**

"One effective strategy is to build flexibility and scalability into a project. Instead of starting with a large plant that requires significant upfront capital, begin with a smaller, more affordable plant that can be expanded later. Once the project is generating revenue and cash flow, financing future expansions becomes much easier."

Reuben Joseph, President, APAC/Africa, **AUSENCO**

"We place a lot of value on information engineering - the way technical information is planned, structured, validated, and integrated across a project. That is why we like to be involved in feasibility study work and project evaluation work to the maximum extent possible, because that is when you can really take the time to map out your execution approach or come up with the best mousetrap, the best technical solution."

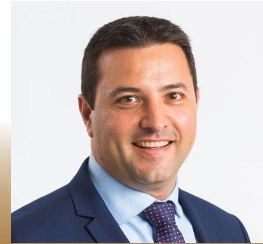
Peter De Leo, Managing Director and CEO, **LYCOPODIUM**

"One of the critical success factors is an appropriate design before rushing into execution. There is a lot of pressure today on time-to-market, but companies should not skip study steps for the sake of speed because mistakes will creep in, leading to inefficiencies and increased costs."

Spencer Eckstein, Chief Operating Officer, **UKWAZI**

Christo Croeser, Director,
RESULTANT CONSULTING ENGINEERS

"With gold at a record high, mines are now considering portions of the resource previously thought to be unviable. This means extending pits closer to plants, mills, and other areas not previously envisioned as part of the pit."



Lourens De Koning, COO,
FRASER ALEXANDER (FA)

"We certainly see a big drive internationally for the reclassification from waste to resource, including government funding and the participation of universities in in-depth studies to determine what is waste and what still holds value."

<< 136

ore bodies, that are not just deeper, but also polymetallic deposits as well as refractory ores or very low-grade ones. Moreover, some commodity spaces are intrinsically more challenging, such as REEs: "Nowhere is this complexity more pronounced than in the REE space, where flowsheet design and engineering take on a new dimension. Here, the task may involve liberating five or six separate products, many of which may never have been produced at industrial scale outside of China," said James Smith, the CEO of DRA Global.

While developers will be tempted to present investors with projects of extraordinary scale and appropriately attractive economics, the independent engineers receiving these projects on their desks may have to moderate such expectations, understanding that what looks good in an Excel file or investor presentation may not be the most feasible or fundable plan under the ground. On the topic of avoiding 'Excel economics,' Reuben Joseph, president of APAC and Africa at Ausenco, a global engineering firm, said: "We see it all the time, especially when the grade of a project is low and you need volume to make the project financially viable... At Ausenco, we offer in-house financial modelling to determine the optimal size and scope of a project, ensuring it can realistically be funded given the company's market cap, commodity, location, and broader market conditions. All these aspects and more will drive the decision around project size. It's not just about chasing the highest NPV or IRR in Excel; it's about what the market will realistically fund, so you need to find that sweet spot."

Beyond identifying the most suitable scale—which sometimes involves starting from a lower-capacity plant before ramping up—the processing flowsheet is another key differentiator. Damian Connelly, the CEO of METS Engineering, a specialist in mineral processing, said: "Processing can make or break a project."

Engineering firms in charge of the flowsheet design, especially in more complex projects where the grade is particularly low, where several metals have to be released, or where the resource model follows an intricate structure, must start with the ore body and work backward, integrating several disciplines in the process and clearing out any fatal flaws.

Other areas of emerging complexity stem from the growing integration between mining and battery production, as more companies are looking to tap into the higher-purity, metal precursor markets, but also the return to historical resources, previously neglected ore bodies, mines that have been put on care and maintenance and deemed subeconomic, and even tailings that contain valuable resources at current prices. The trend is helped by technological innovations. For instance, Minrom Consulting, a specialist in geological modelling and known for its expertise in resurrecting old mines, uses integrated geology, 3D geological modelling, geo-metallurgical modelling, and mine planning and scheduling. The company is also integrating AI modelling tools to analyse complex geological datasets and predict exploration targets. That offers a new, modern lens to evaluate old information and resources.

The economic borders of resources are not only redrawn in formerly subeconomic underground deposits or mine dumps, but also within the perimeter of existing operations. Resultant Consulting Engineers, a South African firm specialized in structural engineering (particularly shaft integrity inspections), has been engaged by several clients to determine how close to communities or critical infrastructure mine pits can be extended. The company has worked on a major project to bring an open-cast pit just 20 m from the milling structure. According to its director and founder, Christo Croeser, some mine plans encroach on areas where entire staff villages have been built and now require relocation.

That trend raises another question: Engineers are not just responsible for designing for feasibility or fundability, but also, within that realm, for projects that will be acceptable to the community. According to SRK, a leading engineer, ESIAs have become more comprehensive documents that do not solely include mitigation plans for environmental and social impacts, but also contingencies on how to prevent these impacts in the first place. Considerations have extended far beyond carbon management, to mine closure and rehabilitation, and these considerations start from the mine planning stage, according to Vis Reddy, chairman at SRK South Africa & regional coordinator for Africa.

Vis Reddy, Chairman, South Africa & Regional Coordinator (Africa), **SRK GLOBAL**

"The conversation on sustainability now extends across the full mining value chain and, as engineers and scientists serving the mining sector, our role is to bring sustainability into the discussion at the mine planning stage."

Technology has an answer here too. Climate modelling software allows engineers to run scenarios on specific climate events. Wood, a global engineer, proposes going even further by using Virtual Reality (VR) to offer local stakeholders a fly-through of the project and give them a sense of the scale of the operation. "In many communities, people might be familiar with small-scale or artisanal mining, but not the scale of industrial projects, which makes large projects intimidating or misunderstood. Tools like virtual or augmented reality can help bridge that gap and improve engagement. A small investment upfront in that space can pay off significantly," explained Alan Langridge, senior vice president for mining and minerals in APAC & EMEA, at Wood.

