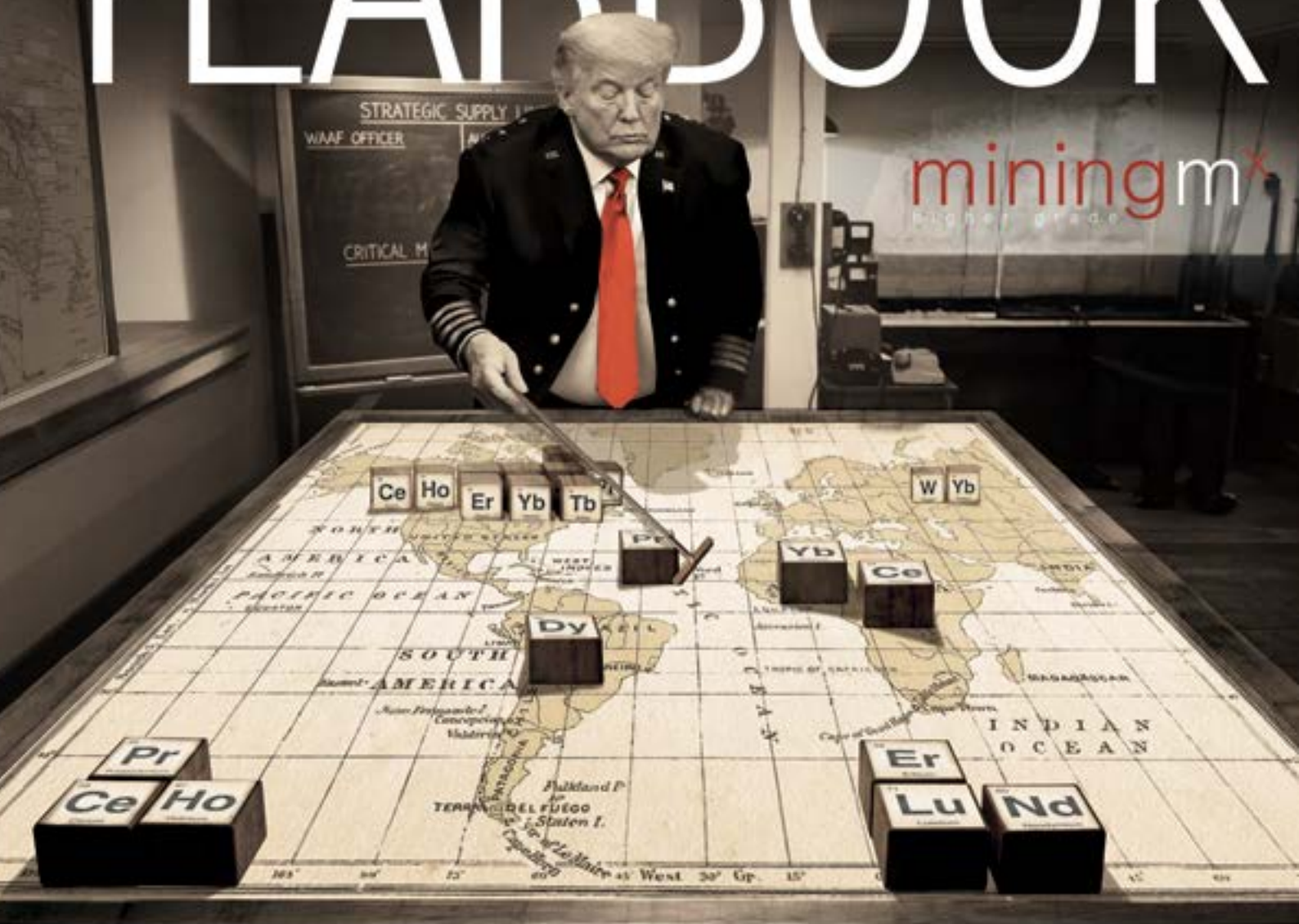


THE MINING YEARBOOK

2026



METALS OF WAR

How defence is shaping critical minerals demand

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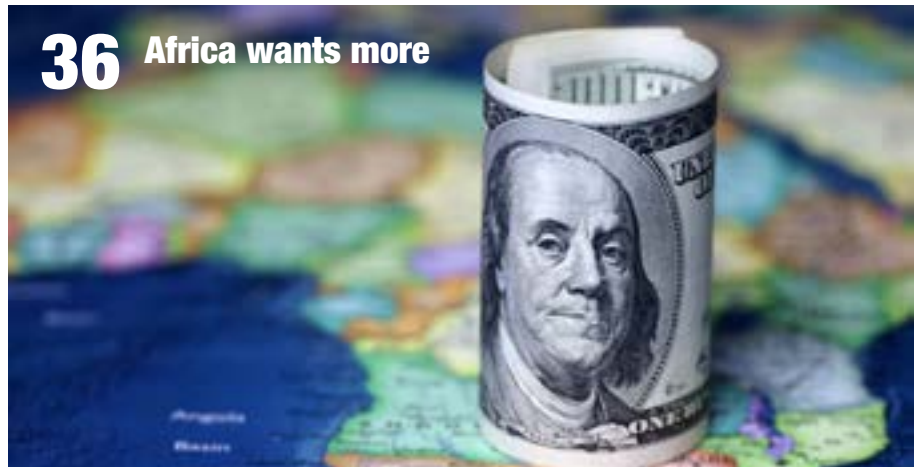
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THE MINING 2026 YEARBOOK

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Metals of War

Demand for critical metals has been from the renewable energy and electric mobility sectors. But there's a new source of demand that is competing for relatively scarce supply, driven by US president Donald Trump's geopolitical ambitions, writes **DAVID MCKAY**

EIGHTEEN mining companies went public in the past 12 months with one aim in common: an ambition to supply the US government's defence industry. Assisted by US President Donald Trump's aggressive imperialism, the metals required to wage war – rare earths, antimony and uranium – are becoming a meaningful part of critical minerals supply.

US forces fired 168 Tomahawk subsonic cruise missiles, each loaded with a 100lb warhead, during the first 100 hours of its attack on Iran in February, according to the Center for Strategic and International Studies. For an idea of the scale of the attack, and how it represents a step change, the barrage compares to 'only' 124 missiles deployed by the US against Houthi militants in Yemen and Iran's nuclear facilities in 2024 and 2025.

Each deployment contains tens of thousands of kilograms of metals such as tungsten – metals the US wants to secure in greater

quantities. In its own words, the Trump administration wants to put its defence industry back on "a wartime footing". But the effort is not going smoothly. The five largest so-called US 'defence primes' have a combined backlog of undelivered orders of \$1.36tn to the end of 2025, up 24% on the year before, according to a report by auditing firm PwC.

In response, Trump is reported to have excoriated his nation's dwindling number of defence companies for putting money into dividends and share buybacks rather than expanding production. "They can't do that anymore," the Financial Times quoted Trump as saying last month.

While the president's comments about dividends may not sit well with investors in the newly listed defence minerals companies, there's no denying their enormous opportunity. "Our goal is to cover direct defence demand for tungsten," Oliver Friesen, CEO

of Guardian Metal Resources told Reuters in May. Military annual demand is 2,000 to 3,000 tons, he estimated. Since listing, shares in Guardian Metal Resources have recorded a fourfold increase.

Some IPOs are modest in scale, raising \$11m to \$68m. Others, however, have secured government funding through Pentagon-linked programmes. In perhaps the clearest signal the US wants to connect metal supply with aggression, the US Army has struck preliminary deals with miners to build critical minerals processing plants on military bases around the country. Bloomberg News described it as a first-of-its-kind initiative by the Trump administration to boost domestic production of key materials.

REalloys Inc., Titan Mining Corporation, Ioneer, and EnergyX have reached agreements with the Pentagon to build facilities for processing rare earth minerals, graphite, lithium and boron, the newswire said. REalloys will construct a rare-earth separation facility at the Tooele Army Depot in Utah, and production will be stockpiled on-site for military use, according to a US Army statement. Titan Mining will build and operate a graphite purification facility at either Pine Bluff Arsenal in Arkansas or Anniston Army Depot in Alabama. EnergyX and Sydney-based Ioneer – the latter the only non-US company of the four involved and one-time joint venture partner of Sibanye-Stillwater – will develop a lithium facility and a boron plant, respectively.

“Modern defence systems are highly metals intensive, requiring copper for electronics, tungsten for munitions, nickel for aerospace applications and rare earth magnets for advanced guidance systems,” says Baker Steel, a UK-based fund manager in resources. “The replenishment of munitions is also increasingly expensive.” The US government spent \$11.3bn in the first week of the Iran conflict alone. The Pentagon has consequently asked Congress for an additional \$50bn in spending to replenish its military resources, fearing it will be ill-prepared for a conflict in the Indo-Pacific. The application remains stalled at the time of writing.

Recognising the demand for bullets and bombs, venture capital dealmaking in defence-related tech startups has doubled in 2026, equal to \$12bn in investment (see

graph). Most of that capital is in the US – Europe has not quite joined the defence charge on the same scale – and predominantly in applications such as drones, surveillance, and autonomous maritime defence tech, driven partly by hostilities in the Gulf region. The drone sector consumed between 3,000 and 8,000t of rare-earth permanent magnets in 2025, about 3% of total rare-earth demand, according to a report by S&P Global.

WEAPONISED TRADE

But the US’s push for metals required for modern warfare is part of a broader strategy which has its origins in the Biden-era Inflation Reduction Act in 2022. This Act sought to secure metals primarily for electric mobility and renewable power where the concern was with Chinese protectionism.

Beijing, for instance, imposed gallium and germanium export controls months after the US launched support for battery metals supply in 2023. Then in 2024, China imposed export controls on graphite shortly after the EU and the US expanded financial support for the Lobito Corridor, supporting freight of minerals between Zambia, the Democratic Republic of Congo (DRC) and Angola. With Trump’s second term came ‘Project Vault’ – the US government’s minerals stockpiling initiative. It was countered by a Chinese ban on sulphuric acid and antimony as well as expanded export bans on germanium, gallium and graphite.

The US is unlikely to ever ‘catch up’ to China, which has had at least a quarter of a century’s head start developing primary

‘At least we’ve opened those doors and can now have those conversations as they think about it. But I think we’ve still got a bit of a way to go before we get anything hard coming out of the EU’ – Richard Stewart, Sibanye-Stillwater CEO

critical metals supply as well as securing the energy and downstream refining processes. But it can make incremental inroads. A mining CEO tells Miningmx this is all too plain to see. “There’s no transaction happening that they are not across, not part of, or talking to people about,” he says of the US on condition of anonymity as his company also supplies metals to China. “The US government is very, very visible.”

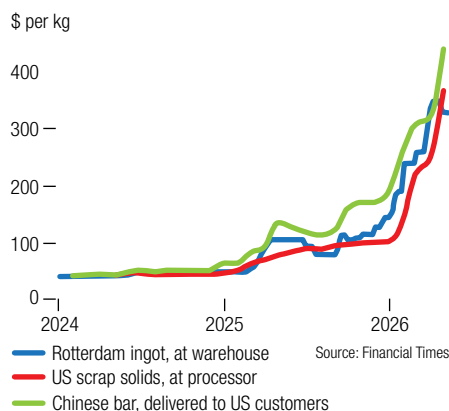
It has invested directly into projects, taking a stake in Ambler Metals, for instance, a junior miner exploring for copper, zinc and silver in northwestern Alaska. This makes for some incongruent alliances as Australian miner South32 – invested in Ambler through Trilogy Metals – is now a joint venture partner of the US Department of War (formerly Defence).

Elsewhere, the US government has saddled up with private equity.

In October last year, Orion Resource Partners announced a joint \$1.8bn critical minerals fund – Orion CMC – with the International Development Finance Corporation, a public/private development agency created by the US in 2018, and Abu Dhabi’s sovereign fund, ADQ, as co-investors. The fund’s first major investment is a proposed 40% stake in Glencore’s Congolese copper-cobalt assets Mutanda Mining and Kamoto Copper Company. Glencore CEO Gary Nagle says the plan is to expand the partnership aggressively. Potential investors across the African continent are being examined, though he cautions the foundation agreement has not been inked yet.

In total, Orion CMC’s aim is to increase

Tungsten prices have skyrocketed





ALL THE PRESIDENT'S MEN: (L-R) US Treasury Secretary Scott Bessent, Vice President JD Vance, Acting Attorney General Todd Blanche and Acting Labor Secretary Keith Sonderling. Blanche and Sonderling both nominated as of publication date. (Photo by Win McNamee/Getty Images)

the fund through additional investors to \$5bn. According to reports, it is now evaluating a buyout of a 37% stake in French mining operator Eramet to broaden its rare earth and lithium supply lines as well as Eramet's investment in Gabon's manganese sector.

As well as long-term efforts to loosen China's grip over supply, the US is also attempting a shorter-term strategy to lessen Beijing's current market influence. One tactic in this regard is for the US to guarantee a price floor for its homegrown rare earths processing company, MP Materials. The aim is to protect the firm against China's ability to deliberately flood the market with rare earths production.

Providing a safety net to companies like MP Materials has its critics, however, who say mechanisms of this ilk encourage cross-subsidisation and inefficient output. The EU in particular has shown a lower appetite to secure critical minerals by any means. Its members in the G7 resisted a proposal forwarded by US Vice-President JD Vance to form a Western trading bloc that would agree on price supports to protect domestic production. The approach uses AI for its outlook. The EU demurred, preferring to form a view on market prices using "real deals".

As a variation to the trading bloc, the US has also suggested concluding bilateral

deals with Japan and the EU. Its initial scope covers five to 10 minerals, including heavy rare earths, antimony, graphite and tungsten – all subject to Chinese export restrictions.

Despite the EU's reticence, Sibanye-Stillwater CEO Richard Stewart detects signs of change. "What the EU is doing, or thinking about, is to drive supply from 'local content', which is, to some extent, setting a form of floor price," he says. "It is saying there's going to be a threshold point where you will have protection."

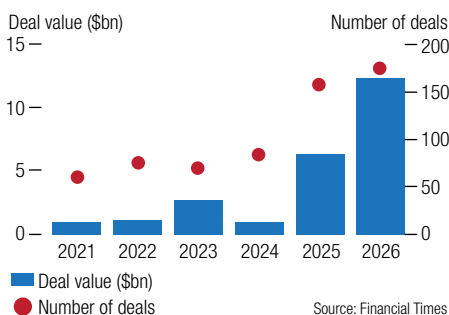
Sibanye-Stillwater has special reasons for wanting the EU to become more aggressive in encouraging critical minerals production. In May, the Johannesburg miner cut

the ribbon on its Keliber lithium mine, an R18bn project in Finland. A year ago, the project was in trouble amid a meltdown in the lithium price to about \$8,000/t against Keliber's \$13,000/t breakeven. Stewart says China manipulated the price down. The metal is trading back at \$20,000/t, but the concern is China could strike again at any moment. "They control 70% of the world's supply. They've weaponised it," says Stewart.

Far from being an economically unsustainable mechanism, price floors – which come in many different stripes – help minimise the risk of building a new industry. Stewart complains of a decoupling between "the time taken for technology and demand of these metals to develop, versus the time taken for supply to come online to actually deliver it".

There are doubts Sibanye-Stillwater will have success in persuading the EU to mimic all of the Trump administration's approach to critical minerals supply. "We have little conviction the company will be able to secure any floor pricing or other incentives from the EU," say RMB Morgan Stanley analysts Brian Morgan and Christopher Nicholson. Says Stewart: "At least we've opened those doors and can now have those conversations as they think about it. But I think we've still got a bit of a way to go before we get anything hard coming out of the EU."

VC investment in global defence tech start-ups soars (year to June 17)



Whatever the outcome, the EU will inevitably need more metals in order to rearm. By 2030, defence spend by Nato European countries could account for 2% of aluminium, 4% of steel, and 8% of copper demand, according to McKinsey & Co, which based its conclusions on 2025 budgets. In turn, this could create high-margin niche growth opportunities in steel and aluminium – for example, in specialised military steel grades for projectile bodies, tool steel for ammunition manufacturing, and ultrathin electrical steel for drones, the consultancy said.

WAVES OF DISRUPTION

There is preparedness for war and then there is actual war. The consequences of the bombing campaign waged on Iran by the US and Israel, and Iran's retaliatory hits on neighbours and its politically effective blockade on sea traffic through the Strait of Hormuz, have provided a real-time demonstration of how geopolitical distress affects the minerals industry.

Aluminium smelters in the UAE and Bahrain were directly hit by missile strikes, while Qatar idled its facilities after gas supplies were struck, all by Iranian missiles. Emirates Global Aluminium doesn't expect to be back to full output for a year.

According to Wood Mackenzie, the crisis threatened to temporarily remove 3.5 million tons of output this year. Consequently, LME aluminium inventories fell 60% in the aftermath and futures prices in the metal surged.

Secondary dislocations caused by the conflict are being felt at the time of writing. There's been input inflation as raw materials become even scarcer and slower to deliver. "These effects are a little bit softer but still take effort to resolve," says Peter Schmitz, research director, head of metals and mining at Wood Mackenzie. For copper and nickel production, there's been reduced access to acid, particularly in the DRC. Higher fuel costs are another obvious factor.

"That's going to wash its way through. That's inflationary, but it also means demand growth is probably not going to look as great as we would have wanted," says Schmitz. "Those are the third-order effects that will bite us longer term – when we're wondering what happened to the market, why isn't demand there, or how it has

changed in terms of the various regions."

Project planning is trickier to scope, says James Smith, CEO of DRA, a project engineering company: "You've got to allow much longer lead times than you normally would; maybe double the time." Whether this will extend to fundamental market change is conjectural, however. "I don't think it's going to stop a whole bunch of projects," says Smith. "It will make executing anything in the Middle East region a lot more difficult from a practicality perspective. Does it change the fundamentals? Doubtful."

Wars of the ilk waged by the Trump administration do, however, add another confusing vector to mining. Competing demands for resources from AI-driven data centres predated the Middle East conflict. "These are likely to constrain mine development, while also increasing power costs and limiting supply options," says Andrew van Zyl, MD of consulting engineering firm SRK. "Power plant demand has already led

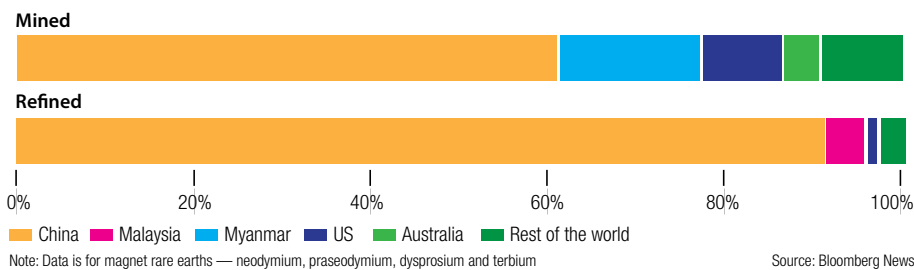
POLITICAL WINDS

Later this year, the US midterm elections take place, an event that will provide insight into how Trump may run the remainder of his office amid rumours that age is fast catching him up, making him less cogent, ever more mercurial. It raises the question of what happens to the US government's approach to minerals acquisition should the political winds blow.

"I'm not sure meaningfully," says Darryll Castle, head of operations at TechMet, a Dublin-headquartered company invested with the US in a number of critical minerals projects. "You need to remember the US turned its attention to securing critical minerals supply chains in the Biden government through the IRA [Inflation Reduction Act]. I don't think that's likely to change."

In fact, US belligerence may manifest in unexpected ways. Dealmaking may, counterintuitively, become harder to do. Antitrust approvals for big M&A could

China dominates rare earths supply



to extended lead times for equipment such as turbines."

A further impact on the mining sector is expected through evolving critical minerals policies, says Van Zyl. "Regional and national efforts to reduce reliance on specific countries or supply chains are likely to lead to increased mine development but, in a stable environment, lower prices."

Nations developing their own oil and gas resources improve security of supply, but if the Strait of Hormuz fully reopens, increased global supply could result in lower prices. The net result may be increased project activity and equipment demand, but lower overall returns in the absence of government support.

see China and the US fighting for the best concessions. One potential deal in these crosshairs is Anglo American's proposed merger with Teck Resources, the Canadian firm. "Chinese approval is needed but the US will then try to out-compete them," says one rival company CEO.

"But I think generally the understanding that minerals matter – that you can't build a data centre without copper, you can't build a Tesla without lithium – is here to stay," he says. The Trump administration has crystallised that.

"I think the one thing that doesn't go away is the understanding that resources are critical, that you can't develop economies without them, and that the Chinese are 25 to 30 years ahead," he says.

The West should worry: rare earth mines are hard to build

Rare earths are neither rare nor strictly just earths, but they are strategically priceless to the West in its quest to elbow-in on China's critical minerals dominance. The concern, though, is they are hard to build, and harder to finance, writes **RAYMOND STEYN**

FOR all the excitement around rare earths, the uncomfortable reality is that most projects will never become mines. Yamin Yakoob, an executive adviser at consulting company McKinsey & Co, told the Junior Mining Indaba conference in Johannesburg in June that about \$9bn in critical-mineral projects were in development, yet historically "only 10% of those projects get funded over a long period of time".

Darryll Castle, operations director of TechMet, an investment company, says the high failure rate reflects the sector's unusual economics. Rare-earth deposits are often too small to interest diversified mining majors, yet are still highly technical and capital intensive. The result is a mismatch. Junior miners have limited balance sheets and skills yet they are expected to solve some of the industry's trickiest metallurgical, chemical and commercial problems.

There is also the more fundamental question of whether these are really mining projects at all. In rare earths, extraction can be the simplest and least costly part of the operation. At Frontier Rare Earths' Zandkopsdrift project in the Northern Cape, for example, mining accounts for less than 2% of total project capital. Most of the capital goes into the chemical plants needed to separate rare earths and battery-grade manganese sulphate.

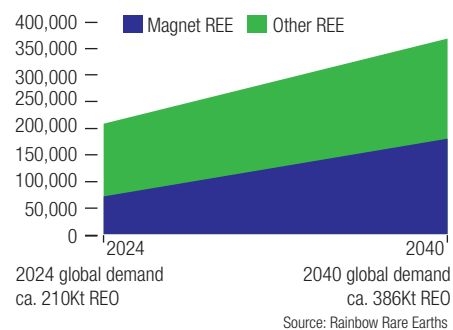
The difficulty is also that there is no universal processing route. Unlike materials like copper, where established flotation and solvent-extraction technologies can often be adapted across deposits, rare-earth metallurgy depends heavily on the host mineral and ore type. "There's no one standard for rare earths," Castle says. "Each time you're reinventing the process and the chemistry behind it."