Once moving into a construction and operations phase, contractors, especially foreign contractors, are expected to play a direct role in the local ecosystem, especially through training. This has become a prerequisite to winning the work in the first place, and only after demonstrating that their services could not be carried out by a local company. Byrnecut, an Australian firm, was recently awarded the contract for the CMA development at the Yaouré mine for Perseus Mining – the first underground project in Côte d'Ivoire. As a specialist underground contractor, there is no surprise that Byrnecut was awarded the contract in a country with no prior underground expertise. The Australian company is, however, expected to pass down that knowledge.

Greg Jackson, the managing director of Byrnecut International, thinks training, as a Registered Training Organization (RTO) in Australia, is the company's biggest strength: "Typically, we begin a new operation with a larger expat percentage, but we start looking for local employees almost immediately so we can begin transferring those jobs. This model makes sense not only for creating local jobs but also for reducing costs, because flying an expat across the world is expensive, and we want to remain competitive."

Meanwhile, in the open-pit segment, Côte d'Ivoire is also seeing the rise of several local and regional champions. De Simone, a Ghanaian contractor with over 60 years of experience, is working on six different Ivorian mine sites after expanding to the country in 2024. Federico de Simone, director at De Simone Group, said the type of projects they have taken – for majors like Endeavour Mining and mid-tiers like Allied Gold and Fortuna Mining – were probably targeted at multinationals, but De Simone proves a local firm can deliver them at the highest standards.

Regardless of the pressures on international players, local companies certainly have more on their plate.

In Zambia, where local content has only just made its way into law, companies like Scirocco Enterprises, a contractor supplying aggregates, have been exposed to market volatility, unfair competition, and corrupt practices in the public sector, which it no longer serves today. Scirocco started in 1981 and became the largest integrated building material suppliers in the country. During the construction boom of 2008, many contractors got burned. "In 2010, a new government turbocharged plans for infrastructure, and this was the pivotal time we got involved in road work. You would have someone with a US$50 million contract who came to buy materials from us, only they had no equipment or idea of how to start the project, so they would ask us to do the first kilometres of the road so that the President could come and cut the ribbon. It later transpired that everything was done corruptly and inefficiently," said Moustafa Saadi, director at Scirocco Enterprises.

Scirocco mostly engages in civil works, but has also worked in mining, at the Munali nickel mine and the Maamba coal mine. However, Saadi said it is difficult to gain the attention of mining companies. Chinese companies tend to dominate the mining and roadworks markets, while block making has been taken over by Turkish companies, which, according to Saadi, often operate at questionable standards. Saadi said: "A lot of the politics behind local content laws is smoke and mirrors, as there are many ways around it. You can get somebody who is local but has no capacity, so he will bring in a Chinese company to do the work while he acts as the frontman. It remains to be seen how rigorous the implementation will be."

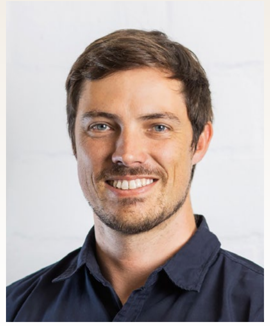
Drilling and Blasting: Location privilege

For Capital, one of the largest drillers on the continent, 2025 closed with a bang. The company upgraded its revenue guidance from US$300–320 million to US$335–350 million during the year, and raised £31 million in equity to finance its next growth stage. André Koekemoer, the general manager for Africa, said he has not seen a boom like this in a decade.

With utilization rates at near maximum, drillers are careful where they place resources. A company with a presence across the continent, like Capital, has the ability to follow its clients and capitalize on the boom – for in-

141 >>

EXPERT OPINION ARTICLE



Unlocking Hidden Potential

A case study in mineral project development

By Graham Duncan, General Manager and Principal Geologist,
MINROM CONSULTING

"Unlocking the intrinsic value of mineral projects, particularly those with complex histories or overlooked potential, requires a holistic thinking framework."

Unlocking the intrinsic value of mineral projects, particularly those with complex histories or overlooked potential, requires a holistic thinking framework. Fields like data collection, geological modelling, statistical probabilities, mineralogy, beneficiation, and mining engineering are essential to mining, yet they often remain isolated with specialists working in field-specific silos. However, by combining these disciplines from the earliest stages of a project we can transform critical aspects of mine development, incrementally boosting a project's NPV.

A recent project on a complex polymetallic deposit – focused on battery metals – presented a classic scenario where decades of exploration had yielded promising but inconclusive results. Previous attempts at resource estimation and development struggled to reconcile the geological complexities with a viable mining plan. Our involvement aimed to bridge these gaps and provide a robust foundation for future investment.

The Foundation: Precision Geological and Structural Modelling

One of the initial challenges with this particular deposit stemmed from an incomplete or oversimplified understanding of its underlying geology and structure. While historical work provided foundational insights, the true architecture and style of mineralisation, influenced by a complex interplay of volcanic and sedimentary rocks and multiple phases of deformation, was not fully captured.

Our approach was to construct a detailed 3D explicit geological model. This involved meticulously interpreting lithological units, alteration zones, and – critically – the structural controls on mineralisation. We identified and modelled significant fault zones that had displaced and remobilised the ore, creating intricate geometries – something the previous implicit models failed to capture. To ensure accurate resource estimation, we even developed a process to systematically 'unfault' the geological model, allowing us to estimate grades in a more geologically logical space before returning the estimates to their true spatial positions.

The Link: From Geology to Beneficiation and Metallurgical Domains

With a robust geological model in place, the next critical step was to understand how this intricate geology would influence the processing of the ore. Initial metallurgical classifications on such polymetallic deposits often simplify ore types into 'zinc-rich' or 'copper-rich' or 'oxide', 'sulphide' and 'transitional' categories. However, this project revealed a more nuanced reality.

Through extensive beneficiation testwork and detailed mineralogical analysis, we discovered that the orebody contained distinct metallurgical domains directly related to its oxidation state in conjunction with its alteration state. Our analysis showed that these characteristics often correlated with certain generations of fault zones that we had modelled. This insight allowed us to move beyond simple grade-based classifications and define sophisticated metallurgical domains. This integration of geology, resource estimates, and beneficiation test provided the crucial understanding that different ore types required distinct processing methods – a critical piece of the puzzle for the project's future.

The Game Changer: Geometallurgical Modelling for Economic Mine Planning

The culmination of this integrated work was the creation of a geometallurgical model. By applying our refined metallurgical domain classifications directly to the 3D block model, we could spatially delineate where each ore type existed within the deposit. This meant we had a dynamic 3D map of the orebody that not only showed metal grades but also the orebody's unique processing characteristics.

This level of detailed understanding was a game changer for economic mine planning. With a clear picture of how different ore types would respond to processing – as well as where they are spatially located – we could generate optimised pit shells that accurately reflected the Reasonable Prospects for Eventual Economic Extraction, incorporating specific metallurgical recoveries and processing costs for each ore type.

In essence, by treating the orebody not just as a collection of grades but as an integrated geological, structural, and metallurgical system, Minrom was able to unlock substantial value from this asset. Our multidisciplinary expertise, particularly in crafting a comprehensive geometallurgical understanding, provided a robust foundation for strategic decision making, transforming mineral potential into tangible economic value. ■

<< 139

stance, it now serves AngloGold Ashanti in Egypt, where the major bought the Sukari mine from Centamin. Drilling hotspots, like Zambia, Côte d'Ivoire or Namibia, are becoming more competitive as these leading contractors follow activity closely. This has crowded out the local drillers, which do not have the same ability to move where demand is.

A local driller is limited by several factors. Local financing, a regular hindrance, limits a small driller's ability to invest in new machinery to respond to growing demand. Tied to a specific location, a local driller is also subject to weather-related seasonality: in most of Central and West Africa, exploration activity drops during the rainy season.

Market cyclicality presents a different type of seasonality. During a high cycle, junior explorers may opt for the more premium services of an international drilling partner. Capital has noted this trend. While 90% of its drilling revenue currently comes from mine sites, the company is now also onboarding more juniors, with seven new contracted in 2025. "Juniors today need good results to put together JORC-compliant resources, and that pushes them into the quality bracket that Capital is known for," said Koekemoer.

The local drilling sector is also up against a growing trend among junior explorers to invest in their own drill rigs. Aurum Resources operates 12 rigs at its flagship Boundiali project and two others at Napié. With 14 machines in operation, the company targeted 130,000 m of drilling between the two projects. Other companies have opted for the same model, which they see as both faster and more cost-effective. In Namibia, Aldoro Resources, a REE explorer, bought two DD rigs from China, enough to ensure it does not have to wait around for drilling capacity to become available, especially since Namibia is a 'hot market' due to its resurging uranium sector and activity across multiple other commodities. In Zambia, Konige Mining and Exploration has three DD, two RC, and one AC rig. "This is the most cost-effective and efficient way to advance... It is difficult to source a rig quickly enough with so much exploration development underway in Zambia," said Brett du Toit, general manager.

In this context, a company like Blu Rock, a local driller with a capacity of 14 drill rigs across Zambia and the DRC, has experienced volatility and increased competition. Its goal is to secure longer-term contracts to stabilize cash flow. For those local players with the ability to expand to new markets, the time could not be better. Expanding outside of Burkina Faso, Aurora Drilling, a company that transitioned from Canada's Orbit Garant Drilling to a 100% local company in 2023, is looking to grow in Ghana, Guinea and Côte d'Ivoire in 2026.

In the explosives and blasting space, different markets call for different levels of local presence. While in West Africa, explosive providers play on a more neutral ground because there are no nitrate facilities in the region, meaning all products need to be imported, in the SADC region it is almost impossible to be competitive without access to nitrates.

When Enaex, the world's third-largest explosive company, entered Africa in 2020, it did so by forming a JV with Sasol South Africa. Today, the Chilean company is a Level 1 triple-BEE-compliant business in South Africa, with direct subsidiaries in South Africa, Lesotho, Botswana, Namibia and Zambia. In Zimbabwe, Tanzania, Angola, Ghana and the DRC Enaex exports ammonium nitrate and cartridged emulsions. "The local footprint is critical because Africa's supply chains are notoriously challenging, and in mining, security of supply is non-negotiable. By being on the ground, we've built resilience by expanding storage, managing imports effectively, and keeping commitments even through long regional ammonia shutdowns," said Francisco Baudrand, the CEO of Enaex Africa.

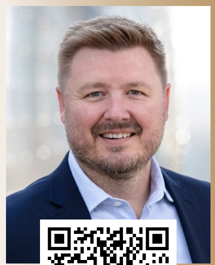
Dyno Nobel, another company that has furthered its presence in the African mining blasting sector through its acquisition of Titanobel, also puts supply chain stability at the center of its growth strategy. The company has established hubs for different regions, such as West Africa and East Africa, and it also has a 50:50 JV with Sasol and AECI in South Africa. This year, Dyno formed a JV with Kilimanjaro Explosives Company Limited in Tanzania. The company is exploring similar partnerships elsewhere in Africa.

Local participation can go beyond supply chains. In West Africa, Orica chose Ghana to run its largest Safe and Efficient Blasting course in the world. According to Laurence Goodacre, VP Africa, the course is both a way to localize expertise and to provide a platform for customers to share feedback on the challenges they face. This shows localization can take place in new forms beyond supply chain integration and JVs. ■

Insights

Drilling and Blasting

Innovation in Blasting and Explosives



"The need for precision and predictability is everywhere, not just because the industry is moving into more complex ore bodies, but also when it comes to community interactions, to reduce things like vibration and fly rock."

Trevor Roberts, GM Africa Mining, **DYNO NOBEL**

"One of our newest innovations is the 4D bulk explosives system that helps customers adjust explosive energy in real time, resulting in better outcomes in the blasting process, from better fragmentation to better vibration management."