That makes metallurgy central to the investment case.

Laboratory recoveries are only the starting point – the flowsheet must work consistently at pilot and commercial scale, with acceptable reagent use, waste generation, impurity control and product quality. A large, high-grade resource can still fail if the ore is difficult or expensive to process, while a



Global demand for rare earth oxides (REO)



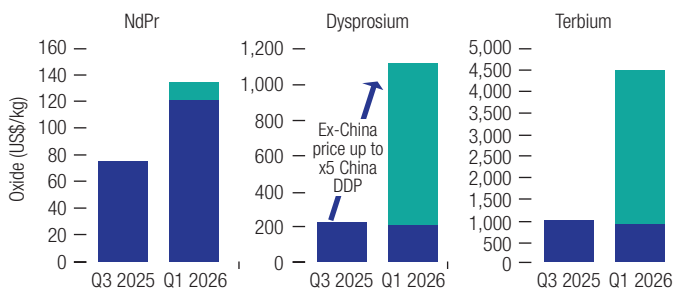
lower-grade deposit with simpler mineralogy and favourable metallurgy may prove more valuable.

It is also why outsiders often struggle to assess rare-earth projects. Commercial banks have extensive experience financing gold, copper, iron ore and coal operations, where standardised processes, transparent markets and decades of operating data make the risks easier to model. A rare-earth lender may instead be presented with a bespoke chemical flowsheet, specialist reagents, uncertain recoveries, opaque pricing and a product that still requires approval by a downstream customer.

The quality of the feasibility study is therefore one of the most important issues

Rising Ex-China rare earth prices

Strong NPV, growing Ex-China market and no floor price needed





for investors to scrutinise, says Castle. The period between completing the study and reaching a final investment decision is, in his words, “perpetually being underestimated” in both duration and cost.

That financing gap can be fatal. Castle warns that the process “becomes long and it becomes expensive and companies run out of money”.

Tim George, CEO of UK-listed Pensana, says it took his company roughly three years to move its Longonjo project in Angola through exploration and project studies, followed by another four difficult years focused on financing. Seven years from exploration to construction is relatively quick by mining standards, but George describes the financing period as “a frustrating four years”.

This was not a marginal deposit in an inaccessible location. Pensana had what George describes one of the world’s largest, highest-grade rare-earth resources, positioned beside a railway and close to modern hydroelectric power, water, roads and airports. It also sits on the Lobito Corridor, providing a route to the Atlantic. “You couldn’t do it better at the moment,” he says. Even then, the project required patient support from the Angolan Sovereign Wealth Fund to remain alive while the larger financing package was assembled. “Critical minerals require more equity than

debt in a conventional sense,” Castle says. Strategic investors, sovereign wealth funds and development-finance institutions must often absorb risks that commercial banks will not. For Western-aligned projects, that increasingly means support from the US, the EU and Japan, together with their financing agencies.

The revenue side is no easier than the technology. “You can’t put your metal into the LME [London Metals Exchange] warehouse,” Castle says. Nor is it “like gold that sells itself if you’ve got it”. A rare-earth company must identify a processor or manufacturer that can use its particular product, agree how it will be priced and often obtain customer approval before lenders will treat the projected revenue as bankable.

Pensana’s George says these relationships must be developed simultaneously rather than sequentially. “There isn’t one answer. They all interrelate.”

Customer qualification itself can take years. The proposed product must be tested, refined and approved, sometimes through several stages of the downstream chain. As George puts it, “It’s not just about producing a separated product. It’s about the other side of the magnet.”

This creates a financing catch-22. Banks want binding offtake agreements before lending, while customers are reluctant to

commit until the plant is financed and built, and the product proven. Infrastructure is also more demanding than for a conventional mine, because hydrometallurgical plants need reliable supplies of acids and alkalis, water, residue storage, laboratories, process controls and continuous power. The final product may be small in volume, but the chemical operation behind it is substantial.

Skills are equally scarce. Pensana assembled expertise from Australia, Japan, South Africa, the UK and the US, using digital connectivity to coordinate an international team across time zones, says George.

Since Africa has little capacity in high-purity separation, metallmaking, alloying or magnet manufacture; much of the highest-value processing is likely to remain in the US, Europe, Japan and other established industrial centres. That is also where most strategic dealmaking is concentrated, although a few mine acquisitions form part of the broader build-out. With most African projects located further upstream, they are more likely to remain independent suppliers linked to larger non-Chinese groups through offtake agreements than to be absorbed in a broad land grab.

NEW PRODUCTION

Africa is a marginal participant in rare earths despite having good geology for the minerals. There is, however, some production. Nigeria produced about 13,000 tons of rare-earth oxide equivalent in 2025; Madagascar around 2,000t. All in all, Africa supplies about 4% of estimated global mine output, although it’s worth stating most of the material leaves the continent as a concentrate rather than separated oxides or



Darryll Castle, operations director, TechMet

magnets. Southern Africa, where most of the projects attracting Western and Japanese strategic capital are located, presently contributes almost nothing to commercial rare earth supply.

That though could change. If advanced projects such as Longonjo succeed, Africa could supply up to 10% of global mined output by the early 2030s. It's a target that would also need lift-off of two other projects, both in South Africa, a nation renowned for mining though not in rare earths. Zandkopsdrift is being bankrolled by the country's state-owned Industrial Development Corporation (IDC) while the Phalaborwa project, a brownfields development, is the number one project of Rainbow Rare Earths, listed in the UK.

GEOLOGY IS NOT DESTINY

The first thing to understand about these projects is how different they are from one another, not just in location, but in what they actually are. Longonjo is a high-grade carbonatite. Lofdal, a project owned by Canada's Namibia Critical Metals, is a hard-rock deposit with an unusually heavy rare-earth basket.

Phalaborwa involves no mining at all, retreating phosphogypsum stacks left by historic phosphoric-acid production. Frontier Rare Earths CEO James Kenny is explicit about what his company has built: "We aren't a mining company. Less than 2%



Tim George, CEO, Pensana

of our project finance will go towards the mine. We're building a chemical conversion plant."

That framing applies, to varying degrees, across the group. The real competitive battleground is not who can move the most rock, but who can master the metallurgy – separating, refining and producing material that meets the exacting specifications of Japanese, European or American magnet makers. A mine outside China that cannot reliably supply separated oxides remains dependent on Chinese processing, which largely defeats the strategic purpose.

How each project is financed tells you as much about its ambitions as its geology does. Pensana's Longonjo has crossed the funding hurdle that defeats most juniors: \$165m of strategic equity from Cascade Investment Fund and \$160m of Absa debt backed by a US EXIM guarantee, with the Angolan Sovereign Wealth Fund among its shareholders. Construction is under way and first production is targeted for 2027. George says the project has been designed to survive the low point of the Chinese neodymium-praseodymium (NdPr) price cycle – "about \$44/kg; that's about as low as they can go" – making cost discipline as central to the thesis as geology.

Lofdal's backing reflects a different strategic logic. JOGMEC (Japan Organization for Metals

and Energy Security), a Japanese government-backed agency, owns 40% of the project, with scope to increase its stake and support construction, while Toyota Tsusho provides commercial backing. That alignment makes sense given Lofdal's headline rare-earth grade is modest but is rich in dysprosium, terbium and yttrium. A study scopes for 2,000t a year of total rare-earth oxides at a capital cost of \$348m. That looks like a lot of money for paltry volumes, yet if achieved that production is worth 5% of global dysprosium-terbium demand. It will carry weight in the much thinner ex-China heavy rare-earth market.

Phalaborwa and Zandkopsdrift both carry explicit US and European strategic imprimaturs. Techmet, whose shareholders include the US International Development Finance Corporation, is a strategic investor in Rainbow Rare Earths. Zandkopsdrift has been recognised as a strategic project by the EU. In addition to the IDC funding and equity, the South Korean government has a stake while French and Japanese state capital is behind Carester, which has a 10-year offtake agreement.

A QUESTION OF CAPITAL

Capital intensity varies enormously, and the contrasts are instructive. Longonjo's \$250m all-in cost is modest for its planned output, partly owing to its 270km proximity to Lobito port in the refurbished Lobito Corridor railway. Zandkopsdrift requires closer to \$1bn at full scale – the highest in the group – but Frontier forecasts a 65% operating margin and annual after-tax profit of around \$400m, a case that rests heavily on an unusual by-product: battery-grade manganese sulphate. Manganese originally contaminated the rare-earth stream; a weak sulphuric-acid pre-leach removed most of it and produced a solution already close to battery grade. Kenny claims the by-product can be produced at roughly 30% of Chinese cost, transforming the project's rare-earth cost position.

Phalaborwa avoids conventional mining cost altogether, and previous chemical processing has partially liberated the mineral.



Yamin Yakoob, executive adviser, McKinsey & Co



**Energising
today.
Advancing
tomorrow.**

Our ability to energise today, through resilient operations and critical mineral supply, is matched by our commitment to advancing tomorrow. We achieve this through renewables, innovation and shared value creation. At Glencore, we don't just talk sustainability and transformation; we deliver it on the ground every day.

But retreating phosphogypsum is technically complex, and encouraging pilot results still need to be proven at commercial scale for recoveries, impurity control and product quality. Full construction funding is also outstanding.

There are other projects in development to a lesser and greater degree. Songwe Hill in Malawi, backed by Mkango Resources, is a developer aiming at conventional NdPr output, linked to Western separation and magnet-recycling interests. A Nasdaq listing

is in the works. Steenkampskraal in the Western Cape is another of the IDC-backed projects. Backed by Steenkampskraal Holdings and Bora Mining Investments, it is a monazite deposit but it has hazards owing to its thorium. JSE-listed industrial minerals miner Afrimat is hoping to develop its Glenover project in Limpopo primarily for its phosphates and vermiculite but there are rare earths, it says – even if the rare-earth flowsheet is not advanced. The notion of new rare earths mines in the

Western Cape, as well as Limpopo, is sweet music to Pretoria. But it may have to think twice about its beneficiation strategy which, as per the recently published Industrial Development Strategy, appears to link mining licences to downstream production. That's not happening elsewhere in Africa and is unlikely to happen here. Africa stands to become an important participant in rare earths production but the higher-value downstream processing will still take place in the US, Europe or Japan.

Dirt cheap, strategically priceless

Rare earths are 17 metallic elements with similar chemical properties that often occur together. They are not especially scarce geologically; the challenge is finding concentrations that can be mined and processed economically. Several elements are typically dispersed within minerals such as monazite, bastnaesite and xenotime, or absorbed onto weathered clays. Because they are chemically alike, separating them into pure, usable products is difficult and expensive. The real bottleneck is therefore often not the orebody, but the metallurgy needed to unlock it.

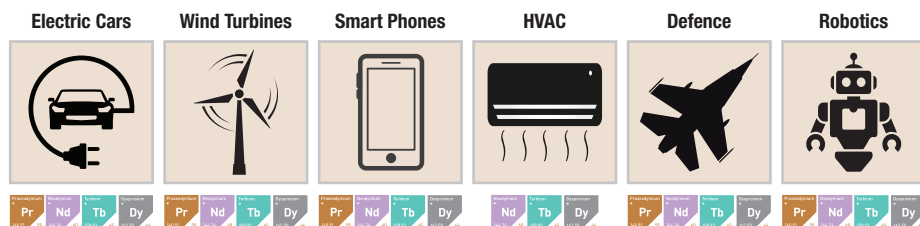
Their most strategically important application is in permanent magnets. Neodymium and praseodymium are combined with iron and boron to make extremely powerful NdFeB magnets, which allow motors and generators to be smaller, lighter and more efficient. These are found in electric vehicles, wind turbines, industrial robots, drones, hard-disk drives, smartphones, speakers and defence systems. Dysprosium and terbium can be added in smaller quantities to help magnets retain their strength at high temperatures, making them particularly important in automotive, aerospace and military applications. The wider family has numerous other uses: cerium in catalytic converters and glass polishing; lanthanum in petroleum-refining catalysts and specialised glass; europium, terbium and yttrium in lighting and displays;

samarium in high-temperature magnets; gadolinium in medical imaging. Their volumes are small compared with commodities such as iron ore or copper, but their performance characteristics are difficult to reproduce. A shortage of a few thousand tons can therefore disrupt industries worth hundreds of billions of dollars.

Rare earths are divided into light and heavy groups. The light rare earths – lanthanum, cerium, praseodymium, neodymium and samarium – are more abundant and account for most global production. Neodymium and praseodymium are considered most valuable because of their role in permanent magnets. The heavy rare earths, including terbium, dysprosium and yttrium, are less abundant and produced in much smaller volumes. Economically attractive deposits are particularly scarce outside China and parts of Southeast Asia, making dysprosium and terbium among the most strategically sensitive elements despite their small share of total demand.

China's dominance was not the product of geology alone. From the 1980s, Beijing-backed research, processing and manufacturing with cheap capital and historically weak environmental enforcement, mastered the difficult separation and magnet-making stages, undercut competitors and drew manufacturers into its ecosystem. Its grip is strongest not in mining but in processing and magnets: a mine outside China may diversify supply at the pit yet still depend on China to turn concentrate into a usable product. Beijing has repeatedly used this dominance as leverage. Its 2025 controls on medium and heavy rare earths and related magnets exposed how deeply its materials are embedded in US vehicles, electronics and defence systems. Washington has responded with grants, loans, tax incentives and direct investment to build mining, processing and magnet capacity across the US and allied countries, including an NdPr price floor to shield emerging Western producers from Chinese price pressure. Rare earths have consequently shifted from a niche mining sector into an arena of state-backed industrial competition.

End users for rare earths



Source: Rainbow Rare Earths

An outrider for the West's mineral ambition

BY CHARLOTTE MATHEWS

THE Trump administration's redoubled efforts to source critical minerals outside China's control are opening up an exceptional opportunity for Africa. This time, there is a strong push to ensure the benefits extend well beyond mining investors and US industry.

Helaina Matza, technology metals investment company TechMet's chief strategic development officer, says the US critical minerals policy approach is exemplified by the development of the Lobito Corridor, in which it and other G7 nations are invested. The rail linking the Democratic Republic of Congo/Zambia/Angola copperbelt with the Angolan port of Lobito is a public-private partnership that is being used by mining companies as well as non-minerals exporters.

"That corridor is helping to insulate the continent from a pure extractive challenge which many governments are trying to avoid," says Matza. "Some countries are also insisting on value addition in the form of refineries or broader economic development around the mining projects. Investment in critical minerals projects has to be an iterative process, and result in a solution in which both sides feel they are winning and getting value."

The US and EU are taking steps to counter China's global dominance of critical minerals deposits and processing facilities. In 2020, the US said its dependence on China for critical minerals was "an unusual and extraordinary threat", declaring it a national emergency. For its part, the EU introduced the Critical Raw Materials Act, which envisages processing 40%, extracting 10% and recycling 25% of its critical mineral consumption by 2030. Earlier this year, the US launched Forge



Helaina Matza,
TechMet chief strategic development officer

(the Forum on Resource Geostrategic Engagement), an international initiative to establish a preferential trade bloc for critical minerals, using price floors and adjustable tariffs as a protection against price volatility to encourage mining and processing projects.

Matza believes the US government has taken diplomatic and policy steps aimed at creating a fair market place for mineral projects. In some countries, bilateral agreements, such as the US-DRC Strategic Partnership Agreement on critical minerals, have been signed.

No such agreement has been signed between South Africa and the US, where relations are frosty. But in recent high-level meetings, set up by the US Centre for Strategic and International Studies, ministers and diplomats discussed bilateral mineral development. In this regard it's also worth pointing out that South Africa is aware of China reliance. The Department of Mineral and Petroleum Resources penned a critical minerals strategy in which it identified "diversifying trade relationships to include

the EU, the US, and other African nations". This was "essential to building a resilient and balanced critical minerals strategy", it said.

Matza views this positively. "Whenever the US government can establish a clear critical minerals framework with another country, it will help investors to understand the operating environment more clearly," she says. However, TechMet has no plans to invest in other projects in South Africa beyond its stake in Rainbow Rare Earths, a UK-listed firm developing the brownfields Phalaborwa project.

GO WEST

Techmet, founded by Brian Menell in 2017, specialises in investing in minerals for electric vehicle manufacture, renewable energy, high-tech communications, defence and aerospace. Its portfolio of mines and processing facilities includes stakes in 10 companies, including Brazilian Nickel, Cornish Lithium and two companies in Africa, Rainbow Rare Earths, and Trinity Metals in Rwanda.

The \$1bn group has attracted a range of influential investors. The US government, through the US International Development Finance Corporation, holds about 14%. Other shareholders include the Qatar Investment Authority, Mercuria and S2G Investments. According to Matza, the US government shareholding means TechMet is hard-coded for deals with West-aligned firms. It is a permanent capital vehicle, not a fund, which reduces the pressure to exit an asset before it is ready.

"We stick with late-stage development programmes, whether markets are depressed or prices are rebounding, as they are now," Matza says. "We are always looking for opportunities, but our main priority in Africa is taking care of the assets that we currently own, and taking the time and effort to maximise our technical understanding and capabilities to develop these projects appropriately."

However, the recent bilateral agreement signed between the US and DRC governments may hold future possibilities, under the right circumstances. "We have been watching that relationship and are very interested in looking at the projects on that list," she says.

One exception to TechMet's preference for late-stage projects or operating companies is its right to negotiate the Dobra Block production-sharing agreement with the Ukraine government. Negotiations over terms are under way, says Matza. The project is still in the exploration phase but holds promising petalite and spodumene deposits.

PROTECTION

Price volatility has been the biggest deterrent to private sector investments in developing critical minerals projects. For

example, lithium carbonate spot prices have ranged between \$8,000/ton and \$80,000/t over the past four years.

Matza says there's big demand for critical metals and a structural deficit in most of them. While short-term price spikes are inevitable in response to policy interventions or other specific events, she believes prices are on a long-term upward trend. This will create investor enthusiasm for at least the next few years.

"That doesn't mean every project is commercially viable," she says. "Each project has to be tested.

"Policy intervention has a role in derisking projects and crowding in private finance, but there is no 'one-size-fits-all' solution. You need certain policy tools, whether price floors or direct government investment, to support a sector that would initially struggle to be profitable, especially given Chinese market concentration.

"Direct equity investment makes a difference, and it has enabled TechMet to develop a diversified portfolio that will answer a lot of the challenges. We have been able to supplement US government funding with private dollars and commercial expertise."

Jobs for Africa

An obscure, decades-old mine in the heart of Africa has burst into life as its rich deposits of tungsten feed one of the world's biggest growth industries: war.

Tungsten concentrate from the Nyakabingo Mine in Rwanda travels long distances over bumpy roads to be refined in Austria and the US. As the fourth-largest tungsten mine in the world, Nyakabingo provides about 20% of US primary consumption of the metal. Its exceptional hardness makes it ideal for military uses like bullets, as well as drill bits.

The escalation in military conflicts in Europe and the Middle East over the past four years, combined with China's decision in March 2025 to stop exporting tungsten, has created a drastic supply shortage. In response, over the past 18 months, the tungsten price has risen almost 800% to \$3,000/mtu.

Nyakabingo, which has been mined through primitive adits (horizontal passages) since Rwanda was administered by the Belgians, is owned by Trinity Metals.

Trinity's biggest shareholders include TechMet and the Rwandan government, and TechMet, in turn, counts the US government, through the International Development Finance Corporation, among its major shareholders. It was TechMet that injected the necessary

equity funding in 2022 to merge three existing Rwandan companies mining tungsten, tin and tantalum to create Trinity Metals.

Trinity Metals CEO Peter Geleta says since then, investments have been made in widening the access points, developing declines to reach new, deeper areas, and bringing in bigger equipment and mechanised mining.

But there is an even more significant opportunity to double or treble output from Nyakabingo by boosting recoveries. Previously, the mining method was drill and blast, followed by handpicking nuggets that were ground into a concentrate and exported. Run-of-mine material was stockpiled and then processed manually. The recovery rate was 10-12% against an average of 75% for other global tungsten mines. By investing in processing plants, Nyakabingo is aiming to boost recoveries to 75%, from both underground sources

and stockpiles.

Geleta says the same strategy will be used to increase output from Trinity's tin and tantalum mines: increase exploration to extend the resource, mechanise to increase mining volumes and add processing plants to boost recoveries. To achieve the five-year growth plans for all three mines, an investment of \$100-\$150m will be needed, including for exploration on existing mining concessions.

The best protection against price volatility for critical minerals such as these is not price floors or hedging, but long-term offtake agreements, he says. Trinity can prove these are conflict-free minerals and that it operates in a politically stable jurisdiction.

Trinity has an early-mover advantage in Rwanda but Geleta envisages that the Rwandan mining industry will grow rapidly over the next few years: "I'm optimistic about the future of Africa. A lot of the discussions at the recent Africa CEO Forum in Kigali were around how Africa can seize the opportunities in critical minerals. It has to come from regional cooperation.

"There are various framework agreements in place, including the Rwanda-Congo Regional Economic Integration Framework and the African Continental Free Trade Agreement, but now there needs to be a willingness from leaders to execute them."



Peter Geleta, Trinity Metals CEO

Creating a better future

through purpose driven mining



We demonstrate how mining is a catalyst for inclusive growth, sustainable development and social transformation.

Great chemistry

Can Toronto-listed NextSource Materials break China's graphite grip?
CEO Hanré Rossouw speaks to **GIULIETTA TALEVI**

YOU probably haven't given much thought to the graphite market lately, especially as your HB pencil is now something of a relic. But, as with so many other specialised minerals, more players are trying to make a go independently of China – the dominant force in a sector that is crucial not just to lead pencils but, more importantly, car batteries. This sort of scenario is hardly new to Hanré Rossouw, formerly CFO at Sasol, which for years has battled a chemicals market flooded with subsidised Chinese product. In 2024, Rossouw was named CEO at NextSource Materials Inc, a graphite exploration firm chaired and part-owned by fellow South African Mick Davis through his outfit, Vision Blue Resources.

It seems a very contested market with China the big dog, which is also, as you said two years ago, keeping prices artificially low on the cost curve thanks to all their subsidies. So why is it a market worth putting all this effort into?

It's the Cinderella of critical minerals; it's been underappreciated and it's a relatively abundant material, but as China's done in the rare earths playbook, they absolutely dominate the midstream processing. Nearly 100% of all graphite processing happens in China. Diamonds and graphite are the only pure forms of carbon that occur naturally; and to the extent that carbon is highly conductive and heat resistant the main demand historically was industrial application – electrodes and foils, in the smelting industries, and those are the larger flake sizes. Smaller flakes are used in batteries, where the battery has the cathode (cobalt, lithium and nickel) and the graphite is a constant in the anode side. So it's a critical component of batteries and there we've seen a significant shift in

demand over the last five years as electric vehicles (EVs) have really taken off. Now that people are realising the world is dependent on China, the West, including Japan, Europe and the US are scrambling to find alternative sources because everyone's dirty little secret is that they buy graphite from China – whether it's Tesla or GM or Ford. That's where we come in: we've got an incredible resource in Madagascar but we want to also do the upstream processing. We're setting up our own facility to rival the Chinese.

You were looking at Mauritius. Did you decide against them and go for the UAE instead for your battery plant?

Spot on. We chose Mauritius given its location to Madagascar, and [at that stage] it was more focused on getting the qualification done. It's not a commodity where your graphite is the same as someone else's – your specific graphite needs to be tested and qualified. Looking at a full-scale plant, Mauritius being more associated with an island holiday destination wasn't the best spot. Given very low-cost energy and also the abundant availability of reagents from the petrochemicals industry in the Middle East, that was the choice in the end.

So you must be cussing over the Iranian conflict and the potshots they're taking at the UAE now, especially?

Firstly, on the cussing – absolutely. (But) to the extent that historically the UAE has been seen as the Switzerland of the Middle East – it's a neutral venue and very well positioned logistically – we still believe that it's the best location. The Strait of Hormuz is a critical chokepoint also for our product but I was there a couple of weeks back and life continues. And I think it will be resurgent. There's a multigenerational theme in terms of investment.



How much does a plant like this cost, and who pays for it?

Our first phase of \$150m is for 14,000 tons per annum. A full-scale plant will be about \$300m so we've sunk about \$20m of capital already in terms of preordering critical equipment and engineering studies. We recently raised money as well to finalise the front-end engineering design study; we've been using our own capital to advance the project and then we've got a Japanese consortium to put in \$30m. They will buy a 15% stake at the asset level. Even with difficult market conditions we've got the support of our largest shareholder – Mick Davis's Vision Blue Resources. He similarly has a long-term view around the way that critical minerals need to sustain the energy transition and data centres.

But that's still not enough cash. Do you need to raise capital from the market?

With our own capital and the Japanese we've got half of the \$150m; the remainder we're actively running a finance process looking at further debt and equity partners. To the extent that got an offtake agreement with the Japanese consortium, and they are very well regarded, there's a strong underpin to get debt as well. And then development

financing from the usual suspects. I think maybe as an aside, [we have seen] a failing of the capital markets [in] supporting the likes of critical minerals. If you step back and look at Xstrata and BHP and Rio – these are multibillion-dollar companies built on the pillars of big commodities such as copper, iron ore, nickel and coal, so there's ready access to the capital markets because they're big enough, and institutional money typically wants big investments. The issue with the more obscure minerals is that they're pretty small, so it's difficult for companies such as ourselves to get institutional investors. And to that extent there needs to be a rethink of the way that we fund our businesses. That's perhaps an opportunity as well for the likes of a Vision Blue to consolidate a critical minerals portfolio. It's a tough industry to get financing for, for that reason.

Which is a bit weird given how important these minerals are – especially to governments like the US?

There's been a lot of talk and not a lot of action but we've more recently seen the US government be more aggressive. Historically, these government entities have typically been very, very slow in bringing investment. You could put it as a 'failing' of the capitalist societies relative to the Chinese where they decide: this is a critical mineral and we support it as a government. I think the Western world is now only waking up to the desperate need given the geopolitics for those sorts of investments to be unlocked.

How does synthetic graphite affect you? Is it to NextSource what lab-grown diamonds are to De Beers?

There are parallels but it's not the same given that synthetic graphite has been around all the time. Typically, you see that the car industry uses a blend of synthetic and natural graphite in batteries. Synthetic batteries give you more immediate power where natural batteries give you range – so high-quality batteries use more natural graphite. The reality is that it's also been a bit of a by-product from the petrochemical industry, and to the extent that you're not building new refineries you are running out of this synthetic feedstock. Natural graphite has to plug the gap. And coming back to the ESG side, synthetic graphite is actually very pollutive.

You've got this 'SuperFlake' graphite even – with registered trademark! What's that all about?

It's a funny story: we've got an offtake agreement with ThyssenKrupp, which distributes our large flakes from the Molo mine in Madagascar into the industrial market, and it was a German customer who gave us feedback when we gave him samples of our product, who said: 'this is so good it must be some kind of super flake!' It stuck and we trademarked that given the unique ability of our flakes to expand; it's got very good chemical properties in terms of quality and purity.

What's it like mining in Madagascar? There've been outbreaks of bubonic plague and a recent coup ... it sounds fairly hairy?

It's not for the faint-hearted and it suffers from extreme poverty. There are about 30 million people on the island and it's nothing like the movie. Where we are in the south is very dry and arid; people live a very basic lifestyle. We've been welcomed in terms of bringing investment and job opportunities. We've been there for 20 years – my former CEO was the geologist who found the asset (Madagascar is an absolute treasure trove for geologists). We have strong local support and we've renewed our mining licence. It's the second coup we've seen in twenty years but they came in on an anti-corruption drive so it had strong support from people, and we've seen it as a good country to invest in. We need now to expand our operation to match the battery anode facility's demand for feedstock so that's going to be an important consideration to put more money into expanding that mine.

How much are you producing now?

Nameplate of the operation is around 15,000 tons per annum of graphite; we're running a campaign production so we've got limited production given the weak market. The first phase was focused on the Mauritian plant to qualify the product and test the quality and acceptance of the market and also to validate the process for the larger mine so we've been successful in that but we've not consistently hit nameplate so that's been a bit of a frustration. But to the extent that it proves the product and validates the flowsheet, it gives us the

confidence to build a bigger mine.

Presumably, if prices were higher you'd have produced more?

Yes, but there are some flowsheet enhancements that we will need to make; because it was more of an oversize demonstration plant, we would want to build a decent-sized mine. If I look at our big competitor in Mozambique, Syrah Resources, their mine has a 360,000t capacity so you do need to be around 50,000t-plus to be commercially viable. Even so, our 15,000t was never meant to be a commercial unit to compete with a big mine.

How big would the 'proper' mine be?

We're just finalising updated feasibility studies; we did one in 2023 for 150,000t per annum. We need about 50,000t of feedstock to feed our plant in the UAE so the study we're updating now will look at modular expansion: 50,000 or 100,000 or 150,000t.

NextSource's shares haven't enjoyed much success for a long time – they're down 89% over five years. Will the performance only ever be linked to what people see as an oversupplied graphite market rather than as a strategically placed non-Chinese operator?

Can I pick both? If I look at the graphite price, the market's most recent peak was in 2022 and our share price was also at its height and it's been in the doldrums since. So yes, our fortunes are tightly linked to the graphite price. But the fact that we are a non-Chinese supplier gives us the ability to charge a premium and to that extent we believe we will get a delinking to the graphite price itself. It'll get a proper ESG premium. We've certainly seen that in our discussions with Mitsubishi, our offtaker. And we've similarly seen other OEMs [original equipment manufacturers] keen to sign long-term contracts. The reality is that the Western world has not been successful in creating that Chinese alternative yet; our competitor, Syrah Resources, has been trying to set up a business in the US which has struggled to qualify with Tesla. If you can establish the first-mover advantage to create what would be the first producer of non-Chinese anode, at scale, you can use that and leverage it to get a proper premium for your product.

Why everyone loves Anglo Teck

Large-scale mergers and acquisitions among diversified miners have tended to end in failure despite the need for bigger companies doing more projects. Anglo American's proposed deal with Teck Resources though is an outlier. Here's why, writes **DAVID MCKAY**



Duncan Wanblad, CEO, Anglo American

EXECUTIVES expect jet-lag but there is something especially punishing about the Vancouver-to-London haul. The eight time-zone difference means there's almost no overlap in office hours. "It's a long trek," says Duncan Wanblad, CEO of Anglo American, who will be making the jaunt regularly.

This is the price of Anglo's proposed merger with Teck Resources, its Canadian counterpart, announced in September last year. To satisfy politicians and Teck shareholders, notably Norman Keevil, Anglo Teck will be headquartered in Vancouver. But the group remains registered and listed in the UK where annual general meetings, presentations and numerous rounds of investor meetings will be held.

Unwieldy as the structure may be, it has also been a source of strength. According to Ian Rossouw, an analyst for Barclays, the office migration from London is "something other major miners might find difficult to commit to", thereby lessening interloper risk. In fact, during the 10 months since the

merger was unveiled, there has been almost no noise from rivals.

The deal's "industrial logic" – as analysts are fond of calling operational synergies between the companies – also plays its part. For specific mining-related reasons, these companies belong together, they say.

For now, the only remaining major hurdle facing Anglo Teck is getting the approval of China's competition authorities, described by Jefferies analyst Christopher LaFemina as "tricky". The worst-case scenario is that China's Ministry of Commerce proposes selling a copper asset to a Chinese entity. Unlikely, but we live in unusual times politically.

"Yes, geopolitical risk has certainly become more elevated and we, and everyone else, are watching carefully and ensuring that our strategic assumptions are robust for the long term," says Wanblad. "It has taken on greater prominence for sure."

Wanblad was responding to the question of political risk in the wake of the Middle East conflict, but it may well apply to the antitrust environment. One company CEO

told Miningmx that concessions Anglo and Teck may make to the Chinese could provoke new demands from the US – effectively extending broad political competition into the realm of dealmaking.

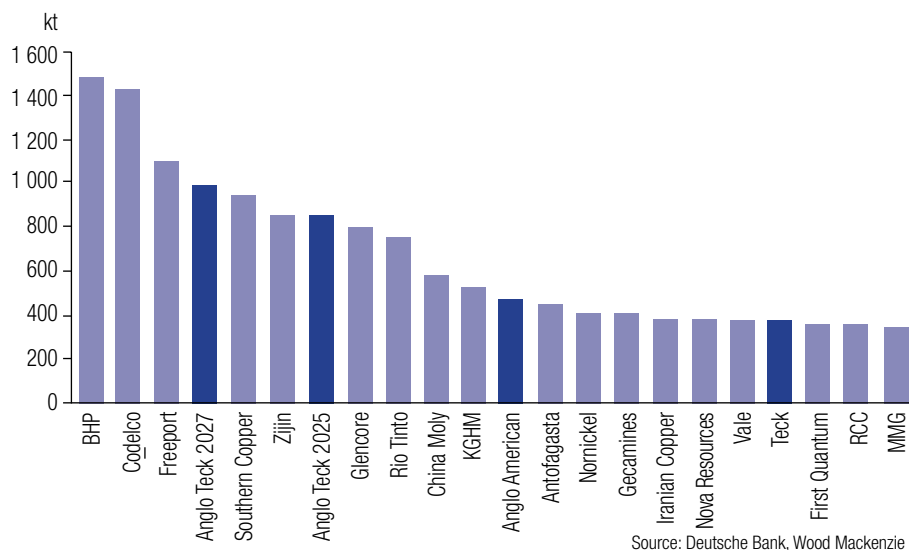
Few analysts doubt, though, that once approved, Anglo Teck will be a hit. The key-stone in the business is the combination of the two companies' copper assets. About 70% of Anglo Teck's earnings before interest, taxes, depreciation and amortisation (ebitda) will be derived from copper over its first five years. Says LaFemina: "We believe there is also potential for a significant EV/ebitda multiple rerating as the merged company will have one of the largest, highest-quality portfolios of copper assets in the world."

Anglo Teck will have stakes in four of the world's top 20 copper mines (see graph), where resource potential is as critical as production. Five years of production growth is guaranteed, predominantly through brown-fields extensions. "On a run-rate basis, the combined company could deliver production growth of over 30% by 2030," say analysts at Deutsche Bank.

As for the 'industrial logic', Wanblad has form in mineral adjacency. In early 2024, Anglo announced an agreement with Vale in which Brazil's state-owned miner would jointly develop Serpentina with Anglo's neighbouring Minas-Rio. The deal was years in the making, said Wanblad at the time.

Combined with similar strategies, including at Quebrada Blanca and the Serpentina agreement, Anglo has deferred about \$15bn in capital expenditure over the next decade, says Greene. That compares to a total \$700m in near-term capex across the group's copper assets.

Becoming a Top-5 global producer: 2025 attributable production



That was in iron ore, a mineral amply supplied. In copper, market anxiety about supply lends a special urgency for cross-border cooperation. One of Anglo Teck's top projects in Chile is to exploit the benefits of Collahuasi mine's adjacency with Teck's Quebrada Blanca.

Anglo also brings with it a 21-year joint development agreement between its 50.1%-owned Los Bronces copper mine, also in Chile, and the neighbouring state-owned Andina mine. An estimated 2.7 million tons in copper production is expected to be unlocked, equal to an attributable 60,000 tons a year.

The capital outlay from this partnership, with Codelco, is incremental and compares favourably with standalone costs. Had Anglo proceeded with the expansion of Los Bronces independently, it would have needed to expand its existing concentrator, estimated at \$3.5bn-\$4.5bn in capital outlay, according to Goldman Sachs analyst Matt Greene in a June report. Instead, the cooperation with Codelco defers underground development of Los Bronces.

PORTFOLIO PONDERABLES

The balance of earnings in Anglo Teck will be derived from iron ore production, at about 23% of total, followed by zinc (6%) and manganese (1%), representing Anglo's stake in the Samancor joint venture with South32 in South Africa.

The assumption is that Anglo's 85% stake in De Beers will have been sold by the time the merger is incorporated. Yet other portfolio adjustments could occur further down the line. Given the brownfields expansion in the combined group, there may be less appetite for expensive greenfields projects such as Zafranal, San Nicolás and Sakatti, Deutsche Bank says.

There's also a major question mark over Woodsmith, a minerals fertiliser project Anglo opted to slow several years ago. Wanblad describes it as "undoubtedly an exceptional resource". It remains to be seen though how Teck shareholders will take to spending big money supplying the agribusiness market.

Woodsmith contains polyhalite, a multi-nutrient alternative to potash, which is the mineral BHP is mining at Jansen in Saskatch-

ewan. Wanblad is keen to say Woodsmith needs to be syndicated as one of three criteria before investment approval. Agribusiness can be an expensive business: BHP has spent \$20bn plus on Jansen and recently wrote it down for \$2.5bn.

Even before syndication, Woodsmith has to meet a viable feasibility study. After this, the project will need to compete with other projects Anglo Teck may have on its desk. The deferral of copper expenditure may allow for Woodsmith. Markets also change. Says Wanblad: "Fertiliser availability and food security have moved up the agenda as concerns over climate change increase and then particularly in the last few months as trade flows locked up in the Gulf."

"I'd expect us to be looking at this from 2028."

There may even be questions over Kumba Iron Ore, the Johannesburg-listed subsidiary in which Anglo has a 70% stake. Anglo is spending money on the operation at the moment and there's the prospect of mineral resource growth but Deutsche Bank says iron ore in general, along with zinc, could one day figure differently in Anglo's books.

HISTORY

Anglo's locus has for over two decades been in London, not Johannesburg, yet in South Africa the Teck deal generates a faint sense of loss, even if a significant part of the share register is in South Africa. For very sound political reasons, Wanblad is keen to downplay the group's break from its historic African moorings.

"Africa and South Africa in particular run deep in the DNA of Anglo American and that doesn't change," he says. "I've been very clear about that. I've said time again that we absolutely see and believe in the sheer potential of South and Southern Africa as mining jurisdictions, with vast and untapped mineral endowments."

It's well documented the conditions required for big greenfield investment in Southern Africa but Wanblad does say there's "a growing realisation amongst investors (and Western governments) that Africa is where mining companies need to be".

"We would love to be doing more in South Africa and across Southern Africa and our teams are always looking at opportunities – in addition to our exploration teams in Angola, Zambia and South Africa."

Perfecting the pure play

BY DAVID MCKAY

MATT DALEY, the Australian-born CEO of South32, takes over a company far simpler in structure than the demerged assets bequeathed to his compatriot, Graham Kerr. When Kerr made his inaugural comments as CEO in 2015, he was basically managing the mines BHP hadn't the stomach for. "Crapco" is how the market termed it – a sobriquet to which Kerr was able to refer years later, having successfully divested of the "troublesome" operations.

Gone are South32's thermal coal mines in South Africa, its metallurgical coal in Australia, and nickel assets in Colombia. In their place, Kerr bought 45% of Sierra Gorda, a copper mine in Chile for \$1.4bn in upfront cash in 2022, and before that he took a bet on exploration assets in Alaska that later attracted the investment of the US government.

Then, on July 1, the group announced it was selling nearly its entire aluminium chain – bauxite mining, and alumina and aluminium processing facilities – for \$4.1bn in cash and shares to Alcoa, the US company.

It is the last of Kerr's corporate surgery at South32 having signalled his intention to resign in May, and among his most consequential. For one, the transaction decisively takes South32 out of the business of smelting and refining towards mining, or "closer to the resource", according to analysts at Citi, a bank.

Secondly, the Alcoa deal halves South32's operating assets from eight to four. Closure and rehabilitation provisions also fall, about 70% to about \$500m. The outcome is a "structurally lower-risk, lower-cost business", says Citi.

In an interview with Miningmx, Kerr alluded to the particular pressures of competing with China in the aluminium chain. The business, especially the Hillside facilities in South Africa, were potentially

vulnerable, he said: "Not only was it in the best interests of our shareholders, but also in the best interests of our people who work at Hillside [in South Africa] and Worsley [Australia]." Alcoa's scale and leverage mean the aluminium business is "sustainable in the long term", he added.

Alcoa takes on \$750m in asset-level debt from South32. All in all, the transaction has an enterprise value of \$5.6bn. While that's below Citi's valuation – an aluminium bull – the cash enables South32 to fund its development assets, especially copper, which commands a higher premium than aluminium and ought to lift the group's valuation.



Matt Daley, CEO of South32

"We're going through a period of higher cash demand now as we build Hermosa but on the other side we're generating large amounts of cash," said Daley. Hermosa, a \$2bn zinc and manganese project in Arizona, is a big deal for South32 as it's the first of its major new developments. Owned since 2017, it is due to begin production in 2029.

Once Hermosa is fully built, South32 may then revisit its payout policy. Daley was keen to add, though, that the board will opine on South32's development pipeline. Kerr has swapped present-day cash flow for future rewards and so it falls to Daley to deliver. No pressure then. Says Daley: "About 55% of our earnings will come from copper, about 30% from lead and silver, and we've got a further 55% growth trajectory from our approved and in-execution projects. It's a really compelling story. Graham's done a superb job positioning the portfolio and it's my job to pick it up and grow it from here."

One interesting sidelight to South32's investment story is that it might now, as a simpler business with medium-term production in the offing, become a target for a larger rival, as Reuters speculated in July. Relative valuations could make a case for a cut-price deal, the newswire argued. The market, though, doesn't seem to be valuing in the prospect. Shares in South32 increased 9% on the day of the Alcoa deal but have since retraced. That is despite Daley taking up the reins at South32, riding a crest of good news.

On the same day he officially took over from Kerr, South32 said it was proceeding with a fourth grinding line at Sierra Gorda, a \$725m project (100% basis), expanding processing capacity a quarter to about 60 million tons a year, lifting attributable copper production 30% by mid-2030. Days later, South32 received a major boost when US authorities permitted the Hermosa project about two months ahead of the deadline.

That provides some vindication of Kerr's strategy to refocus South32 on the US, where securing critical metals is a national priority. The rest is over to Daley. "It's been a fun day," he remarked on his first 24 hours in the role. But as a former operations director at Anglo American and head of Glencore's copper business in Canada, he knows tougher days will come.

From Entrepreneurial Vision to Equity Ownership: Fred Arendse's Next Frontier

In 2026, SSC Group celebrates 21 years of excellence, transformation and sustainable growth in the South African mining sector. Founded by mining entrepreneur and industry leader Fred Arendse, the Group has evolved from a mining services business into a diversified operating minerals and investment group with a clear vision: to build a globally competitive, black-owned mining company that creates lasting value for shareholders, employees and communities alike.

Under Fred Arendse's leadership, SSC Group has consistently expanded its footprint across the mining value chain, with capabilities spanning mining services, drilling, advisory, energy, ESG solutions, human capital and strategic investments. Today, the Group is entering a defining new chapter in its journey — transitioning from supporting mining operations to becoming an equity operator and owner of mining assets. This strategic evolution is exemplified by SSC Group's participation of the Beatrix 4 Shaft in the Beisa uranium and gold project acquisition, where the Group secured a 30% ownership stake with the communities and employees, alongside industry partners Sibanye Stillwater and Neo Energy Metals. The transaction represents more than an investment; it marks SSC Group's arrival as an equity participant in one of South Africa's most significant future-focused mining opportunities.

As the mining industry continues to evolve, SSC Group remains committed to its founding mission of building a global, diversified operating minerals and investment group. Twenty-one years on, the principle of "Together We Grow" continues to guide the organisation as it shapes the next generation of mining leadership and ownership in Africa.

“Mining is not merely the extraction of resources; it is the responsibility of transforming finite minerals into infinite opportunities for all stakeholders, especially communities and future generations.

- Fred Arendse”

For the love of diamonds

The last five years have been hair-raising for diamond miners amid plummeting prices. As mines close, all eyes turn on whether a new owner of De Beers can make diamonds sparkle again, writes

BRENDAN RYAN

THE global natural diamond mining industry has taken a severe beating owing to competition from lab-grown synthetic diamonds. The bad news, say industry insiders, is that the pain may not be over.

South Africa has been hit particularly hard, imperilling mines and the companies that run them – and that is before considering the consequences of Anglo American completing the sale of its 85% stake in De Beers. What happens to De Beers is viewed as crucial: the new owner could play a decisive role in restoring investor and consumer faith in natural diamonds – or fail to, with consequences for the entire industry.