Diego Vallim, VP, Europe, Middle East and Central Asia, **ORICA**

"Our dual-salt formulation of ammonium nitrate and calcium nitrate is already one of the most environmentally friendly options on the market, but we are not stopping there. Our aim is to keep offering alternatives that take the industry further away from nitrates altogether."

Ralf Hennecke, Managing Director, **BME**

Drilling Momentum

"What we are seeing today is probably the biggest boom in the last decade. Our current utilisation is strong, and we are at a point where we can only respond on a first-come, first-served basis to requests."

André Koekemoer, General Manager, Africa, **CAPITAL LIMITED**

"Most of the work we secured consisted of short-term contracts. Our priority now is to secure longer-term contracts, because the nature of the business has become more competitive and more crowded."

Kris Jedrzejczyk, Managing Director, **BLU ROCK MINING SERVICES**

"Mining and drilling companies are under pressure to modernize, and the rise of AI is accelerating this shift. At the same time, a younger, tech-savvy generation of professionals is moving into leadership roles and driving digital uptake."

Chipego Kasimbo, Regional Lead, EMEA, **COREPLAN**

Image courtesy of Crossboundary Energy

Power

A solar revolution

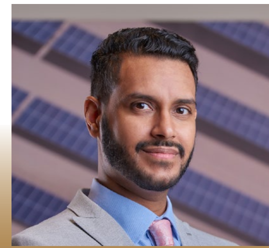
"The historic drought that affected Zambia last year was God's sign that we need to diversify our energy mix," said Paul Kabuswe, Zambia's Minister of mines and minerals development, during an interview with GBR. Like other countries in Africa, Zambia's increased adoption of solar energy sources has less to do with preference than with necessity. Low electrification rates, protracted power blackouts, or climate events like the drought that incapacitated Zambia's hydropower-based grid, are the sort of real-life drivers for alternative energy sources on the continent. These factors, interpreted sometimes as divine signs, have convinced African governments to deregulate the energy markets, allowing for the entry of new actors offering both on-grid and off-grid solutions. In parallel, the declining costs of photovoltaic (PV) modules and the sheer scale of opportunity in Africa, with 600 million people living without electricity in the region, are pointing to a most-necessary energy revolution.

According to Ember, a global think tank, 20 countries in Africa set a new record for solar panel imports between June 2024 and June 2025, during when imports from China, which is the main producer of photovoltaics, increased by 60%. This year, the continent's total operational solar PV capacity reached 20 GW for the first time, wrote PV Tech.org. Measured against the total power gap of around 250 GW, solar's influence remains limited, but its potential is deemed 'almost unlimited', as described by the African Development Bank. In the continent with both the highest levels of solar irradiance and the lowest electrification rate in the world, development experts place hope on solar energy as the biggest chance of closing the electricity gap. This article will explore how solar energy, especially distributed, off-grid solutions, are revolutionizing energy access in Africa and what this trend means for the mining sector.

First, rapidly declining costs of PV and battery energy storage systems (BESS), which have in turn driven the uptake of solar, mark a revolution in

Brian Muriuki, Managing Director and Country Chair Ghana, **SHELL**

"To incentivize the scaling up of renewables, a good starting point is to strengthen fiscal incentives, including reducing import duties on renewable technologies such as solar panels; that would encourage market participation and improve the overall ease of doing business."



Ahmed Mulla, Deputy CEO, **INFINITY POWER**

"Sceptics point out that power will stop when the sun is not shining or the wind is not blowing, and as such the technologies cannot be relied upon, but thanks to modern storage systems, renewables are now competitive with conventional power sources."

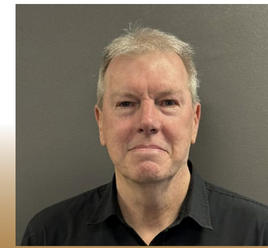
themselves. Over the past 20 years, the CapEx for PVs has decreased fivefold, from around US$3.5 million/MW to roughly US$700,000/MW, according to Ahmed Mulla, deputy CEO of Infinity Power, a renewable power provider that supplies mostly governments and utilities. Unlike fuel-based energy systems, which rely on depletable resources like coal or gas, renewables are essentially technological devices, hence following the rules of economics of scale. The more a technology is replicated and built at scale, the more affordable it becomes. That shift is unprecedented in human history and most transformational in Africa, notes Matthew Tilleard, the CEO of CrossBoundary Energy, an energy supplier: "A fuel-based system is monolithic, centralized and scarce, whilst a technology-based energy system is modular, distributed and infinite. The shift is particularly advantageous in Africa, where centralized energy systems have historically been unable to serve many businesses and individuals who need it."

For the mining sector, the transition to a technology-based system means an affordable and cleaner alternative to the notoriously expensive diesel and HFO plants used to back up or replace unreliable or nonexistent grids. As PV technology evolves, the industry can enjoy more powerful modules that use less space and have longer lifespans. JA Solar, an OEM producing solar PVs and BESS systems, has recently inaugurated its DesertBlue module, designed for harsh, desert-like environments characterized by high temperatures, strong winds and heavy dust. "DesertBlue features an anti-dust, self-cleaning nanocoating that helps with dust and humidity, has abrasion resistance to sand and the speed of the wind that creates sandstorms, as well as a reinforced frame and enhanced thermal stability. The use of this module ensures lower CapEx and OpEx for projects in desert and semi-arid regions, making them ideal for utility-scale projects and mining operations in countries such as Niger, Mali and Mauritania," said Ndèye Amy Ndiaye, head of sales at JA Solar West Africa.

The second revolution entailed by solar, which has not escaped Tilleard, is the shift from a monopolistic system centered around one supplier, typically the national utility company, into a pluralistic one, where new actors, including independent power producers (IPPs) like Infinity Power and CrossBoundary Energy, emerge, alongside traders and financiers. In Zambia, the energy crisis revealed the limits of a traditional, single-buyer model, according to Wezi Gondwe, managing director at GreenCo Power Services, the first energy trader registered in the country: "Since the recent drought and ensuing generation deficit, we have seen private players taking an increasingly important role in securing available power in the region and cushioning the very severe crisis. Private players like ourselves have implemented both short-term measures, like importing power either on a bilateral basis from other markets or utilities in the region, as well as trading on the competitive markets, and longer-term solutions through a pipeline of projects underwritten by traders to ensure Zambia will continue to shore up domestic generation for the months and years to come."