The extent of the damage is visible in the statistics. According to the Minerals Council South Africa, the country's diamond miners produced 5.8m carats worth R13.4bn in 2024. That compares with 10.5m carats worth R26bn just two years earlier. Available evidence from company financial reports suggests 2025 was worse still.

The collapse in De Beers' own value tells the story in starker terms. In 2012 the company was worth \$12.75bn, derived from Anglo American's \$5.1bn buyout of the Oppenheimer family's 40% stake. Today the carrying value on Anglo's balance sheet, after a series of impairments, stands at just \$2.3bn – and market sources believe Anglo could receive considerably less than that. The sale is not optional: it forms part of a restructuring unveiled in 2024 to which Anglo is committed.

STRUCTURAL SHIFT

The core problem is the collapse of demand for small, low-value diamonds – those below one carat – of the type used in cheaper jewellery and engagement rings. This segment has been captured by lab-grown synthetics, which sell for around 10% of the price of a comparable natural stone.

Between 2015 and 2025, the natural diamond market fell 16%



in volume – from 128m to 107m carats – and 33% in value, from \$15.6bn to \$9.5bn. Over the same period, synthetic diamond production rose 170-fold, from 0.2m to 34m carats, with total value climbing from \$170m to \$3.4bn.

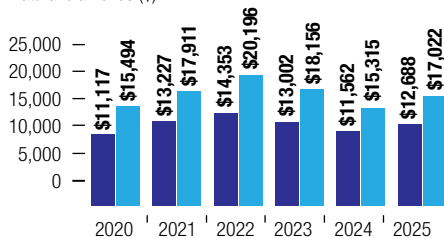
"This is the worst market in my career," says James Allan, a mining consultant and former top-rated diamond analyst. "It's probably even worse than the 1930s," hastening to add, however, he wasn't around at that time.

James Campbell, MD of Botswana Minerals and a former senior De Beers executive, agrees that this is not a cyclical downturn. Previous crises – the Depression, the Second World War, COVID-19 – were unpredictable, 'black swan' events that crushed luxury spending before eventually normalising. This time is categorically different. "Those were events which hit diamonds because they are a luxury commodity and an optional spend," he says. "What we are seeing now is a structural change with the advent of lab-grown diamonds into the engagement market, substituting natural diamonds to a large degree. We are not going to see what we saw in the past, where prices dropped 50% to 60% and then recovered while demand eventually got back to where it used to be. I don't think that's going to happen."

Instead, Campbell foresees a smaller, segmented industry built around three niches: large, high-value stones for the ultra-wealthy

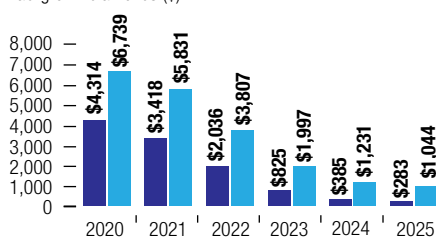
How prices compare (3.0 carats)

Natural diamonds (\$)



■ B2B ■ Retail

Lab-grown diamonds (\$)



Based on retail sales by 2,500 US jewellery stores
Source: Edahn Golan Diamond Research & Data Ltd.

who have no interest in synthetics; rare coloured diamonds as collector's pieces; and a provenance-based market where consumers pay a premium to know where their stone came from and what story it carries. De Beers' current "Desert Diamonds" campaign is an early attempt at the third, targeting consumers who want the narrative behind the stone as much as the stone itself. "That's really important to some consumers," says Campbell. "If you are Canadian you might want to buy only diamonds that have come from the Arctic. That kind of marketing would supplement the natural diamond advertising campaigns."

Gregory Katz, partner at Trigon Adamas, a South African firm specialising in sourcing and manufacturing high-quality diamonds, frames the bifurcation bluntly. Demand for stones priced between \$100,000 and \$5m remains healthy; brands like Cartier and Richemont have performed exceptionally well. But at the entry level the calculus has shifted decisively against natural stones. "Someone comes in looking to buy a half-carat diamond, wanting to spend around \$1,000," says Katz. "But for that money you can buy a two-to-three-carat lab-grown diamond in a top colour and top purity. In America today, 60% by number of diamonds sold are lab-grown." Lab-grown, he adds, has changed the market structurally, not temporarily.

CASUALTIES

The human cost is accumulating. Small alluvial producers have been largely wiped out. "If your prices drop 40% and your costs go up 20% and then you have all the issues with government, you cannot survive," says Katz. "The small alluvial miners got wiped out."

'Who is going to find \$6bn to develop underground operations at Jwaneng?' asks Bristow

Among larger operators the picture is equally grim. In March, Ekapa – which ran the underground and dump retreatment operations around Kimberley formerly owned by De Beers and subsequently by Petra Diamonds – went into liquidation. Liquidators are now seeking buyers for what they describe as "one of South Africa's most significant diamond assets", with the sale said to have attracted national and international interest. What buyers would actually pay under current conditions is debatable. Foreign investors face the additional deterrent of South Africa's empowerment requirements, and the Kimberley area is beset by illegal mining that has become a serious operational hazard.

In May, Petra put its Finsch mine into business rescue. Petra CEO Vivek Gadodia has described the situation as "unprecedented". The company's Cullinan mine is better placed, producing higher-quality and coloured stones, and management is reorientating operations to increase such production. But Petra's broader survival may ultimately hinge on the patience of its funders and bankers.

Further up the quality curve, even producers of large stones are feeling the strain. Gem Diamonds was forced into cost-cutting at its Letšeng mine in Lesotho in September, laying off 240 workers – a fifth of its workforce. Lucara Diamonds in Botswana

faces similar pressures. Producers of large, high-quality stones are the most insulated from lab-grown competition, but insulated is not immune.

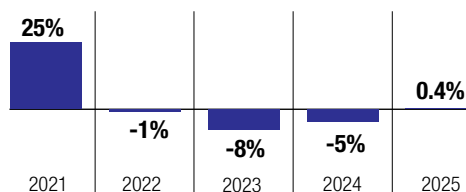
Not everyone despairs. John Bristow, an independent consulting geologist and former MD of Rockwell Diamonds, notes that the diamond business has survived 2,000 years. "I don't think it is going away in a hurry," he says. "Greater focus on marketing and branding is paramount and the sooner Anglo American cuts loose its ailing waif the better. There are still people out there taking a long-term view and seeing upside in the market – Stargems has a strong balance sheet. There's life out there if you have the right goods." Stargems, a Dubai-based group, bought the Koffiefontein mine from Petra and also runs alluvial operations and a cutting and polishing works in South Africa.

Bristow expects consolidation, with smaller producers going out of business, and sees Angola – home to high-value alluvial operations and two open-cast mines, Luele and Catoca, with lower costs than Botswana's ageing deep pits – as among the likely long-term winners. The question hanging over Botswana is who will find the estimated \$6bn needed to take the giant Jwaneng mine underground when its open-cast life ends. "Who is going to fund Jwaneng's future underground?" asks Bristow. "That's the cost estimate that is floating around."

DE BEERS

Both Campbell and Allan are emphatic: the fate of the broader industry will be determined by what happens to De Beers and who ends up owning it.

Global demand growth for natural diamond jewellery (%y/y US\$ terms)



Sources: US independent retailers aggregated POS data, results reports of listed companies globally, De Beers commissioned retailer survey in the main diamond consuming countries, officially published statistics globally, aggregated China online diamond jewellery sales, and De Beers Global Markets and Price Analytics analyses.

Anglo is unlikely to recover book value. "They will be lucky to get \$2bn – they could get a lot less – and I think Anglo needs to cut and run," says Allan. "The longer they keep control of De Beers the more they destroy value." Campbell is equally direct: "I would be very surprised if they get full book value upfront."

Campbell's critique of Anglo's stewardship runs deeper than the sale price. "So much hinges on what happens with De Beers and who buys it," he says. "I have long maintained that Anglo American's control of De Beers was really bad for the industry because they did not spend on advertising. As far as I can see, all Anglo did was suck money out of De Beers, which has been really bad for the diamond industry." He says he submitted questions to Anglo investor relations requesting details on marketing spend and how much was extracted from the business in dividends and management fees, but did not get a reply. Anglo CEO Duncan Wanblad has denied that the company underspent on advertising. Allan's information is that \$100m was spent in 2014 and another \$100m last year, with little in between.

Allan is also scathing about De Beers' decision to launch Lightbox, its own lab-grown diamond brand, which he believes lent legitimacy to the synthetic segment at precisely the moment De Beers should have been fighting it. The strategy has since been

'Someone comes in looking to buy a half-carat diamond so they want to spend around \$1,000. But for that money you can buy a two-to-three-carat lab-grown diamond in a top colour and top purity' – Gregory Katz, Trigon Adamas

abandoned, but the damage, in his view, has been done.

What the industry needs from a new De Beers owner, says Allan, is someone prepared to rebuild the mythology of natural diamonds through sustained marketing investment. "Whoever buys De Beers has to increase ad spend to convince people that natural diamonds are a different product to lab-grown diamonds," he says. "They also have big capital expenditure ahead at Jwaneng where they have to go underground. You need somebody in charge at De Beers who is prepared to recreate the myth of natural diamonds. The future of all the other smaller diamond producers hinges on De Beers coming right – and I think the



only person for that is former De Beers MD Gareth Penny."

Campbell shares the instinct. De Beers has historically performed best, he argues, under larger-than-life leadership – figures like Penny, Julian Ogilvie Thompson, Gary Ralfe and Harry Oppenheimer – who understood that selling diamonds means selling a dream. "The outcome of the sale of De Beers is absolutely critical for the future of the diamond business," he says. "De Beers has always been the symbolic leader of the industry selling the diamond dream. All three market segments require strong marketing – particularly the provenance business. This is marketing 101. Look at any luxury product: if you don't market the hell out of it and provide your distinctive competitive advantage over another product, you are in trouble."

Campbell himself is hedging. Last year he diversified his exploration company into base metals, primarily copper, and rebranded it from Botswana Diamonds to Botswana Minerals, a telling signal of where investor appetite currently lies. Diamond licences are being kept in good standing for now. "We have put our diamond business on the back burner but kept our licences in good standing," he says. "We will make a call on the business towards the end of the year when the licences are due for renewal and, hopefully, we should have more visibility on where De Beers is going."

For South Africa's diamond industry – and for the global natural diamond market – everything hinges on exactly the same question.



James Campbell, MD, Botswana Minerals



Gareth Penny, former MD, De Beers

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Is Barrick the John Thornton company?

BY DAVID MCKAY

AN analyst remarked during the first months of the merger between Randgold Resources and Barrick Gold in 2018 that its two principals – John Thornton and Mark Bristow – were “singing from the same hymn sheet”. They were the ‘odd couple’ but joined by common goals. Evidence that stopped being true emerged in 2024 on perhaps the most combustible of all corporate flashpoints, strategy.

Speaking at a conference in London, Thornton expressed regret Barrick hadn’t done any mergers and acquisitions (M&A). “Barrick has been, in my view, very slow ... the most important thing when you’re buying companies in the mining industry ... is just buy it. We have not done that. We have insisted on getting into the weeds and that has been a mistake.”

Bristow’s departure from Barrick just over a year later still felt sudden, but not unexpected. According to one insider, Bristow was presented with a take-it-or-leave-it proposal to split the company, with many of the mines he brought to the party thrown into a rump consisting of high-risk assets, including Mali’s Loulo-Gounkoto.

But what torpedoed the Bristow-Thornton partnership was a separation of ideas about mining companies. Bristow, a geologist, preferred to build mines, no matter where they were, believing their quality would outweigh all other risks, eventually. Thornton was less interested in resource value curves and more focused on the share price. He is also the chair.

Having then severed his partnership with Bristow, it’s no great surprise Thornton’s Barrick has played to the investment

gallery in a way that Bristow – who once dismissed analysts as “quacking ducks” – was never prepared to do. By December, Barrick unveiled plans for an initial public offering (IPO) of its Americas mines. In February, it dialled back its plans for Reko Diq, an enormous gold resource in Pakistan the scale of which Bristow never tired of extolling. For him, political risk was a manageable cost but in new Barrick the focus is on the now, and investors are turned off by Pakistan. The mine could even be sold.

With activist investor Elliott freshly on its shareholder register, Barrick could embark on other corporate moves. Speculation – dismissed by the company – was for the sale of its African assets to Endeavour Mining, a West African miner.

Says Mark Hill, Barrick’s CEO since February, of M&A in general terms: “I wouldn’t characterise dealmaking as a deliverable in and of itself ... We have significant opportunities already inside the portfolio through exploration, project development, operational and safety improvement, and the ramp-up of key growth assets. That and delivering the North American IPO is where our focus is in 2026.

“That said, like every company, if there is an opportunity that improves the quality of the portfolio, strengthens our growth profile, and creates long-term value for shareholders, then of course we would look at it. But we are not going to do deals just to be seen to be doing deals.”

Hill was previously head of operations of Barrick’s Latin America and Asia Pacific assets and its chief investment officer before that. Where Bristow was forthright, Hill is cautious, though in fairness his is a difficult task. The company he’s now running is in deep flux and the executive is reshaped, new, and to an extent inexperienced. Bristow brought a readymade exco with Randgold including CFO Graham Shuttleworth, who has been replaced. There’s also a new legal chief and appointments in corporate development among the senior positions in the North American assets.

Change extends to the boardroom. Ben van Beurden stepped down as lead independent director in late 2025 after only seven months. Thornton, who decided to become nonexecutive back in 2024, and who wryly remarked his executive reach



John Thornton, chair, Barrick Mining

wasn't needed with Bristow in situ, is now one of the only surviving members from the merger.

Nonexecutive in name only, says one industry executive. "The chairman has consolidated power completely since Bristow was removed. Barrick's lost a huge amount of relative performance over the past while, and looks like he's relying on corporate manoeuvring to make up the lost ground."

Barrick has lagged rivals during the run-up in the gold price from 2024. Even in the fourth quarter of 2025 it achieved below-average returns on capital and equity, according to Metals Focus, a UK precious metals research house. This compares to outsized sector performance. "In 2025, the companies in our peer group generated free cash flow of \$25.8bn, almost three times the \$9.2bn generated in 2024."

What's different about the current gold upcycle is industry restraint. It has switched into net cash overnight while spending on deals has actually been restrained in relative terms. The focus has been on improved dividends, which have been preferred by company boards to share buybacks, again suggesting the premium management is placing on cash. Bristow was fond of hammering his rivals, claiming they overshot their reach with foolish, balance-sheet-damaging M&A, and failed to invest in their pipelines. He may yet be right about the latter in the past, but in this cycle the gold sector has responded to investors in a way it hasn't in other bull markets.

In this context, Thornton's Barrick has upped its game. In May it announced a \$3bn share buyback, twice what the Canadian miner bought last year, according to a report by Bloomberg News. It came only a month after rival Newmont unveiled a \$6bn buyback of its own. In the previous quarter, Barrick announced a new dividend policy targeting a total payout of 50% of annualised attributable free cash flow.

Interestingly, the game is still afoot for the gold industry because investors haven't recognised the improved financial discipline, according to Metals Focus. "Despite stronger balance sheets, higher dividends and record profitability, valuations remain subdued by historical standards," it says. "Whether this reflects investor caution towards the sustainability of current gold

prices remains open to debate."

For Thornton and Hill, there's lots still to play for.

Speculation linking Endeavour with Barrick is partly born of the perception Barrick's major corporate surgery will involve its African mines. According to Hill, however, the group's most troublesome African mine, Loulo-Gounkoto in Mali, is actually among the most valuable. "In Q1 2026, group gold production was above guidance at 719,000 ounces (640,000 to 680,000oz), and part of that success was from Loulo-Gounkoto outperforming the restart plan," he says.

Loulo-Gounkoto produced 80,000oz of gold in the first quarter, well below its 2024 quarterly average of 180,000oz – roughly 14% of the group's total output. Further production increases will also help cut costs, which have been high.

But the asset is tied to political risk after Mali's military leaders effectively expropriated the mine and impounded gold for sale. Barrick eventually agreed to pay \$430m to Mali for historic tax due – the original basis for the dispute – in return for a mine reopening and a 10-year renewal of the exploitation permit as well as the somewhat under-appreciated release of detained employees. Despite these benefits, such an episode seriously undermines investor confidence in the country.

It's arguable, however, which is the lesser of two evils – lost production or geopolitical unease. "Clearly, Mali has presented challenges. I would not minimise that," says Hill. "But we have a long history in the country, and we have shown that we can work through difficult issues constructively. The way we see it is straightforward: it is a world-class asset, and our job is to manage the risk properly while continuing to unlock the long-term value."

For the remainder of the year, all eyes are on the IPO.

At the time of writing, details relating to the size of the stake made available (10-15%) and how returns will be paid have not been explained by Barrick, but the idea is to float a small minority stake, hoping that investors recognise the inherent value in Barrick's stake in Nevada Gold Mines, Pueblo Viejo mine in the Dominican Republic; and Fourmile, a Nevada deposit described by none other than Bristow as among the most significant gold discoveries of this century.

"What I want to leave you with, and I'm definitely going to be talking about this every quarter going forward, is the significance of this resource of tens of millions of ounces, right in the middle of infrastructure, the Nevada infrastructure," said Bristow at one of his final presentations, clearly not anticipating it would be left to someone else to develop.



Mark Bristow, former CEO, Barrick Mining

Johannesburg is having a gold rush... Sort of

Record gold prices have miners returning to old reefs. But is this revival real or merely recycling history, asks **RUBY DELAHUNT**



THE last time gold was as valuable, prospectors, gamblers, bounders and other rakes were united in scouring the globe – from California to Johannesburg – with their pickaxes and pans in search of a few grains of gold.

It's not as though we don't have the same today: arguably South Africa's zama zamas capture the same endeavour, while modern-day magnates are raking in cash. Gold

Fields doubled its profit in 2025; Anglo-Gold Ashanti's free cash flow tripled to \$2.9bn in the same period.

But there's a key difference: gold is valuable because it is expensive. At over \$4,000 an ounce, mines that were once dead and buried are being revived. "Even the gravel under the tar roads may just contain enough gold to be mined profitably," says Bernard Swanepoel, a self-described mining optimist and former CEO of Harmony

Gold.

Back then, gold was abundant in South Africa, the magnitude of the Witwatersrand basin overwhelming. During its heyday, in the 1970s, the country was producing 1,000 tons of gold annually. But 140 years after the gold rush birthed Johannesburg, industry analysts are looking at the exhausted reef with resignation, and scepticism about its potential.

At the height of South African gold mining, the sector employed nearly one million people and supplied 80% of the world's gold. In 2026, the country isn't even in the top five gold-producing companies worldwide, and it employs closer to 100,000 people.

Swanepoel says that a few decades ago, "in order to justify the investment and carry the costs, you built an underground city. And the design criterion was around 250,000 ounces." Even a 500,000oz mine was not entirely uncommon. Today, new junior miners are overjoyed to get 70,000-80,000oz out of a project.

But with the skyrocketing gold price, and the emergence of some new miners on the scene, could we see a reversal of gold output in terms of production in South Africa? "Highly, highly unlikely," is Swanepoel's view.

There are several reasons for this, besides the fact that the Witwatersrand has been mined for more than a century. Today, many areas alongside gold reefs – previously mined or not – have been "significantly encroached on by towns and squatter camps, and that makes it difficult to [have] a mine in a built-up area," he says.

Sean Meadon of Gold Ore, which is developing the Benoni South Gold project, acknowledges this problem. Speaking at the Junior Mining Indaba conference, he said there was a major illegal mining problem throughout the Witwatersrand. In the area just 2km south of their mining exploration, "there's about 3,000 illegal zama zamas, and we've already got a couple moving into this area here," Meadon said. Simply put: "It is a train smash."

Many mines have been plagued by this problem. "The reopening of Blyvoor looked like a war zone," Swanepoel says. To keep out zama zamas, Aurous Resources built a massively high wall and employed tons of security, almost formulating a private army.

It did not seem to help much though, as the mine was blockaded and shut down by illegal miners several times after its reopening.

On top of that issue, Gold Ore is trying to mine an area that is split up by main roads and highways, making the process even more taxing. There's absolutely no chance of blasting in this area, Meadon says, which means mining capabilities are limited.

The mining sector is also burdened by high input costs alongside a strengthening rand. "We sell in dollars, and a strengthening rand is the same as a cost increase," says Swanepoel. Even while the gold price is sky high, mining is a costly task to undertake, and one that might not show revenue – never mind profits – for years to come.

Bringing in foreign investment is also a trickier task than it was several decades ago. "South Africa is not really the flavour of the rest of the world," is how Rudi Deysel, CEO of West Wits Mining, puts it. "There's a lot of things that investors outside of South Africa see as risks." The issue of loadshedding was for many years a large risk factor for investors, for example.

"The one thing that investors want is policy certainty, and that is one of the things we struggle to give [them]," Deysel says. The Minerals Council South Africa has for years warned that constantly changing regulations and strict compliance mandates create an unfriendly investment climate. "In other parts of the world by now, lots of people would have listed new exploration companies and raised money," Swanepoel says. But with exhausted reefs, overcrowded areas, plus security and financing issues, gold mining is looking harder than ever.

LIFE AFTER DEATH

Gold miners are nothing if not resourceful – and where there is gold, enterprise follows. Whether there is genuine, sizeable opportunity, or whether miners are puffing on the embers of the country's old great mines is the question.

Miners understand that the massive reefs are unable to support economic, large-scale production. But the country is laden with shuttered mines that still have significant remnant gold in them, leading to a rise in so-called secondary reef mining.

Large-scale miners such as Sibanye-Stillwater recognise this; the company is actively



mining secondary reefs at its Kloof and Driefontein gold operations near Carletonville. This strategy extends the life of these mature mines as its primary reefs become depleted.

"This is a mature gold field; it's expected that you will find a lot of the work is in ore-body maximisation rather than finding new bodies," says Billy Mawasha, CEO of Bokamoso Gold of the Witwatersrand Basin.

Bokamoso Gold is a private equity fund hoping to buy unloved gold mines, the assets no one wants. As a result, Mawasha firmly believes secondary reef mining is the future. "It's your best economic return. You already own the asset; you've already sunk

infrastructure costs," he explains. "And no one knows for how long this price will be elevated, and putting together a new mine from scratch takes 15 years."

Swanepoel says this is the most attractive, and safest, option. "In mining, I would argue the single biggest risk is that the orebody doesn't exist. Here is a geological address where you can probably tell anyone the reef exists. It's proven; we know it's there."

A proven reef, already sunk infrastructure, reduced time to cash flow, and a fantastic gold price seem to be reason enough to jump headfirst into secondary mining. But many of the businesses in the field have yet to produce material results.

Bokamoso Gold has yet to secure a mine, which Mawasha puts down to the spike in gold price. Swanepoel, who is chair of Bokamoso Gold, agrees. "Why is it difficult for people to sell? Because the mine that gave them grey hair, that kept them awake at night, suddenly prints cash."

Mawasha says the company has "commitments to the funds that [they] wanted" and is therefore waiting for a firm offer. So at least, despite the lack of tangible opportunity, there seems to be confidence enough in the project to finance it.

Gold Ore and another new entrant to the gold industry, Lexington Gold, say turning ambition into action is the hardest step of all, despite the mineral potential. Gold Ore has a "major underground deposit of Main Reef and Main Reef Leader", Meadon says.



Rudi Deysel, CEO, West Wits

His expectation is that the firm's Turnbridge project, at 240m deep, will produce 80,000oz/year, with a life of eight years. Gold One also has New Kleinfontein, an open-cast project. "In total, we're targeting round about a million ounces coming out of this area," Meadon says.

But no mining has actually commenced yet, and the project is still burdened by zama zama-related issues, as well as the fact that the mine is in such an urban area. The truth is the market is wary. "This is one of the maddest, craziest stories I'm aware of" said Swanepoel at the Junior Mining Indaba of some of the gold hopefuls.

Lexington Gold has a gallery of projects, but its flagship is its Jelani project, which it shares with Harmony Gold. Up to six million ounces of gold can be extracted, CEO Bernard Olivier says. The Bothaville project in the Free State is another. Olivier says Lexington Gold is "targeting relatively shallow gold". It has a mining access depth of 280m. "So let it not be said that the only gold left in South Africa is at extremely deep levels." He expects to see 1.7 million ounces out of Bothaville.

Olivier praises the Witwatersrand gold field, saying "there's still 1.2 billion ounces estimated to be left [in the Witwatersrand]. So, this truly makes for an attractive destination to come and explore in."

However, South Africa is also saddled with a declining production history, and a lack of confidence in the opportunities available. "We don't have a problem that there isn't gold left in South Africa, we've got a problem that we don't have explorers and investors anymore."

Lexington itself has also not started mining, as its projects are all still in the exploratory and regulatory stages.

As such, it is difficult to tell from any of these stories whether the gold will actually materialise, breaking down the myth of the unending supply of the Witwatersrand basin.

And there are, of course, a few too many failed projects to be comfortable. The reopening of Blyvoor gold mine by Aurous Resources was seen as a huge comeback for the historic mine, and a major opportunity for the company. And while the company did produce a couple thousand ounces of gold, the project went quiet after it fell foul

of exchange control regulations. Consequently, the South African Reserve Bank blocked a proposed \$50m deal to merge with New York-listed shell company Rigel Resource Acquisition Group.

There was also the disaster of Vantage Goldfields' Lily and Barbrook Gold Mines, which have been in the attempted revival process for a decade, with no results. Creditors recently rejected a R286m offer from Lions Bay Resources for access to Barbrook's tailings, deeming it insufficient to restore operations.

BREAKING NEW GROUND

But some of the new miners on the fray aren't picking over old resources – they are actively mining. West Wits Mining dug the first new mine in the country in 15 years when it opened Qala Shallows last year. The Sydney-listed miner expects around 70,000oz/year, with a life of mine of 17 years. The company calculates a post-tax net present value of \$500m, assuming a 7% discount.

The company discovered a whole block of the Kimberley reef that was intact, despite it being surrounded by old operational infrastructure. Alongside this, it received about 100 years of backdated historical drilling data of the area with the lease, which affirmed its claim of extensive resources still in the area.

Unlike other gold mining aspirants, West Wits has broken ground. "We started min-

ing and extracted the first gold ore at the end of October," Deysel told the Financial Mail. "All that ore has been transported already to our toll treater, who is processing it for us. We had our first gold pour in March this year."

He puts the company's speed down to "quick access through old workings", alongside the work it has done, to allow it to "start extracting ore very quickly".

The ASX-listed miner recently completed a new breakthrough on its project, enabling it to mine deeper. This gives it access to historically developed stoping areas on the reef. The company estimates that using historical workings could save a year in pre-production work compared with developing new stope access from scratch.

So despite it being a new mine, Qala Shallows has the advantage of pre-existing infrastructure, a major benefit to secondary reef mining. Deysel is confident about the strategy, which also involves re-mining low-grade mine dumps in the mine's boundaries. "At these gold prices, lower grades become feasible. So, there's an opportunity to create some revenue," he says. "And the other thing, it's cleaning up Joburg, because [they] are getting rid of all these dumps as well as the health risks around that."

Deysel concedes that for all the benefits, mining of this ilk is no easy task. "The first step is always the most difficult one. You'll find that guys are jumping out of the blocks, very motivated, and they start with exploration, but it's very difficult to raise funds."

It also depends what the funds are for. A curiosity of mining is that exploration is easier to fund within certain limits than construction phase, where the capital requirement is higher, and riskier. Few junior miners manage it.

So far, West Wits looks like a major success, though it's worth remembering that as founding CEO of Harmony Gold, Swanepoel comes from an era when junior mining had more scale than today. "70,000 ounces by any metric is small," he says of West Wits.

"You will never find a mine mining 500,000oz in South Africa anymore, and even 250,000oz is huge. But can we have a portfolio of say three, four shafts that do 50,000oz? Then the company still produces 200,000oz. Now that is decent."



Bernard Olivier, CEO, Lexington Gold



Uranium's 'resurrection men' bet the boom is real, this time

BY BRENDAN RYAN

THE “Resurrection Men” were Victorian-era body snatchers and it seems a version of them are on the prowl again; this time among the world’s uranium deposits rather than Edinburgh’s graveyards. Mines mothballed after the 2011 Fukushima disaster are being exhumed as nuclear power stages a comeback.

Fukushima was a huge setback to the uranium mining industry despite initial widespread optimism that the negative effects would be temporary. One analyst quipped at the time that investors should pile into the collapsed uranium shares “while they are hot”.

Instead, the setback lasted more than a decade and wrecked the fortunes of many new and would-be uranium new producers. Most notable among these failures was ASX-listed Paladin Resources, previously a star performer. It was forced to close its

Langer Heinrich mine in Namibia and sell its Kayelekera mine in Malawi. Nor should one forget the disaster that was the Dominion Reefs project near Klerksdorp developed by Uranium One, which built a high-pressure leaching plant intended to maximise recoveries. That didn’t get anywhere near its stated performance specifications, in large part because the underground mining operations did not produce the expected volumes of high-grade ore.

The point is that uranium is a highly volatile business which has gone through a series of boom and busts, although the major South African gold producers used to make a lot of money from its mining. From the 1950s to the 1980s, various gold mines produced uranium as a by-product from their primary gold operations and sold it through the former Nuclear Fuels Corporation of South Africa (Nufcor). According

to the World Nuclear Association, Nufcor produced some 100,000 tons of uranium oxide over nearly 30 years up to 1980, reaching a peak rate of almost 6000t/year in 1960. The business largely fell away after 1980.

But the optimists are back in the saddle, and with vengeance because the uranium price is riding high again. The former Beisa mine in the Free State, developed by the now-extinct mining house, Gencor, is being reopened by UK-listed Neo Energy Metals (see page 35).

Paladin has reopened the Langer Heinrich mine and Lotus Resources has reopened the Kayelekera mine, which it bought from Paladin when that company imploded over the levels of debt it had run up.

Optimists predict eye-watering growth in the nuclear industry over the next 30 years. Current suppliers will simply struggle to keep up with the pace of new reactor construction, they say.

Driving all this is climate change. The energy crisis in the Middle East is also giving special impetus. Backers of nuclear power say it’s far cleaner than fossil fuels such as coal and gas, and more reliable than oil. Nuclear is also a reliable base-load source of electricity production, unlike renewable wind and solar power sources, so the argument goes.

Then there are the geopolitical issues. The conflict in Ukraine with its oil and gas disruptions has motivated governments into looking for “energy independence”. That concern has only been heightened amid long-term uncertainty as to how supplies of oil will be shipped through the Strait of Hormuz.

The World Nuclear Association is predicting that uranium requirements for all the new reactors – if they are built – could jump by a third to 86,000t by 2030 and reach 150,000t by 2040. Nuclear capacity is projected to nearly double to 746 gigawatts globally by 2040 driven largely by new reactors in China and India.

That could lead to a supply crisis, with the association declaring that “as existing mines face depletion of resources in the next decade the need for new primary uranium supply becomes even more pressing”.

According to London brokers SP Angel: “The restructuring of supply chains following a US ban on the import of enriched

Russian uranium is causing utilities to look for new sources of supply. Utilities are looking for long-term contracts in a market where there are few options for consistent supply from sensible and stable jurisdictions.”

So-called “energy dominance” is now a key pillar of both US and China policy. “This latest energy crisis has been widely described as the largest oil shock in history,” says Canadian broking firm Canaccord Genuity. “It has fundamentally altered the energy security narrative by exposing hydrocarbon supply chain fragility and particularly the globe’s reliance on a 21-mile-wide strait in a volatile region.”

NEW PLANS, SHORT MEMORIES

This is why the uranium oxide price is running for both spot and long-term contract sales, spurring the resurrection men entrepreneurs into action.

According to statistics from major Canadian uranium producer Cameco, the spot price has risen from around \$43/lb in January 2022 to \$94.28 four years later, and peaking at \$100.25 in 2024. The long-term contract price has risen from \$42.88 in 2022 to \$89 earlier this year.

“Increasingly, countries and companies around the globe are recognising the critical role nuclear power is expected to play in providing carbon-free and secure baseload power,” says Cameco. This was reaffirmed at

the 30th Conference of the Parties international environmental convention, with the declaration to triple nuclear energy capacity by 2050 now signed by 33 countries, it added.

Which all sounds great but investors might like to remember that similar hugely optimistic forecasts were made in the run-up to the Fukushima disaster, which was a huge setback in terms of turning world sentiment against growing demand for nuclear energy.

Unfortunately, investor memories tend to be short, especially when the next boom arrives. The belief then is that “this time it is different”. To borrow from US songwriter Paul Simon: “Who am I to blow against the wind?” of this renewed faith.

Two of the most promising uranium deposits in South Africa belong to Sibanye-Stillwater. These are the Beisa mine in the Free State and the uranium-bearing dump material on the group’s West Rand gold mines – in particular the Cooke shaft dumps near Randfontein, estimated to contain 36-million pounds (mlb) of uranium oxide.

According to spokesperson James Wellsted, the group’s strategy is to develop these projects in partnership with other companies rather than directly by itself.

The Beatrix mine is being sold to Neo Energy Metals, with Sibanye-Stillwater keeping an equity stake in the controlling

company while Wellsted says a feasibility study is under way over development of the Randfontein dumps.

“It will require a lot of capital to build a large-scale uranium recovery and processing plant and we have other projects in our sights such as the Burnstone gold mine and very attractive brownfields extensions from existing infrastructure at our platinum operations at Marikana and Rustenburg,” says Wellsted. “These would provide higher returns and quicker paybacks.”

He adds: “There are a lot of options and different ways to develop the uranium dump project. There are [dump retreatment] operators in the region like DRDGold and Pan African, and there may also be interest from Japanese or other off-takers who might pay for the plant. We are engaging with lots of different parties to determine the best way to develop this hugely valuable resource.”

Namibia has been one of Africa’s biggest winners from uranium. The Southern African nation currently operates three mines: Rössing, Langer Heinrich and Swakop Uranium’s Husab mine, with a number of other development and exploration projects under way.

Rössing was developed by Rio Tinto but is now a subsidiary of China National Uranium Company (CNUC) while Swakop is a partnership between the Chinese and Namibian governments. Paladin’s Langer Heinrich mine restarted operations in January 2024.

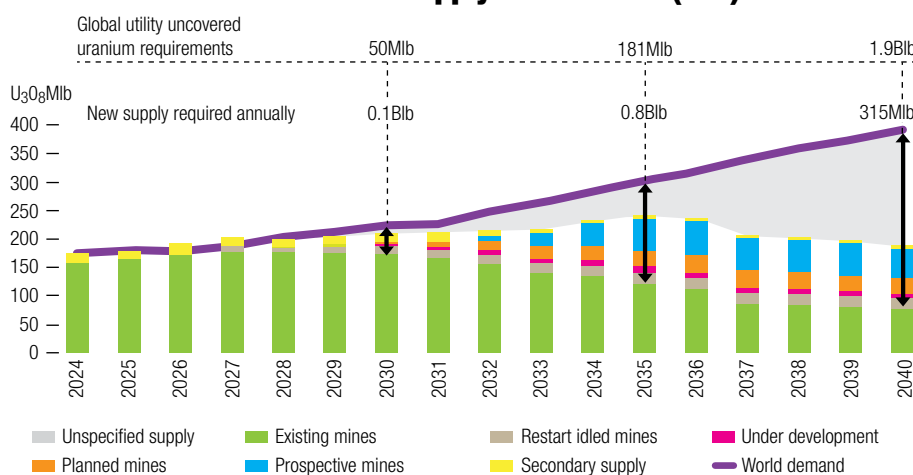
Other projects include Orano Mining’s Trekkopje mine, which has been under care and maintenance since 2013, while ASX-listed Bannerman Energy is taking a “phased greenlight approach” to the development of its Etango project “ahead of the final investment decision”.

Another African country attracting attention is Mauritania, where Aura Energy is pushing ahead with its near-term Tiris Uranium project, slated to come into commercial production in 2027.

Back in South Africa, Neo Energy Metals has a second project in addition to Beisa, which is the Henkries surface deposit situated about 100km north of Springbok in the Northern Cape. It has a resource estimated at 4.7mlb of uranium.

Neo has put in a mining right application over the ground.

Global uranium supply and demand (Mlb)



Data from the World Nuclear Association and UxC Uranium market Outlook – Q1 2026

Unfinished business

BY BRENDAN RYAN

ALARGELY unknown mining junior listed on the London Stock Exchange – Neo Energy Metals, whose current share price is less than 1 pence – is on the point of finalising a deal with Sibanye-Stillwater to reopen the former Beisa uranium mine.

Beisa was developed by the former Gencor in the late 1970s and it started production in 1982 as South Africa's first primary uranium mine with gold as a by-product. But it was shut down in 1984 because of a slump in the uranium market. Operations continued focused on mining gold only. Beisa – currently known as the Beatrix 4 Shaft Complex – will be called New Beisa and Neo Energy is planning a JSE main board listing for later this year.

While Neo Energy Metals is largely an unknown quantity to South African investors, a number of directors and top management will be familiar.

The CEO is Theo Botoulas, who started his career as a mining engineer on the original Beisa mine, becoming a mine captain there, and whose subsequent career covered uranium, gold, diamonds, base metals and industrial minerals. He was CEO of junior diamond explorer BRC Diamondcore.

The chair is Neal Froneman, who retired last year as CEO of Sibanye-Stillwater. He said at the time he was going to do something totally different to mining including helping bring a Formula One Grand Prix back to South Africa. Clearly, the lure of mining was too great.

John Wallington is another name listed under the firm's directors who stands out. Wallington spent 27 years at Anglo American, eventually becoming CEO of Anglo Coal, after which he ran the former Coal of Africa (now MC Mining) from 2010 to 2013.

Some \$500m has been invested in Beisa to set up the mine and its surface infrastructure, including a gold processing plant with a milling capacity of 120,000t/month.



Theo Botoulas, CEO, Neo Energy Metals

According to Neo Energy, the project has a current measured and indicated resource of 26.8m pounds of uranium grading at 1,100ppm (parts per million) and 1.2m ounces of gold, all in accordance with the South African Mineral Reporting Codes (SAMREC).

The Beisa Reef, which is the main mining target, is accessible from the existing shaft at depths between 300m and 1,000m.

Phase One of the project targets a mine life of 17 years, producing about 810,000lb of uranium and 52,000oz of gold annually at an all-in sustaining cost (AISC) of below US\$30/lb of uranium equivalent.

New Beisa is being acquired from Sibanye-Stillwater through a Section 11 transfer of the Beatrix mining right and the existing mining right, power and water usage rights are all in place.

Botoulas said in an interview the acquisition is a 50/50 cash and equity transaction, with Sibanye-Stillwater being paid R250m in cash and keeping a 15% to 18% stake in Neo Energy depending on funding.

He stressed the fact that the uranium resource at the mine has been left largely intact and it is high grade at 1,100ppm. "People elsewhere in the world reckon they have a winner with grades of 350ppm," he said.

Botoulas also believes that operating in South Africa gives his company an advantage in international uranium compliance and regulation. "We are sitting in a country that has a 70-year history of uranium production," he said.

Neo Energy has been approached by a number of parties interested in buying the uranium to be produced and also offering funding for the project, says Botoulas. But he adds it's too early for management to make these decisions.

"We cannot do that yet because we have to get our production profile fixed before we start entering into such agreements. We are currently reworking our numbers and upgrading the reserve and resource statement to the JORC [Joint Ore Reserves Committee] code and we are pushing to get this done by the end of the year."

He says it's also too early to commit to a definitive cost of getting the mine back into production: "We have in our heads a figure of around \$100m, which is cheap for a project like this because all the mine infrastructure is already there except for a uranium plant".

"We have to rejig the gold plant and then develop and build a new uranium plant. What makes this project is that the two shafts required – vertical and sub-vertical – are already there. If you had to sink those shafts today you are looking at a cost of \$300m to \$400m for those alone."

Africa wants more

Resource nationalism has been ever-present in the relationship between mining investors and governments in Africa. But it has rarely felt quite as strong and disruptive as now, writes **SVEN LÜNSCHE**

GOVERNMENTS across the continent are seeking to assert greater control over their mineral wealth by rewriting mining codes, demanding larger equity stakes or greater local participation, scrapping investment stability agreements and, in several cases, seizing assets outright. Even Ghana, long considered the most stable mining district on the continent, has been subsumed by resource nationalism where nations seek greater beneficial control over their natural resources.

The reason is simple: gold is trading at above \$4,000 per ounce, copper and many other critical minerals are benefiting from the surge towards renewable energy, and uranium is staging a comeback. Governments from Accra to Lusaka are stating that the deals struck with foreign miners a decade or two ago no longer feel fair.

Disputes between governments and investors over natural resources reached a 10-year high in 2025, with law firm DLA Piper recording 32 cases filed in the first 10 months of the year with the World Bank's International Centre for Settlement of Investment Disputes (ICSID). Oil, gas, gold, uranium, and lithium all feature. "As their value has become more apparent, states have felt the need to exert greater control over any deposits of critical minerals within their borders," writes Gabriela Alvarez-Avila, DLA Piper's co-leader of international arbitration.

The trend is global, but it is in Africa, which holds a large share of the world's gold, copper, cobalt, and uranium reserves and where much of these metals are mined,

that the stakes appear highest and the methods more confrontational.

The surge in commodity prices has provided both the fiscal incentive and the political motivation for African governments to act. Gold – which traded at around \$1,700/oz in 2020 – has more than tripled, breaching \$5,000 in 2026 before settling at just above \$4,000 this year. At those prices, the royalty frameworks negotiated in leaner times look extraordinarily generous to foreign operators. Amid pressure from populists, governments are arguing that their countries deserve a fairer share.

Many African states are under acute fiscal pressure, having emerged from the twin crises of the pandemic and post-pandemic inflation with constrained budgets and limited access to international capital markets. For governments in this position, the mining sector offers a politically palatable alternative to orthodox austerity.

In West Africa's Sahel region, geopolitics

'If you are asking me what the [resource nationalism] trajectory is, I think it's fair to say it is likely to be higher, but over the longer term' – Ian Cockerill, Endeavour Mining



has added a further dimension. Military juntas that have distanced themselves from Western partners and allied themselves with Vladimir Putin's Russia have seen aid flows dry up and turned to their mineral wealth as a substitute source of revenue.

IN EXTREMIS: THE SAHEL

Nowhere has resource nationalism been pursued more aggressively than in the Sahel region. In Mali, Burkina Faso and Niger – three of the world's poorest countries, yet rich in gold and uranium – military juntas have adopted policies that combine economics with intense nationalism and, at times, coercion.

In Mali, the 2023 mining code raised state and local ownership of mining projects from 20% to up to 35%, while boosting royalties from a maximum of 6.5% to 10%. The country's junta, led by interim president Assimi Goïta, is applying the code with force: by late 2025 it had recovered an estimated \$1.2bn in back payments from mining companies. Barrick Mining's Loulo-Gounkoto mine – which contributes roughly



40% of Mali's gold output – was suspended after a standoff that included the arrest of several Barrick employees and the issuance of an arrest warrant for its then CEO Mark Bristow. The standoff cost Barrick around \$430m in settlement fees and an estimated \$1.9bn in lost revenue. Mali, meanwhile, lost millions in taxes and royalties during the suspension. Gold production in the country fell 19% in 2025 to 81.2 tons.

Burkina Faso, where a military government has been in power since 2020, enacted a new mining code in 2024 that raised the government's free-carry stake in new mining projects from 10% to 15% and eliminated previously granted tax exemptions. The state has also taken direct control of mines: two gold operations previously owned by a UK-based firm, Bounou and Wahgnion, were acquired by the state mining company – reportedly below market value. In April this year Burkina Faso took a 35% stake in West African Resources' newly commissioned Kikaka mine, in addition to the free-carry stake it had already increased to 15%.

In Niger, resource nationalism is the

most confrontational of all. Emboldened by anti-French sentiment following the 2023 coup, the junta nationalised Somaïr, the country's largest uranium mine majority-owned by French state company Orano. Some 1,000t of uranium stockpiles – valued at approximately €250m – were seized at the mine site, in apparent violation of an ICSID arbitration ruling. Several other mining and exploration licences were also revoked. The military government, which is strongly supported by Russia, has made no secret of its strategy that natural resources must serve the state first and foremost.