In a project like Chisamba, one of the largest grid-connected solar projects in Sub-Saharan Africa, at least five partners were involved: GreenCo, as the trader or aggregator; the state-owned utility company, Zesco, along with the Kariba North Bank Extension Power Corporation (KNBEPC), which is a Zesco subsidiary; First Quantum Minerals, as the buyer or offtaker on a 10-year committed period; Stanbic Bank of Zambia, as the lead financier; and Power China, the EPC on the ground.

The ability to source energy from private generation not only frees mining companies from dependence on the grid, but also from the competition for power with other energy users, which has historically bred resentment in energy-scarce countries. Instead, a large-power user like a copper mine can complement the grid with its own power solutions, even redistributing unused power to the surrounding community. More than that, the cost of electricity is becoming more competitive. For instance, by procuring power directly from IPPs on individ-



Brett Kimber, CEO, **EAZI ACCESS**

"I personally see a runway of another 20 years of energy investments in South Africa alone. We are partnering with these new energy investors and with mines with lifetimes between 30 to 100 years."

Manoli Yannaghas, Founder and Managing Director, **VOLTVISION**

"It has taken our customers time to understand how our solutions can be tailored to specific contexts, like reducing power consumption or improving power quality. As we continue to expand, we are learning about each country's unique requirements."

ual contracting terms, mining companies in South Africa are no longer obliged to accept the tariffs imposed by Eskom, the national utility.

A third major transformation is that power consumption becomes decentralized because it is no longer restricted to giant, bespoke plants connected to a grid. In a traditional fuel-based energy system, the most efficient way to go about building new capacity would be to make large plants, such as coal-fired plants, delivering to thousands of customers. Meanwhile, with solar, it is not necessarily cheaper on a unit-cost basis to build a 1 GW system than it is to build a 1 MW one. This is why solar facilities can range from a couple kW, a few PVs installed on a roof, to several GW. This freedom to create capacity at the site of consumption, based on the unique needs of that site, transforms the way in which energy is consumed, from a central pipe to millions of nodes of generation, storage and consumption. This is most important in Africa, where even where you have capacity, the lack of grid connectivity is a huge hurdle. Also, solar facilities can be installed within months rather than years, and they can be scaled up, much like a lego to which you add more pieces.

In fact, this is one of the main reasons why wind power has not taken off the way solar has, at least not in Africa. Wind generation plants require the kind of scale typical of traditional fossil-fuel facilities. That makes wind sources as cumbersome as traditional sources of power, both requiring transmission from the generation center to the demand center. Equally true, a large wind farm is a longer-term and higher-CapEx investment amortized sometimes over decades. Meanwhile, solar is an almost on-demand service that plays ideally to Africa's needs. Nexans, a manufacturer of electrical cables, noted that 55% of new connections between 2020 and 2022 within the sub-region came from off-grid technologies. "This goes to show that these off-grid solutions are faster and more cost-effective, becoming key to closing the electricity access gap, as electrification across the continent remains uneven, with grid access a critical challenge for rural and peri-urban areas," said Alexander Quarcoopome, the CEO of Nexans Kabelmetal Ghana.

The flexibility inherent to solar systems means that mining actors of all sizes can opt for the power solution that best matches their needs. A junior may only need several MW to power the small camp during exploration, while a massive operation could partner with an IPP for a bespoke solar plant at site. The general perception is that solar energy provides complementary, marginal energy supply, while the majority of generation must come from traditional sources. However, huge battery installations can accommodate multi-giga capacity solar plants, like we can see in several solar parks, especially in North Africa. For larger-scale generation at mine sites, IPPs typically work on a build-and-operate model, selling electricity to the mining offtaker, which means the mining company does not need to spend CapEx for its new, clean energy source. For instance, at Kamoa Copper in the DRC, CrossBoundary is building a 200 MW solar and 500 MW battery storage system. In Sierra Leone, the same provider is investing US$60 million in a 33 MW solar, 14 MW battery storage and 20 MW HFO generation at FG Gold's Baomahun gold project, providing the future miner with an off-balance-sheet power solution.

To be able to absorb the capital costs, private energy providers are backed by large financiers. For instance, Infinity Power has the Africa Finance Corporation (AFC), the European Bank for Reconstruction and Development (EBRD), and the Abu Dhabi Future Energy Company (Masdar) among its shareholders. The company is mandated to deliver 10 GW of renewable power in Africa by 2030. GreenCo counts on InfraCo Africa and the Impact Fund Denmark (IFDK) for long-term capital for its PPAs, and CrossBoundary entered a US$495 million guarantee framework with the World Bank's Multilateral Investment Guarantee Agency (MIGA), a facility that could support over 100 energy projects in up to 20 African countries.

The model works because everybody involved benefits from it. ■

Africa's Electrification

Insights from key industry actors

State-owned power authority

"Despite Ghana's high electricity access rate of over 89%, the national grid infrastructure faces several challenges that affect reliability and efficiency. To fully capitalize on the country's expanding renewable capacity, significant investment is needed in grid modernization, reinforcement, and smart energy management systems."

Kow Eduakwa Sam, CEO, **BUI POWER AUTHORITY**

IPP

"The world's entire energy system is being turned inside out, and the potential for the African continent is extremely exciting. Adequate energy supply in this new model is easier and quicker to implement and will unlock growth that will benefit the mining sector most keenly."

Matthew Tilleard, CEO, **CROSSBOUNDARY ENERGY**

Energy trader

"Traders have real skin in the game, putting down risk capital to derisk offtake agreements that we enter into, but also in the operational capability, through both short-term interventions (imports that require a lot of upfront financing) and long-term financing."