SOUTHERN COMFORT

In other African states the approach is less confrontational in Zambia, Africa's second-largest copper producer, ZCCM Investments Holdings (ZCCM-IH), the state mining company, is actively seeking to raise its minority stakes in a range of mining operations – but has been explicit that it will do so on commercial terms and without forced sales. "There is clear intent for us to have substantial stakes in our existing

mining assets," CEO Kakenenwa Muyangwa told Reuters.

ZCCM-IH raised its stake in Lubambe Copper Mines to 30% last year and is currently increasing its holding in KoBold Metals' Mingomba Mining from 20% to 25%. The company's stated goal – tripling copper output to 3 million tons by 2031 – requires continued foreign investment and it has been cautious and encouraging in its dealings with mining multinationals. Where ZCCM-IH owns the licence, it expects a free-carry element of 5%-15%; after that, participation is negotiated commercially.

The Democratic Republic of Congo (DRC) – home to roughly 70% of the world's cobalt reserves and a significant share of global copper – has pursued a dual-track strategy. On one hand, Kinshasa has leveraged its critical mineral wealth as a geopolitical asset, engaging the US in a proposed minerals-for-security framework that would see US companies gain preferential access to Congolese cobalt, coltan, and rare earths in exchange for military support against M23 rebels. On the other hand, the DRC has tightened oversight of its mining sector through Gécamines, the state mining company, asserting stronger royalty enforcement and pushing for greater in-country processing.

Elsewhere in sub-Saharan Africa, the picture is mixed. Namibia is preparing a new minerals bill to replace legislation dating to 2002, aimed at expanding local beneficiation. Senegal is overhauling its mining code, having already revoked 71 mining licences. Zimbabwe has imposed export bans on lithium. Liberia is drafting a new mining code that would create a National Mining Company with equity stakes in major projects. The tide, while more measured in these countries, is clearly turning towards greater resource nationalism rather than investment promotion.

TROUBLE IN GHANA

Of all the resource nationalism stories in Africa, the most consequential for multinational miners is playing out in Ghana – the continent's largest gold producer. Ghana hosts operations of three of the world's largest gold companies: Newmont, Anglo-Gold Ashanti, and Gold Fields. It has long been considered the most investor friendly

of mining jurisdictions in Africa and what happens there is watched closely in boardrooms and investment committees around the world.

In March 2026, Ghana implemented a new sliding-scale gold royalty framework, despite diplomatic opposition from the US, China, and several other Western governments. Under the new regime, royalties start at 5% when gold is priced at \$1,900, rising to 12% at \$4,500/oz. With spot gold trading above \$4,500/oz at the time of writing, the highest rate now applies.

Alongside the new royalty regime, Ghana is phasing out long-term investment stability agreements by 2027. “Renewal of investment stability agreements is not going to happen,” Isaac Tandoh, CEO of the Minerals Commission, declared flatly. “Renewal is conditional, not automatic.”

A further regulatory measure involves the central bank, which is targeting 157t of gold holdings by 2028 and is pushing the three largest miners to hand over 30% of annual production in doré form – up from an existing commitment of 20% that was itself only half-met. This will encourage in-country processing through local refineries and route all exports through a newly formed gold trading company. Critically, Ghana’s reforms extend well

beyond royalties and in-country refining. In January 2025, the government revised local ownership rules requiring all surface mining operations to be undertaken by fully Ghanaian-owned firms, and underground operations by companies with at least 50% Ghanaian ownership. By April 2026, the Minerals Commission had given Newmont, AngloGold Ashanti, and Zijin – the only major companies still self-operating – until December 2026 to comply or face sanctions including potential mine closure.

S&P Global’s Jason Holden calls it resource nationalism by regulation. “By mandating that all mining operations be conducted by Ghana-owned contractors, effectively separating the license holder from the physical act of mining,” he writes in an article published by S&P Global Market Intelligence.

“The result is a transfer of control – and the economic value that flows from it – from foreign mining companies to domestic firms without the headline risk or legal complexity of expropriation.”

Ghana’s new approach to resource nationalism could achieve many of the same economic objectives of full nationalisation while avoiding the catastrophic production collapses previously seen in Zambia and the DRC, he adds.

The most dramatic illustration of Ghana’s new strategy is the fate of Gold Fields’ Damang mine and the looming uncertainty over its vastly more important Tarkwa operation. In 2025, Ghana’s government declined to renew the mining licence for Damang, instead awarding it to local contractor Engineers & Planners (E&P) – a company owned by Ibrahim Mahama, brother of President John Dramani Mahama, and which is also the mining contractor at Tarkwa. A compromise was reached under which Gold Fields agreed to cede the mine in 2026 after conducting a life-of-mine feasibility study. On April 18, E&P took formal control at Damang.

Gold Fields had originally intended to close the open pit and process its remaining stockpiles. The fact that it agreed to fund a feasibility study for an asset it would no longer own is in itself revealing – and the reason is Tarkwa. The Tarkwa mine is a cornerstone asset, contributing 17% of current group gold production, with expansion plans that could lift that share to above 20%. Its mining leases over the property expire in 2027.

The current renegotiation of tenure and fiscal terms must be resolved by early 2027, when the current lease expires. The issue is further complicated by a conflict with E&P over disputed contractor claims of \$740m. Government has stated that Gold Fields’ future plans for the mine will be fully scrutinised before any renewal is granted, the company is not taking anything for granted. Gold Fields has formed a special board committee to manage the process and has raised its public profile in the country, sponsoring the national football teams and showcasing its significant investment in host communities. CEO Mike Fraser says Ghana is treating Gold Fields as “a guinea pig”.

The renewal of the lease has sparked a vigorous debate in the country. The Institute for Economic Affairs says Tarkwa’s lease expiry represents “a rare and historic opportunity” to reclaim the asset for Ghanaian ownership. Other activists have urged government not to renew the lease as a retaliation against South Africans following the xenophobic attacks on Ghanaians and other African immigrants in South Africa. The Ghana Chamber of Mines however warns that any such move would have



John Dramani Mahama, President, Ghana

devastating consequences. “Their proposal will destroy the security of tenure that is essential to the development and sustenance of the mining industry,” Kenneth Ashigbey, CEO of the chamber said at a press conference in May 2026.

The chamber has sought to affirm the government’s right to reform while insisting on due process and procedural fairness. “These procedural protections underpin the rule of law and investor confidence in Ghana’s mining sector, and they must not be disregarded,” Ashigbey said in a formal statement. He warned that uncertainty surrounding Tarkwa “could have wider implications for employment, host communities and Ghana’s attractiveness to international investors”.

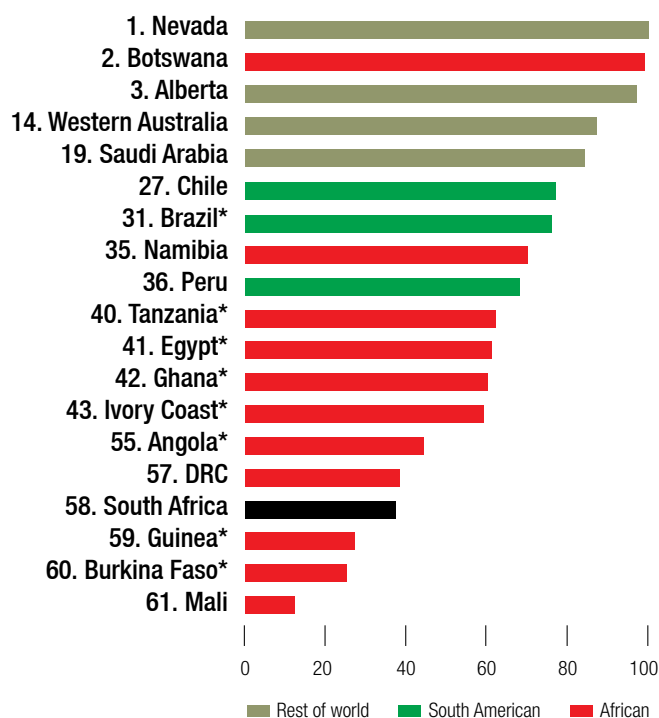
Investors are clearly concerned. UBS analysts have noted that Tarkwa’s 2027 licence reset “is likely to revisit both tenure and fiscal terms, increasing risks around a higher government stake, tighter local participation requirements, and greater state influence”. They warned: “With Damang now a clear precedent, renewal outcomes appear increasingly binary.”

RECKONING

While African governments will celebrate the boost in revenue, the longer-term impact on much-needed foreign investment could be dire. Metals Focus has warned that Ghana’s policy trajectory will likely prompt “a more cautious approach to capital investment, with a potential review of greenfield projects and a prioritisation of staged, brownfield expansions”. Beyond that, the research firm noted, investors will think twice before committing to new projects.

The Fraser Institute’s 2025 annual survey of mining companies already placed Mali, Burkina Faso, Guinea, and Angola among the 10 least investment-attractive jurisdictions globally – a ranking that costs those countries real capital. (See graph). Ian Cockerill, CEO of Endeavour Mining,

Fraser Institute Policy Perception Index (selected jurisdictions)



Rank numbers reflect original position in full list of 70 jurisdictions. * = between 5 and 9 survey responses
Source: Fraser Institute

which has operations in Senegal and Côte d’Ivoire, said at a results presentation late last year that fiscal changes – driven by record-high gold prices – were inevitable. “If you are asking me what the [resource nationalism] trajectory is, I think it’s fair to say it is likely to be higher, but over the longer term,” he said. The question is whether that trajectory can be managed in a way that preserves the investment case.

Resource nationalism has a disastrous track record in Africa: in the short term, states can extract more from existing operations. In the long run, if the terms become too onerous, the investment in new projects dries up, and future revenues fall. The collapse of the Zambian copper industry after it was nationalised by the socialist government in the 1970s is a well-established case study. Today’s strong gold price partially masks that trade-off in that companies can absorb higher royalties and taxes while continuing to generate returns. But it also means that when the price eventually corrects, or when

one jurisdiction pushes the terms too far, the pullback in capital could be swift and severe.

Ghana’s government has moved to reassure investors: the Lands and Natural Resources minister travelled to New York in May 2026 to market Ghana as “Africa’s premier mining investment destination”, pointing to its legal framework and promising no retroactive changes. The contradiction between that message and the treatment of Gold Fields was not lost on the investment community.

Zambia’s current approach and Botswana’s new partnership deal with De Beers in February 2025 have been welcomed as they showcase that resource nationalism need not be a zero-sum game. A settlement that genuinely shares value – rather than simply transferring it from one party to another – is achievable, and the continent has a few examples of it being done well. But the prevailing mood in much of sub-Saharan Africa is one of assertion rather than partnership.

This approach is partially understandable. Africa’s mineral wealth is substantial, the prices are extraordinarily high, and the historical terms of many mining agreements were loaded in favour of foreign mining companies. But without security of tenure and the confidence that a contract will be honoured not only by current but also by future governments, it becomes very difficult to justify the multibillion-dollar, multi-decade investments that large-scale mining requires.

As the scramble for minerals and metals intensifies around the globe, the country that manages to offer both a fair share and a predictable framework will attract the capital. As Rohitesh Dhawan, CEO of the International Council of Mining and Metals and Ronak Gopaldas of Signal Risk said last year: “Done well, resource nationalism could represent a step change in economic growth.” Done poorly, it “could spook investment and undermine confidence at the very time it is most needed”.

West Africa's doubters have not met Perseus

By KRISTIE BATTEN

PERSEUS Mining may have had a leadership transition, but the strategy that has made it a leading West African gold producer is not expected to change.

Last year, long-time MD Jeff Quartermaine retired, with former Newcrest Mining senior executive Craig Jones stepping into the job in October. In an interview with Miningmx, Jones said his external perception of Perseus was that it was a well-run and well-respected company, a view that had only strengthened since he officially joined.

"Jeff had been here for a long time and had done a magnificent job of building the company to the position that it had come to," he said. "He built a multi-jurisdictional

company that had a very, very exceptional balance sheet and good reputation as being a reliable deliverer and successful operator across the continent of Africa, so I just saw it as a great opportunity to build on that."

The Perth-based company, which reported cash and bullion of \$817m at the end of March, in June reached \$100m of its on-market share buy-back and increased it to \$150m. That's all while executing on its organic growth strategy.

Its new CMA Underground mine, which represents the first mechanised underground mine in Côte d'Ivoire, is ramping up to steady state production, while construction of the Nyanzaga gold mine in Tanzania is progressing ahead of first production in early 2027. "There's the next 16 years of mining for us in a new jurisdiction and getting that project completed on time and within budget is a core focus," Jones said.

Group guidance for the 12 months to June 30 2026 was 400,000 to 440,000 ounces of gold at all-in sustaining costs of \$1,600-1,760/oz. The addition of Nyanzaga will see Perseus's gold production peak at 630,000oz in the 2029 financial year under current plans.

GROWTH

Jones sees plenty of internal potential for Perseus in simple resource-to-reserve conversion across its portfolio, as well as brown-fields exploration to extend mine lives. He also revealed that Perseus had recently been awarded five prospecting licences in Guinea, which will mark the start of a greenfields exploration programme. "The company hasn't done a lot of greenfields work in the past, so this is kind of something new that would be a multiyear commitment to

finding new ounces," Jones said.

Perseus will continue to scour the junior space for opportunities.

Its stake in OreCorp led to a full takeover, giving it ownership of Nyanzaga, while a similar early entry into Guinean developer Predictive Discovery (PDI) didn't pan out in the same way. Despite a late move from Perseus in December, PDI merged with its Guinea neighbour, Robex Resources.

In March, Perseus paid A\$23.7m for a 9.9% stake in Aurum Resources, which owns the Boundiali gold project to the south and along strike of Perseus's Sissingué gold mine in Côte d'Ivoire. "The Aurum investment would be a good example of another potential opportunity where we can support Caigen [Wang] and the team to build out an orebody," Jones said.

"If you look at how this company has been built, it's been built through early acquisition of orebodies and the development of projects, turning them into operations, and then growing them. I think that's been a very successful growth journey for Perseus, and it'd be great to be able to continue that."

RISK

Perseus has a deliberate strategy to diversify its country risk with mines across Ghana, Côte d'Ivoire and soon, Tanzania. It recently sold its 70% interest in the Meyas Sand gold project in Sudan for \$260m cash due to the ongoing civil war there.

Jones spoke highly of Côte d'Ivoire's developing mining sector: "They've done an incredible job of building a mining industry from virtually non-existent to being one of the hottest development countries in Africa, in terms of gold mining, anyway."

On the other hand, Ghana recently increased royalties, though Perseus has no issues around licences. "We've prided ourselves on doing the right thing in Ghana and complying with the laws as they've adjusted and changed, and particularly in the local content space, where we are very much focused on our Ghanaian workforce," Jones said. "We run a 100% Ghanaian workforce in Ghana, and that's something that we're extremely proud of."

In terms of jurisdictions, Guinea is another country of interest for Perseus. Jones said Perseus carefully did its due diligence before thinking about entering a new juris-



Craig Jones, MD, Perseus Mining



diction. “We always say there’s two elements that you’ve got to look for: one is the right geology and the right rocks, and two is the investment climate that the country offers you,” he said.

“Where those two work together is where you should be thinking about spending your money.”

Jones said Perseus, with a multibillion-dollar market capitalisation and a place within

the Australian Securities Exchange’s top 200 companies, was a successful example of how business could be done in Africa, though it trades at a discount to many of its peers producing gold in Australia.

Despite that – or perhaps because of it – Australia’s biggest pension fund, Australian-Super, recently boosted its stake in Perseus, while boutique investment bank Argonaut named the company as its top ASX gold producer pick outside of Australia. “I think Africa has got lots of prospectivity in terms of exploration and activity,” Jones said.

“I think there are plenty of opportunities for more gold mines well into the future in Africa, and you’ve got to pick the places that you feel most comfortable in operating within, then the market will decide how it views the risk associated with that.

“For us, being diversified in multiple jurisdictions is our way of balancing that as much as we can, and then continuing to deliver on our promises is the other way that we demonstrate to the market that we are worth investing in.”

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Finally, a plan for gold's \$11bn informal mining sector

Artisanal mining feeds millions across Africa but has become a conduit for criminal networks, environmental destruction and massive revenue loss. A global coalition of governments, miners and refiners is now mounting the most coordinated response the sector has ever seen, writes **SVEN LÜNSCHE**

GALAMSEY – wordplay for “gather them and sell” – entered the Ghanaian vocabulary decades ago as a label for unlicensed men scratching for gold in the country’s forests and riverbeds. Today the number of galamsey, now also counting women and children among their ranks, is growing exponentially. It’s also a feature in all developing countries where gold and critical minerals are mined. Communally

grouped in the artisanal and small-scale gold mining sector, their numbers are having a major economic, social and environmental impact. Much of it is negative.

Gold has been mined on a small scale in Africa for centuries. What has changed over the past few years is its scale and the intensity of its consequences.

The World Gold Council (WGC) estimates that at least 20% of newly mined gold worldwide now comes from artisanal

and small-scale gold mining (ASGM), with the sector accounting for roughly 80% of all gold mining employment globally. The World Bank puts at 20 million the people who primarily derive their livelihoods from ASGM, with up to 100 million indirect beneficiaries.

Those are conservative estimates, says the council’s Edward Bickham: “The 20% and 20 million number has been going around for some time. Judging from early findings

in new research we are undertaking, the numbers in some countries look set to be significantly higher.”

In Africa, those numbers are concentrated in a belt of producing nations: Ghana, Mali, Tanzania, the Democratic Republic of Congo (DRC), Burkina Faso, Guinea and Sudan, where formal employment alternatives are limited and gold mining is the most lucrative livelihood alternative available. In South Africa, ASM is almost completely controlled by criminal zama-zama gangs, while most ASM activities in Zimbabwe are controlled by the government.

The surge in ASGM activity across the continent has been fuelled, above all, by the recent surge in the gold price. From about \$800/ounce in 2008, gold has risen 500% to breach record highs of more than \$5,000/oz in 2025 before settling in a \$4,000-\$4,500/oz range.

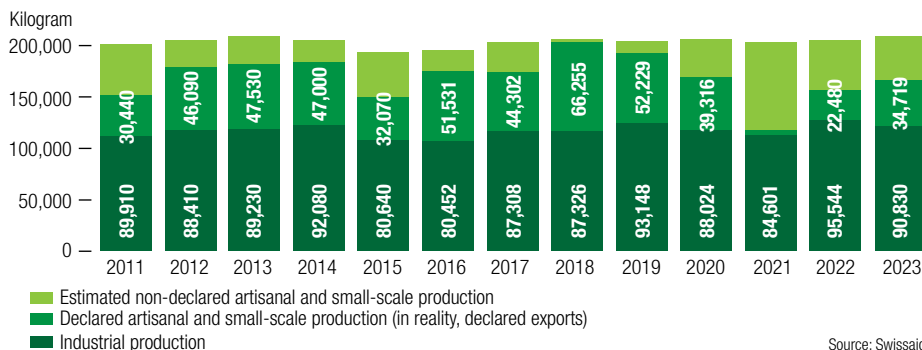
For rural communities where alternative livelihoods offer a fraction of informal mining earnings, the incentive to mine is overwhelming. In Ghana, the ASM sector now employs directly about a million people and supports the livelihoods of nearly five million more, says the Ghana Gold Board (GoldBod). By 2025, Ghana's small-scale exports exceeded large-scale ones for the first time, with ASM accounting for about 52% of national output.

The picture is repeated, with local variations, across the continent. Tanzania estimates that between 1.5 and two million



Dominic Raab, special envoy, World Gold Council

Total gold production in Ghana



people are economically tied to its ASM sector, which spans gold and gemstones across multiple regions. In the DRC, small-scale mining employs as many as two million people though it is as focused on mining for copper, cobalt and the three Ts (tin, tungsten, titanium) as it is on gold.

As Stewart Bailey, chief corporate affairs and sustainability officer at AngloGold Ashanti, puts it: “The reality is that people can make so much more by mining gold rather than other forms of alternative livelihoods, particularly in rural areas.” Against that reality, calls for restraint and restrictions on ASGM have gained little traction.

DARK SIDE

The economic significance of ASGM is not in dispute. What is considerably harder to address is the damage the sector inflicts when it operates outside any regulatory framework, which it mostly does. The environmental record is abysmal. Mercury remains the chemical of choice for artisanal gold processing across much of Africa, despite being a toxin that infiltrates water systems, soil, food chains, and ultimately human health. In Ghana, illegal galamsey operations have contaminated more than 60% of water bodies, according to a 2024 report by the Ghana Water Resources Commission. The contamination has reached a point where the Ghana Water Company can no longer process water for some communities.

The social picture is even more troubling. Child labour remains embedded in informal ASGM operations, particularly in parts of the DRC, where artisanal cobalt mining has

drawn sustained international attention and condemnation. Across the continent, ASM communities are structurally vulnerable: without legal status, miners cannot access formal finance, cannot sell to reputable buyers, and are prey to exploitative traders who capture the majority of their earnings.

The most alarming dimension, however, is the infiltration of ASGM by organised crime. The WGC's ‘Silence is Golden’ report, published in 2024 in partnership with former UK deputy prime minister Dominic Raab, identifies the sector as being “systematically targeted by criminal gangs, armed terrorist groups, and corrupt officials”.

The report identifies three foundational failures that enable this: a lack of transparency across businesses and governments; the collapse of accountability that allows criminals to operate in plain sight; and the extraction of enormous profits from human rights abuses, unpunished by law enforcement in most African countries.

The financial dimension is staggering. Ghana alone is estimated by the nongovernment organisation Swissaid to have forfeited about \$11.4bn in gold revenues through smuggling between 2019 and 2023. More broadly, the majority of ASGM gold is believed to move through informal or poorly regulated trading networks before entering the global market, thereby depriving producing countries of foreign exchange, devaluing earnings for the miners themselves, and providing money-laundering channels for criminal and terrorist organisations. A 2026 Swissaid study estimated that more than one ton of undeclared gold leaves Africa every day.

RESPONSE

The scale and complexity of the problem have at least generated a commensurate response. In November 2025 the UN's Inter-governmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF), the WGC and the World Bank launched the Global Coalition for Action on ASGM.

The coalition grew out of a March 2025 meeting in Toronto where representatives of governments, industry, civil society and development organisations confronted the shared problem directly. Shari Gittleman, the coalition's lead at the IGF, noted at the time that the gathering "united actors who don't usually sit around the same table but share a common goal: grow responsible ASGM that improves lives, supports national development, and limits illicit gold flows".

The WGC has been advancing the analytical

case for formalisation for several years. Its 'What Needs to Be Done' report, published in March 2025, articulated a framework built around four interlocking propositions: scale centralised processing plants; develop geo-location technology to verify gold's origin; equip plants to validate provenance; and mobilise responsible buyers, particularly central banks, to absorb certified, domestically sourced material.

The WGC's 'Lessons Learned' study, covering 25 mines across 18 countries, reaches a clear conclusion: the key to progress is government formalisation of responsible ASGM entities. That would give them legal status and reduce their vulnerability to criminal networks that thrive in the current regulatory vacuum. The WGC listed 24 practical actions across four strategic objectives, ranging from prosecution of criminal perpetrators to a coordinated international

effort across G7 and G20 countries.

The most instructive national case study is Ghana, where the volume and pace of reform has been striking, though not without its tensions and contradictions.

For years, Ghana's response to galamsey varied between enforcement crackdowns, which pushed activity underground without eliminating it, and regulatory inertia. The most recent structural shift came with the enactment of the Ghana Gold Board Act 2025, and the establishment of GoldBod in April 2025 as the sole legal aggregator, assayer and exporter of ASM gold. GoldBod was endowed with a \$279m fund and mandated to make weekly purchases, with an annual target of 127 tons.

The institution's record in its first year has been, in volume terms, impressive: by end-2025 it had purchased and exported more than 100t of ASM gold, generating

A refined response

WHILE the ASGM sector accounts for an estimated 20% of global mined gold, it is less than 1% of the throughput of refiners on the London Bullion Market Association's (LBMA) Good Delivery List (GDL). This is a critical gap, as most bullion banks or jewellers don't accept gold that is not on the list. The LBMA established an ASM Task Force in 2022 to examine the barriers, which it identifies as weak or absent legal frameworks, gaps in licensing, logistical difficulties in aggregating and transporting material, limited capacity to meet existing compliance requirements, and a lack of financial inclusion for formal payments.

The principal output of that work is the ASM Toolkit, a due diligence framework launched in 2024, that accredited refiners can use to assess and engage with ASM supply chains. The Toolkit sets minimum standards covering licensing, governance, safety, environmental impact, and mercury management, alongside progressive improvement measures

that suppliers are expected to work towards over time.

The LBMA has prioritised engagement in four countries it judges to have the strongest regulatory and market infrastructure potential, particularly Ghana, where more than half of national gold output is produced by ASMs, most of it not on the GDL. The GoldBod has since 2025 already doubled the volume of ASM material sourced through legal channels.

Earlier this year, South Africa's Rand Refinery announced a collaboration with Ghana's Gold Coast Refinery to provide technical and commercial support toward a possible GDL application, a step that could open a direct route for Ghanaian ASM gold into the London bullion market.

Artisanal miners who process their ore using mercury receive lower gold recovery rates, cannot access formal markets, and have no incentive to change their methods unless a better alternative is commercially accessible. Centralised gold-processing plants, operating with cyanide-based processing, are a feasible way of addressing this directly.

The WGC's latest report, 'The Role of Gold Processing Plants in ASM',

examines 14 plants across six countries. It finds that responsibly managed processing plants significantly enhance gold recovery rates and boost miners' incomes. Critically, they simultaneously create an aggregation point in the gold value chain that enables transparency and traceability. Processing plants serve as natural compliance checkpoints, "the point at which origin verification, due diligence, and minimum environmental and social standards can be applied systematically, rather than attempting to impose them across thousands of dispersed, informal extraction sites".

The economics matter crucially. The use of cyanide rather than mercury creates not just environmental improvement but higher yields, which means miners earn more by engaging with the formal system than by avoiding it. The processing plant requires artisanal miners to bring their ore to a facility that can extract it more efficiently and sell the resulting gold into formal markets. With successful examples documented in Peru and Tanzania, the WGC is advocating for the scale-up of this model as one of the most practical and replicable routes to sector formalisation.



more than \$10bn in foreign exchange earnings. A transparent pricing regime, through which ASGM producers can receive up to 98% of the world market price, has materially reduced the incentive to sell through illegal channels.

The macroeconomic consequences have also been significant. Ghana's gold reserves rose from a precarious 8.8t in May 2023 to 19.2t by February 2026, driven largely by the Bank of Ghana's Domestic Gold Purchase Programme that preceded and now complements GoldBod's operations. GoldBod has not, however, been a complete success and the impact of illegal mining is still widely felt throughout the country. Nor has the environmental damage already inflicted by years of unregulated extraction been addressed.

Tanzania has pursued a different, more incremental path. Its mining law explicitly provides for legal ASM activities, and the government has built institutional support around the sector through the State Mining Corporation, whose mandate encompasses the promotion, facilitation and formalisation of ASM.

South Africa published a formal ASM policy in 2022 with the explicit aim of creating a formalised, sustainable ASM in-

dustry while eliminating illegal operations. The policy represents an acknowledgement that the country's criminal and violent zamazamas will not be displaced by enforcement alone. But given South Africa's ineffective mining regulatory regime, it is doubtful that the regulatory architecture can be translated into workable practice.

MAJOR MINERS

Large-scale mining companies operating in Africa have a more complicated relationship with ASGM than the formal separation of the two sectors might suggest. Their concessions and operations frequently are encroached upon or are adjacent to artisanal miners, creating tensions that have often been managed through security responses rather than engagement. The WGC's 'Lessons Learned' study makes clear that this approach has largely failed, and that more constructive engagements, albeit difficult, are both possible and necessary.

AngloGold Ashanti is trying a new approach after having "tried often and failed", says Bailey. He says that ASGM "has grown at a rate that has outstripped African governments' abilities to deal with it", driven by COVID's economic disruption, the subsequent cost-of-living surge, and a gold price

that has proved a major incentive for rural communities.

AngloGold is now building a new framework at its operations in Ghana, Guinea and Tanzania. The company's emerging approach rests on actions such as a prohibition on child labour, and the requirement that projects be scalable.

Glencore's approach in the DRC, where its copper and cobalt operations operate in one of the world's most ASM-dense environments, is governed by a different set of constraints. The DRC's artisanal cobalt sector has been associated with severe human rights abuses, making the boundary between formal and informal operations a matter of intense supply-chain scrutiny.

Glencore does not source or process artisanally mined material from its DRC assets. Its approach instead is seeking to encourage engagement: it is a founding member of the Fair

Cobalt Alliance, which works with ASM cooperatives to transform practices and align with international human rights standards, particularly around child labour.

The architecture of ASGM reform is, for the first time, taking shape. A global coalition has been formed. Governments are passing laws, creating gold boards, and deploying purchase programmes that give ASM miners access to formal markets at transparent prices.

Large-scale mining companies are replacing security-first approaches with structured engagement frameworks. Refiners are finding solutions on how to include ASM gold into legal supply chains. Processing plants are demonstrating that environmental responsibility and economic incentive can be aligned. Finally, due diligence guidance by the Organisation for Economic Co-operation and Development creates obligations on refiners and buyers to scrutinise the provenance of the gold they handle.

Confronting this nascent system is the sheer size of the informal gold sector, which is growing by the day. As long as miners in most of Africa still earn meaningfully more from an informal or illegal sale than from any formal system, ASGM will remain unregulated and, more often than not, illegal.

Policing illegal miners isn't working. What will?

South Africa loses up to R70bn a year to illegal mining. The answer, experts say, lies not in policing but in a formalisation framework that actually works

BY JUSTIN BROWN

WHEN 87 illegal miners died underground at Stilfontein in 2024 – and 1,826 surfaced from abandoned shafts – the event was a symptom, not an aberration. The uncomfortable truth for South Africa is that illegal mining has become endemic, feeding on poverty, unemployment, and decades of regulatory neglect. Sibanye-Stillwater, a gold and platinum miner, has been among the most transparent about the problem. It reported a major spike in incidents since 2018 (see graph on page 7). All in all, it has arrested 6,925 illegal miners in the past eight years of which 4,164 have been in the past three years – about two-thirds of the total.

In South Africa broadly, gold and chrome are currently the commodities most affected by illegal miners. According to news network Al Jazeera, 30,000 people are mining illegally in South Africa's abandoned gold mines. The annual economic cost is R60bn-R70bn in lost revenue, according to Minerals Council South Africa data.

In February 2026, Mineral Resources and Petroleum Minister Gwede Mantashe told the South African Human Rights Commission's (SAHRC) national inquiry into artisanal mining that illegal mining remained one of the sector's most pressing challenges. The SAHRC launched that inquiry in direct response to the Stilfontein incident.

"Government has failed," the Minerals Council wrote bluntly, "by allowing this situation to escalate to a point where these



A police cordon around shaft 11 during rescue operations for trapped miners at the abandoned Buffelsfontein gold mine in Stilfontein. Photographer: Leon Sadiki/Bloomberg via Getty Images

illegal operations are now endemic in mining societies."

The reflex response – policing and prosecution – has a poor track record. In 2017, Ghana launched a major crackdown on illegal mining. Driven by an interministerial taskforce, it deployed around 400 police and military personnel, arrested miners, and destroyed equipment, says Vidette Bester who works for SLR Consulting, a UK advisory firm. Yet the West African country's illegal mining problem remains enormous.

"One of the biggest challenges is that artisanal mining is often reduced to a single

story, focused on crime and illegality, when in reality it is far more complex," says Bester. "That kind of narrative makes it difficult to respond to the issue in a meaningful way."

"There are a lot of social ills that need to be addressed that have contributed to this. Some people feel they have no choice but to engage in illegal mining," says Fred Arendse, president of the Junior Mining Council (JMC), which was founded in 2023 and represents 146 members. Abandoned or poorly rehabilitated mine sites, combined with poverty and jobless-

ness, are the principal drivers. About 6,000 mines in South Africa are under care and maintenance or have been abandoned, creating what the JMC describes as a “free-for-all” environment. “No one wants to go down a hole in the ground,” says Bester. “It is extremely dangerous. [But] people get desperate, and then they go into it.”

The Minerals Council research underlines the perverse incentive structure: it is easier to operate an illegal small-scale mining operation than to comply with all legal requirements, and there are few or no consequences for doing so.

FORMALISATION: NECESSARY BUT NOT SUFFICIENT

The draft Mineral Resources Development Bill, published in May 2025, marked the first legislative attempt to regulate artisanal and small-scale mining (ASM). The JMC and the Minerals Council broadly welcome the move. “The ASM provisions are a positive development,” says Mzila Mthenjane, CEO of the Minerals Council. “They recognise that ASM can be a legitimate business activity, but it currently lacks a legislative framework.”

The JMC has, however, raised substantive concerns about the Bill’s definitions. The use of terms such as “traditional”, “rudimentary” and “customary” to define ASM introduces, in the JMC’s words, “significant legal and regulatory uncertainty”. Left undefined, these terms are open to administrative discretion, creating risks of inconsistent permit eligibility, overlapping claims, and compliance disputes.

The JMC recommends replacing these terms with clear, objective criteria: artisanal miners defined by a revenue threshold of up to R5m per year; small-scale miners by a threshold of R5m-R50m.

Not all agree that the Bill hits the spot; far from it. Christopher Rutledge, executive director of Mining Affected Communities United in Action, a social watchdog, says the draft Bill is fundamentally misconceived. Demanding costly compliance – including complex reports such as an environmental impact assessment – effectively excludes 99% of artisanal miners. They cannot afford the process, and in addition the Bill’s narrow definition of artisanal mining excludes cooperatives and group-

based community operations. “The state has failed to police and to regulate the sector even though they were given warnings,” he says.

However, formalisation without administrative capacity is a recipe for “legalised anarchy”, says AfriForum, an Afrikaner civil rights organisation. It points to destructive illegal gold mining along the Blyde River in Mpumalanga as evidence that the regulatory infrastructure does not yet exist to manage an expanded ASM sector. “To attempt to legitimise such practices now, without a robust administrative backbone, sufficient safeguards and the necessary capacity to regulate it, is not only reckless but a direct threat to the country’s water security, agriculture and biodiversity,” the organisation says.

CAPACITY, NOT JUST LEGISLATION

There is broad consensus among those closest to the sector on what is actually required: streamlined permitting, proportionate compliance standards, and, above all, the administrative capacity to implement whatever framework emerges. The point is made repeatedly, from different directions, by lawyers, industry bodies, and community representatives alike. Legislation without the machinery to support it is worse than useless; it simply adds another layer of bureaucracy that pushes marginal operators back into illegality.

“Introducing legislation without building capacity, I don’t think it has a good chance of success,” says Arendse. He also warns

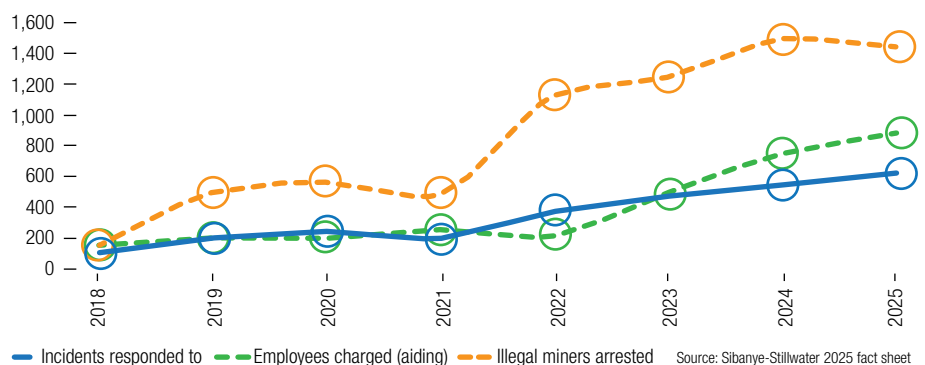
‘One of the biggest challenges is that artisanal mining is often reduced to a single story, focused on crime and illegality, when in reality it is far more complex’ – Vidette Bester, SLR Consulting

against the tendency to focus enforcement on illegal artisanal miners, or zama zamas, while the organised networks behind them go largely unprosecuted – the kingpins, who profit from illegal mining’s mafia culture while foot soldiers take the risk.

Formalising South Africa’s artisanal mining sector is not a quick fix. The country’s mining landscape – spanning abandoned shafts, criminal networks, bureaucratic dysfunction and genuine poverty – resists simple solutions.

But the cost of continued inaction is immeasurable: tens of billions of rand annually, communities trapped in dangerous illegality, and a regulatory vacuum that organised crime has been happy to fill. The draft MRD Bill is a beginning. Whether it becomes more than that depends on whether the government invests in the implementation capacity to match its legislative ambitions.

Sibanye-Stillwater South African mines



Is pop-up mining a worry? You bet

The search for new mineral supply has rarely been as intense, placing ever-increasing pressure on environment, sustainability and governance principles, writes **ANTOINETTE STEYN**

THE world needs more mines. Electric vehicles need lithium, nickel, manganese, cobalt and graphite. Grid expansion needs copper. Wind turbines, batteries, solar panels, defence systems, semiconductors and AI infrastructure all require minerals that must be found, permitted, financed, dug out of the ground, processed and moved through increasingly politicised supply chains.

According to the International Energy Agency (IEA), demand for key minerals used in energy transition continued to grow strongly in 2024, with lithium demand rising by nearly 30%. Demand for nickel, cobalt, graphite and rare earths rose 6%-8%. For battery metals such as lithium, nickel, cobalt and graphite, the energy transition sector – electric vehicles and grid-scale battery storage – accounted for 85% of total

demand growth over the past two years.

On the supply side, China is dominant in many of these critical metals, especially in its ability to refine them. There's been a Western response, for sure, but not sufficiently strong enough to diminish China's ability to control markets. (New investment in critical metals rose only 5% in 2024 from a 14% increase the year before, the IEA says.) As a result, China has retained remarkable control. It, for instance, flooded the lithium market after prices surged between 2021 and 2022, knocking 80% off the metal's price.

So while long-term demand remains compelling, the markets are difficult to anticipate, making projects tricky to finance. The West wants to build supply chains, but it's no easy task. The Middle East conflict has only complicated the picture.

Set in this context, what of communities?

They are demanding proof that the next resource rush will not repeat mining's old failures by excluding them economically. But the US government, in its 'drill, baby drill' call to arms, has turned sceptical of environment, sustainability and governance.

ESG hasn't been helped by poor returns in sustainability funds, but in mining, the real question is not whether the acronym survives; it is whether the underlying disciplines – environmental protection, human rights due diligence, community consent, water stewardship, transparent governance and proper rehabilitation – will survive the rush for critical minerals.

Still, Rohitesh Dhawan, president and CEO of the International Council on Mining and Metals (ICMM), believes the fundamental business case has not been weakened. "In some ways, the backlash against ESG has clarified and even strengthened the case for responsible mining.

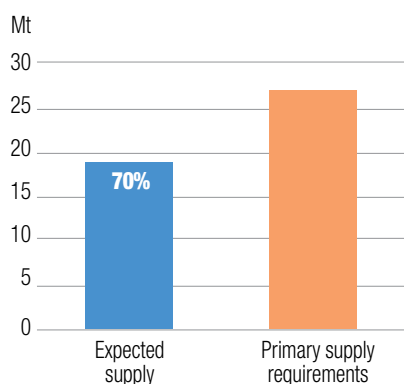
"I would distinguish between fatigue with the term 'ESG' and the business case for responsible mining. The former may rise and fall with political cycles. The latter is structural."

That is a useful place to start, because if the energy transition has made mining more important, it has also made mining more visible.

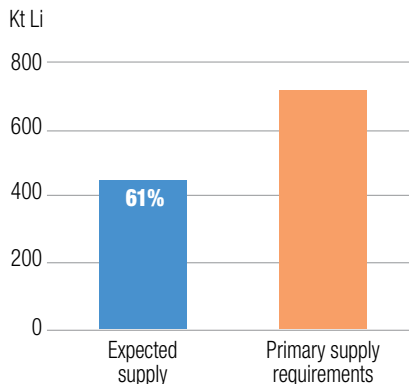
SA'S MINERALS MOMENT

The South African government's Critical Minerals and Metals Strategy states that the country has ore reserves valued at more than \$2.5 trillion, with 16 commodities ranked in the global top 10. It says South Africa holds the world's largest known reserves of platinum group metals, manganese

Expected mine supply from existing and announced projects and primary supply requirements for copper, 2023



Expected mine supply from existing and announced projects and primary supply requirements for lithium, 2023



Source: International Energy Agency



and chromite. It is also among the top three producers globally of PGMs, ferrochrome, manganese ore and vanadium.

Mining remains one of South Africa's economic anchors. In the first nine months of 2025, mining contributed R439bn, or 5.8%, to nominal gross domestic product, according to the Minerals Council South Africa. Minerals and related exports accounted for about 52% of merchandise exports, and the sector directly employed an average of 469,765 people. Employee compensation was estimated at about R200bn on an annualised basis.

But South Africa has often been better at mining ore than developing downstream businesses. The critical minerals strategy notes that global exploration spend reached \$12.8bn in 2023, yet South Africa captured only 0.92% of global exploration budgets, well below its ambition of 5%. Global lithium exploration budgets alone rose 77% to \$829.6m that year.

This is the commercial and political context behind the state's push to make South Africa a more attractive mining destination. But how does the country speed up investment without weakening the safeguards that give mining projects legitimacy?

Garyn Rapson, partner and head of environmental law and ESG at Webber Wentzel, sees a contradiction in the policy architecture. South Africa's critical minerals strategy classifies coal as a critical commodity alongside platinum, manganese and chrome. The government's argument is that coal still generates most of the country's electricity, so it remains strategically important. Rapson understands the logic but says it only works if there is a credible, time-bound plan to transition away from coal.

"There isn't one," he says. "Without that, we are simply entrenching coal's strategic status indefinitely, and we will be having this same conversation in ten years.

"One arm of government is building the

regulatory infrastructure to accelerate fossil fuel and heavy-industry extraction, while another is legislating emissions reductions and channelling JET-P funding on the promise of a coal phase-out," he says, referring to the Just Energy Transition Partnership, a \$8.5bn financing package backed by the US, UK and EU in 2021, later expanded to around \$11.4bn.

"That contradiction undermines South Africa's credibility with international climate finance partners."

'The statutory architecture is multilayered and robust, and, if properly enforced, it works'

– Garyn Rapson, Webber Wentzel

South Africa wants to be taken seriously as both a transition economy and a critical minerals supplier. Those ambitions can coexist, but only if the state can show that “strategic” does not become code for “less scrutiny”.

SEDUCTIVE SPEED

The pressure to move faster is real. The IEA warns that while many critical mineral markets appear well supplied in the near term, copper and lithium remain long-term pressure points. Current copper mine project pipelines point to a potential 30% supply shortfall by 2035. Lithium markets look more comfortable for now, but are expected to move into deficit in the 2030s as demand accelerates.

Supply concentration adds another layer of urgency. From 2020 to 2024, the average share of the top three refining countries in key energy minerals rose from about 82% to 86%, according to the IEA. For mining, the top three countries’ share rose from 73% to 77%. Governments increasingly see this not only as a climate issue, but as an economic security issue.

It is hardly surprising, then, that the phrase “fast-tracking” keeps appearing in critical minerals policy.

Dhawan is not opposed to speed but he draws a firm line. “We should be very clear that mining is essential but not at any cost. Strategic urgency isn’t an excuse for weakening essential protections for people or the environment,” he says.

“The world needs a lot more minerals and metals, but it won’t get them by cutting corners. Projects that do not conduct robust environmental and human rights due diligence and follow established norms are likely to fail.”

Stewart Bailey, chief sustainability and corporate affairs officer at AngloGold Ashanti, a gold miner, says a legitimate mine is hard to build: “Those permitting processes take years. They take years because



Ian Harebottle, SA Lithium director

there’s a lot that goes into developing, financing and building the mine.

“You are using explosives. You are using water. You are ultimately going to alter the natural landscape.”

That is why the process before “digging your first bucket full of dirt out of the ground” exists. A company has to understand environmental impacts, air quality, noise, water, infrastructure, rehabilitation and what happens after closure. It must also understand communities, their fears, their ambitions and their expectations.

This is expensive. A company may carry an asset for years before it generates income. It must pay staff, consultants and specialists while still investing in early social interventions. That is why shortcuts can look so attractive.