Wezi Gondwe, Managing Director,
GREENCO POWER SERVICES (PART OF AFRICA GREENCO)

EPC contractor

"Most of the power generated in the DRC is allocated to the mines, leaving a huge energy deficit for the rest of the population, especially in rural areas, which tend to be the most neglected. Rather than targeting the mining sector, Dev Solaire wants to bring solar solutions to the common people in the country."

Divesh Hassamal, Managing Director, **DEV SOLAIRE**

Solar OEM

"In West Africa, the demand for solar solutions is shifting toward larger, utility-scale projects driven by government programs and private IPPs. At the same time, commercial and industrial customers, especially in the mining and manufacturing sectors, are increasingly adopting solar and BESS to reduce their dependence on unavailable, unreliable, or costly grid power."

Ndèye Amy Ndiaye, Head of Sales, West Africa, **JA SOLAR**

Engine & BESS manufacturer

"The most relevant technology for West Africa in our diverse portfolio of zero emissions technologies is our battery energy storage systems (BESS). Battery solutions enable customers to store green energy and use it as and when required, solving the inherent intermittency of renewable energy solutions."

Patrice Ndzana, General Manager, Ghana & Cross Border West Africa Region, **CUMMINS**

Producer of cables

"Sub-Saharan Africa accounts for 85% of the world's unelectrified population. What is interesting, however, is that 55% of new connections between 2020 and 2022 within the sub-region came from off-grid technologies, including mini-grid solutions and home-solar systems, which are becoming quite popular among the middle classes."

Alexander Quarcoopome, CEO, Nexans Kabelmetal Ghana & BU Leader for Sub-Saharan Africa, NEXANS

Industrial lubricants provider

"We received a request for support from a large Rwandan power generation company that operates MWM gas engines. Dutylex bid against other brands and was able to demonstrate that our products could double the oil drain intervals compared to the lubricants previously in use, resulting in significant cost savings."

Peter Quarm, CEO, **DUTYLEX**

Image courtesy of Neemba

Equipment

New competition arenas

The competitive playing field for Africa's equipment providers has shifted tremendously in the last decade. Former frontier markets, like Côte d'Ivoire, have now become supply hubs, attracting European, American, Japanese, Korean, Indian and Chinese equipment brands and their dealers. Mining players on the continent have plenty of choice. In this competitive landscape, it is not just the best product that wins. Suppliers battle on costs, as well as the availability of local supply, training, and even financing. A metric by which different brands are snap-compared to one another is the total cost of ownership. With buyers approaching large-item procurement in a more holistic way and balancing upfront costs with life-of-mine savings, equipment providers have responded by emphasizing durability, OpEx efficiency and rebuildability.

For example, a Kobelco 22-t excavator will cost US$160,000 in Ghana and is expected to perform for about 25,000 to 30,000 hours, according to PL International, a dealer. That would bring the acquisition cost of the machine to about US$6/hour, making it cheaper compared to alternatives, even if these can be bought for some US$40,000 less. The mining industry, matured in many parts of the continent, is now making these longer-term calculations. What's more, the focus on increasing the life cycle of a machine also translates to more repair and rebuild options, offered by both OEMs and dealers.

Elphinstone, a specialist manufacturer based in Burnie, Tasmania (Australia), has observed a growing interest in reducing the total cost of ownership by extending the life cycle of machines, and is designing with that in mind. Its products, which use the Caterpillar powertrain as a base, can be re-manufactured. Neemba, a Caterpillardealer in West Africa, has also inaugurated a component rebuild center (CRC) in Senegal that was well-received by the market: the CRC is valued for keeping operating costs under control, allowing components to last longer and machines to rely on higher component availability.

Another consideration that has moved to the front of the list in selecting equipment providers is the level of local integration and capabilities. FLS, a full flowsheet provider, has made several big steps in ensuring a stronger local footprint: it acquired Scott Specialized Rubber & Engineering (SSRE) in South Africa, strengthening its consumables portfolio (particularly mill liners) and local manufacturing; it expanded its PU plant in Delmas, where it produces high-quality trommels and screen media products tailored to local markets; and it has added a new service center in Accra, from where it serves the entire West African region.

In the yellow fleet space, Epiroc has also opened a new customer center in Côte d'Ivoire, adding to its existing network in Ghana, Mali and Burkina Faso. In 2026, it plans to open its fifth such center in Liberia. Focused on improving lead times and overall speed-to-market, Neemba established a regional stock center in Abidjan last year, with capacity to store 500 machines and 1,000 generators. The warehouse was a game-changer, according to managing director Adiline Haykal: "From this regional stock hub, we can deliver within seven days to anywhere in Côte d'Ivoire and around 15 days elsewhere in West Africa. Customers highly value equipment availability, especially for urgent projects and fleet expansion; this is also key for contractors that need to deploy very fast."

While deepening their local footprint, both OEMs and equipment distributors are investing in dedicated on-the-ground training facilities. Epiroc West Africa has started an apprenticeship program in the region, and is now considering partnering with East and Southern Africa branches to start a consolidated training academy. FLS, which already has a training academy, partners with local technical colleges and universities, and hosts training for both its own teams and customers. Neemba is launching its academy in Abidjan in early 2026, where 750 technicians will benefit from advanced-level training once this is in operation. In Tanzania, Sandvik, the first large OEM that established a presence in the country back in 1999, will have 60 people graduating in May this year from its training program. According to Sandi Zaranyika, the country's managing director, skills availability is one of the most cited barriers to investment in Tanzania. That is to change as more suppliers focus on the issue.

Another way through which different suppliers manage to stand out from the crowd is financing mechanisms. Financing is a sensitive topic for local dealers, in particular. "When I first learned about Ghana's lending rates, I almost fell from my chair... A few years ago, interest rates were 10 times higher than in Europe. To pay for that level of interest, businesses would need to have a minimum IRR of 70%," said Pravin Garle, country manager Ghana at PL International, a Kobelco dealer.

Warren Young,
Managing Director,
ELPHINSTONE

"Record-high gold prices and the gradual transition into deeper mining are spurring demand for production machinery, while support equipment tends to be a secondary consideration. Yet, the wrong piece of support equipment can have significant operational impacts."

A 70% IRR is highly unlikely in a relatively tight-margin space. Local dealers are often light on cash, yet many still take the plunge to help their customers, especially small contractors, through deferred payments. For instance, independent procurement firm Elantra Procurement offers up to a 40-day payment term to clients, whereas OEMs would typically require upfront payments. An even greater help comes from equipment suppliers offering their own financing products. Neemba, for instance, provides both larger-ticket financing solutions through CAT Financial, as well as dedicated retail financing for smaller and retail customers. Its COFIMBA solution is particularly geared toward SMEs looking to buy one or two machines and which cannot access traditional financing. PanAfrican Equipment, a Komatsu distributor in West and East Africa, started its own finance company 12 years ago to support local contractors, acting "almost like an incubator," according to Scott McCaw, the CEO.

While PanAfrican manages deals between US$1 and US$5 million, above that point it will bring the OEM financing, Komatsu Finance to the table. PanAfrican also works with third-party finance providers, one of the most specialist being Loinette Capital, which offers niche, asset-based finance solutions to dealers and their end customers across Sub-Saharan Africa. "Getting finance for either one machine or more than 20 machines is usually feasible, with the smaller loans usually picked up by local banks and the large ones by the big international finance companies. However, that in-between range of more than one but fewer than 20 machines is very tricky. Contractors, and consequently their OEM dealers, are caught in that gap," said Derek Crandon, managing director of Loinette Capital.

A takeaway from the insights provided by our interviewees is that equipment provision is becoming more service-centric: supply, maintenance, technical services, parts availability, and training are as important, if not more, than the product on offer. Equipment providers are expected to offer a more complete solution, tailored to the particularities of a site and the needs of a customer—whether their needs are to lower emissions, abide by local content laws, or reduce total costs. To be able to offer these total solutions, strong technology must come to hand.

PanAfrican Equipment offers simulation models, continuous improvement programs (including flying drones to map out the units in operation), and inventory planning tools, as part of its so-called 'application support' suite of solutions. Condition monitoring, predictive maintenance, collision avoidance, fleet management systems, and fatigue monitoring systems are all becoming standard features in the equipment now offered. According to Wenco, a leading provider of fleet management, interest in technologies like fleet management is no longer confined to tier-one mining sites, with interest spreading to a broader range of companies that realize the material benefits of adopting such technologies. ■

Beyond Price

How do equipment providers differentiate?

Safety first

"SmartCap is the only EEG-based fatigue monitoring system capable of detecting impairment in real time before micro-sleep happens. Fatigue causes 65% of haul truck accidents in mining, so we are focused on providing the definitive solution to mitigate this risk."

Helgardt Van Heerden, EMEA Regional Manager, **WENCO INTERNATIONAL MINING SYSTEMS**

Life-of-mine comprehensive approach

"We are proud of the Life of Mine Booster, a comprehensive, data-driven methodology designed to elevate a mine's financial, operational, and sustainability performance over its entire lifecycle. Rather than focusing on near-term gains, it aligns strategic planning and execution to deliver sustained value."

Bernard Kaninda, President for Sales & Services in Africa, **FLS**

Digital package as standard

"We have developed a digital dashboard, which we plan to roll to our dealers to assist with proactive service and parts planning. We have also launched an online parts system and a dealer support portal, all designed to make it easier for our dealers to engage with us."

Ashley Bell, CEO, **BELL EQUIPMENT**

New competition dynamics against Chinese brands

"Over the years, Chinese manufacturers of heavy machinery and mining equipment have upgraded the quality of their products, so Western brands have had to adjust strategy: While Chinese brands improve on quality, competitor brands are lowering the quality of their products for Africa."

Axel Chasme, Director, Mining Division, **LIUGONG**

Local content realities

"The ability to repatriate funds has become increasingly difficult, and with governments exercising greater control over forex payments, cash flow has emerged as one of the biggest challenges. What were traditionally 30-day payment cycles are now frequently stretching to 60 or even 90 days."

Mpande Simumba, Director, **ELANTRA PROCUREMENT**

Electrification comes gradually

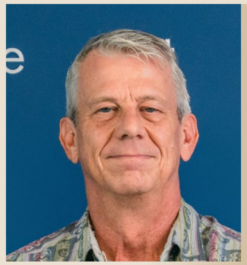
"To address infrastructure constraints, an interim step before full battery electrification are our E-drive machines, including the Minetruck MT66, which has been redesigned to feature an electric drivetrain powered by the strongest engine among our underground mine trucks."

Shaiful Ali, Regional General Manager West Africa, **EPIROC**

Training at the forefront

"We will inaugurate the Neemba Academy in Abidjan in early 2026. We recognize that some of the people we train will be poached by competitors or mining companies, but our ambition is broader: we want to help close the gap in local technical skills."

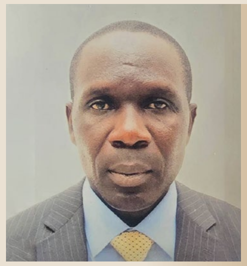
Adiline Haykal, Managing Director, **NEEMBA**



Focus on long-term partnerships

"Rather than just showing up for a tender, we have built long-lasting relationships, sought to understand the projects early, and supported where we could throughout all stages of development, even if it was unrelated to Panafrican."

Scott McCaw, CEO, **PANAFRICAN EQUIPMENT GROUP**



Free trials as a market entry strategy

"Something that has helped us stand out is offering free trials to mines. Through the power of demonstration and building trust, Rock Tech is the preferred conveyor belt solutions provider for most mines in Zambia. Now we are replicating this success to Angola, Rwanda, and the DRC."

Alick Musole Mukuma, Chairman, **ROCK TECH**

Automation as a skills-development opportunity

"We emphasise that automation is not about job reduction. The job evolves rather than disappears. Given South Africa's unemployment challenges, automation creates opportunities for reskilling, enabling workers to remain part of the mining value chain in safer, more productive roles."

Kevin Reynders, Managing Director, **RHAM EQUIPMENT**

Governments, Associations and other Institutions

- Australia-Africa Minerals & Energy Group (AAMEG)
- AfCFTA
- Department of Mineral Resources and Energy (DMRE) - South Africa
- Minerals Council South Africa
- Ministry of Lands and Natural Resources - Ghana
- Ministry of Mines and Mineral Development – Zambia
- Ministry of Mining Malawi
- Namibia Investment Promotion and Development Board (NIPDB)
- Tanzania Chamber of Mines
- The Ministry of Petroleum, Energy and Renewable Energies - Ivory Coast
- World Gold Council

Financing

- African Development Bank
- Appian Capital
- Ghana Commercial Bank
- Johannesburg Stock Exchange
- La Mancha
- Loinette Capital
- London Stock Exchange
- MX Mining Capital Partners
- Rand Merchant Bank
- Standard Bank
- Toronto Stock Exchange
- United Bank for Africa
- US International Development Finance Corporation (DFC)
- Wheaton Precious Metals
- World Bank
- Zanaco

Juniors and Producers: Gold

- African Gold
- Akobo Minerals
- Allied Gold
- Ariana Resources
- Asante Gold Corporation
- Asara Resources
- Aurum Resources
- Awale Resources
- Barrick Mining
- Endeavour Mining
- FG Gold
- Fortuna Mining
- Kinross
- Kobo Resources
- Koulou Gold
- Lake Victoria Gold
- Marvel Gold
- Namib Minerals
- Newcore Gold
- Newmont
- Oriole Resources
- Pasofino Gold
- Perseus Mining
- Roscan Gold
- Theta Gold Mines
- Thor Explorations
- Toubani Resources
- TRX Gold
- West Wits Mining
- Zodiac Gold

Silver

- Aya Gold & Silver

PGMs

- Ivanhoe Mines (Platreef)
- Sylvania Platinum
- African Rainbow Minerals

Copper

- Consolidated Copper
- Chillerton
- First Quantum Minerals
- Ivanhoe Mines
- Konige Mining
- NexMetals Mining Corp
- Orion Minerals
- Prospect Resources
- Zamare Resources

Uranium

- Bannerman Energy
- Atomic Eagle
- Deep Yellow
- Elevate Uranium
- Lotus Resources
- Paladin Energy

Iron Ore

- African Rainbow Minerals (ARM)
- Gerald Group (Marampa Mines)

Bauxite

- Compagnie des Bauxites de Guinée (CBG)
- Forward Africa Group

Lithium

- Atlantic Lithium

REE

- Aldoro Resources
- Harena Resources
- Lindian Resources

Manganese

- Jupiter Mines
- Musamu Resources

Graphite

- Falcon Energy Materials
- Syrah Resources

3Ts

- Trinity Metals

Diamonds and Gemstones

- Lipari Mining
- Gemfields

Coal

- Jitegemee Holdings
- Maatla Resources
- Menar

Engineering and Consultancy Firms

- Above Ground Advisory
- Accenture
- Afrika Kazi
- Aldelia
- Ausenco
- BDO
- Boston Consulting Group (BCG)
- CLC Solution
- Deloitte Ghana
- DRA Global
- Elba Afrika
- ERM
- Insuco
- KPMG Ghana
- KPMG Zambia
- Lycopodium
- METS Engineering
- Minrom
- Oschems
- PwC Ghana
- Qubeka
- Resultant Consulting Engineers
- SEMS Exploration
- SRK
- Stratum International
- Sutton Global
- Ukwazi
- Wood

Explosives and Blasting

- BME
- Dyno Nobel
- Enaex
- Orica

Drillers

- Aurora Drilling
- Blu Rock Mining Services
- Capital

Drilling software

- CorePlan

Contractors

- Fraser Alexander
- Byrnecut
- De Simone
- Scirocco Entreprises

OEMs

- Bell Equipment
- Eazi Access
- Elphinstone
- Epiroc
- FLS
- LiuGong Machinery
- Loesche
- Rham Equipment
- Sandvik

Dealers

- DumaSpeed
- Dutylex
- Elantra Procurement
- Lynx Supply Services
- Neemba
- PanAfrican Equipment
- PL International
- RockTech Zambia

Fleet Management Sytems

- Wenco

Logistics

- Adhira Shipping & Logistics
- Africa Global Logistics (AGL)
- Offshore Freight
- Poliedro

Energy

- Africa GreenCo
- Bui Power Authority
- CrossBoundary Energy
- Cummins
- Dev Solaire
- Enabler
- Infinity Power
- Ja Solar
- Nexans
- Shell
- VoltVision

Law Firms

- CRB Legal

Telecommunications

- Vodacom

Security

- Gardaworld

Editorial and Management Team

Lorena Postelnicu-Stancu
Projects and Editorial Director

Salma Khaila
Senior Project Director

Helene Jaspers
Junior Project Director

Lou Fabregoul
Project Coordinator

Executive Editor:
Mungo Smith

General Manager:
Alfonso Tejerina

Operations Director:
Miguel Pérez-Solero

Project Assistant:
Sojoud Hamdy

Graphic Designer:
Kaori Asato

Graphic Designer (ads):
Özgür Ergüney

Graphic Designer (cover):
Gonzalo Da Cunha

Your opinion is important to us, please be in touch to share your comments on this report: info@gbreports.com. For updated industry news from our on-the-ground teams around the world, please visit our website, where you can subscribe to our newsletters, and follow us on LinkedIn (gbreports) and X (@GBReports).

THANK YOU

We would like to thank the honorable ministers, authorities and industry executives who took the time to meet with us.

Image courtesy of Menar

GBR
GLOBAL BUSINESS REPORTS
25 years

INVESTING IN AFRICAN MINING INDABA

TMX