“It’s a very seductive proposition to be able to just click your fingers and have a mine without having invested in any of those fundamental building blocks,” Bailey says. “It’s obviously going to be cheaper, it’s going to be quicker, and it’s going to be much less fuss.”

The other side of that proposition is risk. “There will be a laundry list of things you won’t think of.”

POP-UP MINES

The phrase “pop-up mines” is being used more often by activists, communities and some industry observers to describe projects they perceive as moving too quickly, operating with thin balance sheets, lacking long-term planning, or bypassing the depth of environmental and social scrutiny expected of established mines.

In KwaZulu-Natal, the UGU Mining Integrity Land Action Association tracked 19 mining and prospecting-related applications across the South Coast, and submitted 10 objections and lodged one appeal. It is evidence of rising public anxiety in a region where communities and civil-society groups

‘In some ways, the backlash against ESG has clarified and even strengthened the case for responsible mining’
– Rohitesh Dhawan, ICMM

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are watching mining applications closely.

“The rules in South Africa, as with most mature mining jurisdictions, are very well considered and clear,” Bailey says. “The application of them is another thing.”

For him, the issue is not whether permitting processes should be efficient. They should be. It is whether efficiency becomes a “convenience narrative” for operators without the means or intention to follow the rules.

“As a mining company, you simply cannot say, ‘the world needs this thing, so we need to cut corners’.”

When asked whether strategic battery minerals are legally easier to push through than coal or gold, Rapson says that, in strict legal terms, the EIA regulations apply identically regardless of the mineral being extracted.

“In practice, the picture is shifting.”

His concern is not that South African law has already created an explicit fast lane for critical minerals. It is that several reforms, read together, could make that outcome structurally more likely.

He points to the Critical Minerals and Metals Strategy, proposed Flexible EIA reforms, and the Draft Mineral Resources Development Bill. The proposed Flexible EIA system would replace mandatory assessment tiers with a discretionary screening mechanism, under which officials could decide whether a project needs a full scoping and EIA, a shorter assessment, or a statement of no significant impact, taking the “strategic context” of the activity into account.

“No single instrument says critical minerals projects will get abbreviated EIA treatment,” Rapson says, “but together they create a system where that outcome is structurally likely.”

On paper, South Africa’s environmental framework remains strong, he says. Environmental authorisation under the National Environmental Management Act (Nema) is non-negotiable before mining can begin. A water-use licence is required under the National Water Act. Financial provision must be made for end-of-life rehabilitation. Land-use approvals may also be needed.

“The statutory architecture is multilayered and robust, and, if properly enforced, it works,” Rapson says.

But regulators are under-resourced, while pressure to process approvals is real, especially for projects labelled strategically important. Consequences for non-compliance include criminal prosecution, suspension of mining rights and civil claims, but in practice these are inconsistently applied.

“Developers who cut corners often get away with it, until they don’t,” he says.

“And when they don’t, the consequences can be devastating. Licences to operate obtained through flawed processes are liabilities, not assets.”



Stewart Bailey, Chief sustainability and corporate affairs officer at AngloGold Ashanti

LEAVING MORE THAN A HOLE

South African law requires mining right holders to assess rehabilitation costs, set aside adequate security and have that provision independently audited. Security can be provided through mechanisms such as trust funds, bank guarantees or ministerial deposits. In theory, there should be money to rehabilitate a site even if the company fails.

The laws are designed to prevent junior miners from extracting high-value metals and then abandoning environmental liabilities, says Rapson. The Nema Financial Provisioning Regulations, which were intended

to overhaul the rehabilitation funding framework, have been stuck in various stages of transitional implementation since 2015. “The protracted delay in achieving full compliance is itself illustrative of the extent of industry pushback against more rigorous financial provisioning requirements,” he says.

“If those funds don’t exist, that environmental legacy, that social legacy, whatever it is, sits with the government,” says Bailey. “It will sit with the municipality.” The consequences may be polluted water, dust, unsafe pits, damaged land or social disruption. “Society needs to bear that cost.”

At SA Lithium’s Highbury Mine near Umzumbe on KwaZulu-Natal’s South Coast, the global debate over critical minerals has become intensely local. Public reporting has described objections to a proposed expansion, including concerns about water, biodiversity, consultation and relocation, and whether the assessment process is adequate.

Objectors say the plan would expand the open pit from about 40 hectares to 150ha and the waste dump from 56ha to about 180ha, raise annual production to 250,000 tons and extend the mine’s life by about 20 years, according to a report by the Mail & Guardian newspaper. Daily Maverick, an online publication, has reported that the homes of more than 800 people could be affected by the expansion plan.

SA Lithium director Ian Harebottle denies the company has short-circuited any regulatory processes. Operations are being conducted strictly “by the letter of the law”. An initial prospecting right was applied for back in 2017. The relocation effort was a consultative, family-by-family process requiring hundreds of meetings: “We are not forcing anyone to leave,” says Harebottle. “It’s all on a voluntary basis.”

For a lithium producer, ESG is not optional; their end-customers sit squarely within the green supply chain, he says. “ESG compliance is 100% top of the list. You can’t champion green energy without championing environmental and social compliance.”

SA Lithium is determined to leave more than just an open pit behind. The company is injecting about R100m into the region every month. To ensure this capital actually

benefits the residents, Harebottle says the strategy relies on localised economic circulation: creating direct jobs, prioritising local small businesses and service providers, and upgrading essential community infrastructure such as roads and schools.

DIGGING FOR VIRTUE

Even where domestic enforcement is patchy, export markets are starting to impose their own discipline. Rapson says EU sustainability, due diligence and traceability rules are making responsible sourcing a commercial requirement. The US picture is less settled, but supply-chain traceability still matters for companies hoping to sell into global battery and electric vehicles markets.

“Poor EIA processes, inadequate community consultation and rehabilitation failures at the mine create exposure up the entire supply chain,” he says.

South African projects that attract legal controversy and community opposition may

find it harder to secure offtake agreements and project finance from European and institutional lenders.

For Dhawan, compliance alone is not enough.

“Regulations should be the floor, not the ceiling of a company’s ambition on ESG.”

ESG is best understood not as just corporate virtue-signalling, but as a framework for identifying and managing risk, says Bailey. “If you understand your exposures and what you’re doing to mitigate those exposures or mitigate your impacts, that’s good business at the end of the day.”

Institutional investor priorities have not shifted dramatically, in his experience. Human rights remain important, biodiversity is becoming more prominent and climate remains on the agenda, especially for stewardship teams at large funds. “They’re very interested in how you’re managing long-term risk,” he says.

South Africa cannot afford to miss the

‘The world needs a lot more minerals and metals, but it won’t get them by cutting corners’

– Stewart Bailey, AngloGold Ashanti

critical minerals opportunity. Its economy needs investment, jobs, exports, tax revenue and industrial development. Its mining sector remains one of the country’s most important sources of foreign exchange and employment. But the country also can’t afford another generation of unfunded environmental liabilities, broken community promises and abandoned scars on the landscape.

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Why mining spearheads SA's green energy push

South Africa's mines are leading the country's green energy transition – and the consequences for Eskom are profound, writes **SVEN LÜNSCHE**

SOUTH Africa's mining executives are accustomed to gathering around a broad economic cause. Often, it leads nowhere, such as attempts to prod government on policy. They have, however, had significant success in the renewable energy stakes if only because it makes financial sense, though other factors exist.

Sure, buying power from solar or wind installations locks in supply at rates below Eskom's tariffs, but it also trims carbon emissions and hedges against Eskom, the state utility that, after years of structural dysfunction, is only now emerging from structural crisis. After a decade in which loadshedding cost the economy hundreds of billions of rand, the case for self-generation hardly needs making.

The transformation of South Africa's mining sector into its most dynamic adopter of renewable energy has been years in the making. But the pace of change over the past three years has been remarkable.

'To unlock this low electricity cost, low opex for the mine, you have to understand that it starts with a high capex. A renewable plant is just capex at the beginning'

**– Christophe Fleurence,
TotalEnergies**

Christian Teffo, deputy head of Techno Economics at the Minerals Council South Africa, says about 1,500MW in mining renewable energy projects are now installed – roughly 21% of South Africa's estimated 7,000MW of distributed renewable capacity. Energy regulator Nersa has registered some 18,000MW of renewable energy projects in total, with more in the pipeline. What began as a defence against loadshedding has become a cornerstone of how large mining companies think about operational competitiveness and sustainability.

The use of renewables in South African mining continues to increase. Sibanye-Stillwater, one of the sector's most aggressive adopters, has since expanded its portfolio further through a 138MW power purchase agreement with energy supply firm NOA Group, lifting its total renewable energy portfolio to 765MW. By 2028, the company expects 56% of total energy demand from its South African operations to be met by renewable supply.

Gold Fields, a pioneer in renewable energy supply in the country when it commissioned its 50MW Khanyisa solar plant at the South Deep mine in 2022, is planning to quadruple capacity.

In its recently released 2025 sustainability report, the miner announced a 25MW expansion of the solar plant, with construction starting in 2026. "We are also exploring a further 110MW of solar in later phases, which would ultimately take total installed solar at South Deep to around 190MW," it said. This would increase the share of renewable electricity and associated emissions reductions once implemented, it added. The original 50MW plant alone has already reduced South Deep's carbon



footprint by around 110,000 tons of CO₂ per year.

The environmental case is clearly important for miners. Sibanye-Stillwater expects to avoid 2.63 million tons of CO₂e (equivalent) per year through its renewable portfolio from 2028 – a 41% reduction versus 2024 emissions. Sibanye-Stillwater CEO Richard Stewart described the NOA agreement as "another critical step towards reducing our carbon emissions and achieving our goal of carbon neutrality by 2040".

Impala Platinum aims to achieve carbon neutrality by 2050 and is progressing toward achieving its short-term target to reduce carbon emissions by 30% between 2019 to 2030. "Renewable energy allows us to reduce our carbon emissions, given that our customers are racing to lower carbon metals," said Tsakani Mthombeni, the platinum miner's sustainable development executive.

In addition, grid electricity sourced from Eskom's coal-dominated fleet represents precisely the kind of exposure that institutional shareholders focused on environmental, social and governance (ESG) want reduced.

But it is the financial case that makes renewables most compelling for local miners.

THE ECONOMICS OF RENEWABLES

The core financial argument for renewables is straightforward: Eskom's electricity tariffs have risen about 900% since 2008, and there is no credible scenario in which that trajectory slows significantly, never mind

reverses. Nersa approved an 8.76% average increase effective April 2026, and further hikes are expected as Eskom grapples with its structural cost base.

Set against that trajectory, the economics of a renewable energy plant – characterised by high upfront capital expenditure that then incurs minimal operational costs – are compelling. Sibanye-Stillwater estimates that its annual renewable energy cost will average 20% to 30% below forecast Eskom wholesale tariffs, generating savings of more than R1bn per year from 2028. Gold Fields' 50MW solar plant has cut electricity costs by 24%, the equivalent of R123m a year. At coal producer Exxaro, Cennergi, the company's 100%-owned renewable energy subsidiary, has reduced Exxaro's scope 2 emissions by 25% and its energy costs by R100m a year.

The entry price remains a hurdle, particularly for smaller operators. Christophe Fleurence, vice-president at TotalEnergies Renewables, said at the Mining Indaba conference in February: "To unlock this low electricity cost, low opex [operating expenditure] for the mine, you have to understand that it starts with a high capex [capital expenditure]. A renewable plant is just capex at the beginning." But trade-off studies, he noted, typically reveal payback periods of two to five years – a return profile that larger miners, with their long-life assets and substantial balance sheets, can easily absorb.

The prognosis is that the case for renewables will only strengthen. Both self-generated renewable energy and that supplied by independent power producers (IPPs) is getting even more competitive on a per-unit basis, while Eskom's grid tariffs face continued upward pressures from infrastructure maintenance, debt service costs and declining sales volumes.

SUPPLY SECURITY

While the economics have always been there in principle, it was Eskom's loadshedding programme that transformed renewables from a strategic ambition into an operational imperative. Between 2022 and 2024, South Africa experienced some of the most severe supply disruptions in its history, with stage 6 loadshedding – up to 6,000MW of demand shed at a time – periodically halting production at mining operations that

cannot simply be switched off and restarted without significant cost.

That crisis appears to have passed for now. By mid-2026, South Africa had logged over 300 consecutive days without interrupted supply – a turnaround attributed to Eskom's Generation Recovery Plan, improved maintenance, support by private sector operators, including mining companies, and the growing contribution of independent power producers. Eskom's energy availability factor (EAF) in May stood at about 63%, a 10% improvement from three years ago, while unplanned outages fell by almost 4,000MW compared with May 2025.

But mining companies have not reversed their renewable commitments on the back of this improvement. The memory of loadshedding is too fresh, and the structural vulnerabilities of a coal-heavy, ageing fleet of power plants too apparent, for executives to bet operational continuity on Eskom alone. "Renewable energy supply security" is now a standard term among miners and they are backing it up with billions in investments.

TWO PATHS, ONE DESTINATION

A distinction has emerged in how mining companies approach their renewable strategies. Some, like Exxaro Resources, a coal miner, have built proprietary vehicles. Cen-

nergi is targeting about 497MW of net operating capacity in 2026. It recently commissioned a 68MW solar plant at Grootegeluk and bought additional generation facilities. The group's CEO, Ben Magara, has switched the company's capital allocation plans, however, targeting annual equity spend of R2bn rather than chasing a headline target of 1,600MW.

Others have opted for off-balance sheet structures, procuring renewable energy from specialist IPPs through long-term power purchase agreements. Sibanye-Stillwater's 765MW portfolio is entirely financed by IPPs and third parties – a model that preserves balance sheet flexibility while securing long-term price certainty. The NOA Group, which is targeting 1.5TWh (terawatt hours) supply a year to South Africa's mining sector, is typical of the specialist firms stepping in to structure and finance these arrangements. DRDGold and Pan African Resources are among miners that wheel renewable deals through NOA.

There are many options on the table. "We treat each mine on a case-by-case basis, ensuring that risk is matched to the point of consumption," said Implats' Mthombeni.

"At Zimplats, we decided on the built route, starting off with a 35MW solar power plant and now adding another 45MW plant there," he says. "In South Africa, we have seen IPPs, traders and even Eskom offering green electrons on terms that are getting closer to our risk appetite. We will therefore be approaching the market to supply our Impala Rustenburg and Marula mines."

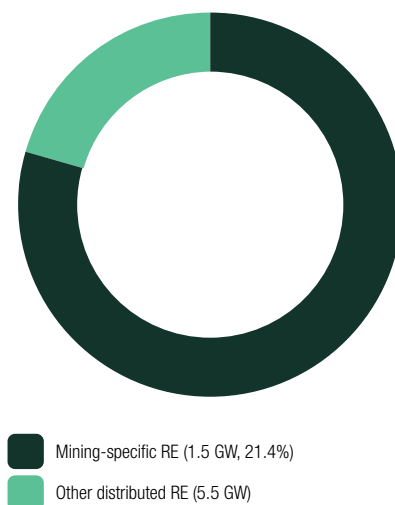
Both models have merit. Own-and-operate provides greater control and captures the full benefit of low-cost generation. Purchased power via IPPs reduces capital demands and mirrors the financial risk of the IPP rather than the miner. The choice, ultimately, reflects a company's balance sheet capacity, risk appetite and strategic priorities.

ESKOM

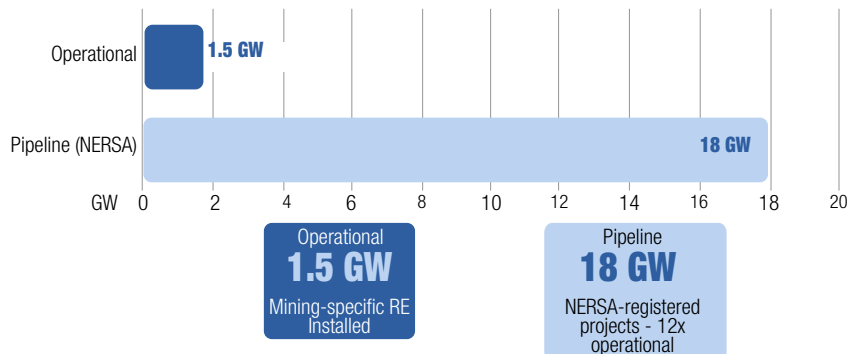
The effect of mining sector renewables investment, rooftop solar proliferation, and subdued economic activity has created a problem for Eskom that would have been unimaginable at the height of loadshedding: surplus capacity. Non-Eskom generation accounted for approximately 17% of total generation in early 2026, up from 11% a year

Mining RE vs SA distributed RE supply (GW)

Mining-specific RE ≈ 1.5 GW of SA's ~7 GW distributed RE



Power Play



Source: Minerals Council SA. Pipeline reflects early-stage registrations; not all represent committed projects.

earlier. Analysts expect it to exceed 20% by year-end. South Africa's total electricity consumption in 2025 was 4.2% lower than 2024 – the lowest level since 2001. Eskom's own generation fell 10% last year.

The utility has reported that it holds about 2,200MW of surplus capacity, with cold reserves reaching nearly 10,000MW on some days in February 2026 as demand softened further. Eskom has confirmed that five power stations – Grootvlei, Arnot, Camden, Hendrina and Kriel – are scheduled for shutdown by 2030 as they reach the end of their operational lives.

The financial implications are acute. Declining electricity sales force Eskom to recover fixed costs over a smaller volume base, which requires higher tariffs, which in turn incentivises more customers to defect to alternatives. The utility's CFO, Calib Cassim, has acknowledged the affordability pressures on both residential and business customers, framing the 8.76% tariff increase from April 2026 as necessary for system sustainability.

Eskom is, however, developing a more nuanced response. Working with government and Nersa, it is exploring a restructured pricing mechanism that can offer energy-intensive industries more competitive rates while protecting its own financial recovery. "The goal is to develop a restructured pricing mechanism that protects the utility's financial recovery while offering energy-intensive industries more competitive rates," Eskom said in response to questions from Miningmx.

THE FERROCHROME PRECEDENT

The most tangible expression of this thinking is the new 62c/kWh tariff for South Africa's ferrochrome industry, which is a rate well below the amended price agreement of 87c/kWh (itself a 35% discount on the standard tariff) and dramatically below the circa 234c/kWh that standard large industrial customers pay.

Electricity minister Kgosisentsho Ramokgopa called the announcement the "single most important" of his tenure. The numbers explain why. Only 11 of South Africa's 66 ferrochrome smelter furnaces remained operational by early 2026. The proposed 62c/kWh tariff could potentially bring 45 furnaces back into production, supporting an estimated 11,000 direct and more



Kgosisentsho Ramokgopa, Electricity minister

than 100,000 indirect jobs. If the furnaces are brought back, it could also potentially generate more than R76bn in export earnings, and, critically for Eskom, generate an additional approximate R17.9bn in revenue to the utility.

Following the announcement of the tariff structure, Glencore Merafe withdrew plans to cut 1,500 jobs. The new tariff will also provide a lifeline for Samancor, owned by Anglo American and South32.

For Eskom, it means less revenue, but far better than none. Accepting a discounted rate rather than losing that load entirely is the rational commercial decision for a utility sitting on surplus capacity.

In explaining the decision in a media release Eskom said: "The approval represents an important regulatory step in balancing industrial sustainability, electricity system stability, employment preservation, and long-term economic value creation within South Africa's energy-intensive sectors."

Could the ferrochrome industry serve as a model for other marginal mining and industrial sectors, and will Nersa and Eskom be willing to extend the model? Eskom suggests it does: "The framework provides a stabilisation mechanism for both Eskom's financial position and the broader economy."

"It supports continued electricity demand from the sector while sustaining jobs and economic growth. Retaining this baseload demand also improves growth system utilisation and helps mitigate risks associated with fixed supply obligations, contributing to overall system and financial stability."

Minerals Council South Africa president Paul Dunne has acknowledged the broader implications: "Whatever gets done for ferrochrome needs to be able to be replicated – but it's not a given." The principle of using Eskom's surplus to anchor energy-intensive industries, at tariffs that reflect marginal rather than full-cost pricing, has obvious appeal for platinum and aluminium smelters and other large industrial consumers.

Talks are progressing between Eskom and South32 to establish a new electricity supply agreement for the Hillside Aluminium smelter in KwaZulu-Natal.

But the future for Mozal is clouded as South32 looks to sell its shares in the smelter, possibly to the IDC which is also weighing its options.

In SA, ferrochrome is safe, for now

BY ANTOINETTE STEYN

JAPIE Fullard is careful not to oversell the deal that dragged South Africa's ferrochrome industry back from the brink. The 62c/kWh electricity tariff approved for Glencore-Merafe and Samancor Chrome is not a permanent fix. "It only gets us into the ring," says Fullard, CEO of Glencore's ferroalloys business. Even with cheaper power, Glencore-Merafe has to run leaner. "We must not think that the 62c is now going to save our skin. It's not."

"The first thing that we need to do is work with Eskom and with industry to find an electricity solution that can make the 62c sustainable."

That is the question facing one of South Africa's most important – and most wounded – downstream industries. True, the furnaces are coming back and jobs have been saved. Chrome ore will once again be made into ferrochrome rather than exported to China. But the deal only buys Glencore-Merafe three years. A workable long-term outcome depends on whether that reprieve can become a permanent industrial power solution. But the clock is ticking.

South Africa should, on paper, consider itself a force in ferrochrome: it contains nearly three-quarters of the world's chrome reserves. Yet in 2025, the country supplied only 1.6 million tons of 15.9Mt of the stuff, down from 3.3Mt a year before. China, by contrast, has become the largest producer, much of it using South African chrome ore. In 2025, it imported about 19.6Mt of the ore from South Africa.

Smelting ferrochrome – an alloy of chrome and iron that gives stainless steel its resistance to corrosion – is brutally power-intensive. At electricity tariff hearings convened by Nersa, the energy regulator, it was put that electricity accounts for 52% of ferrochrome production costs. As Eskom tariffs rose, South Africa's advantage was eroded. Public reports show that only 11 of the country's 66 smelters were operating, while nameplate capacity of 4.9Mt had slumped to less than a million tons.

A report last year by Glencore's joint venture partner, Merafe Resources, called electricity costs an "existential risk" to the industry. Its attributable ferrochrome output fell from 301,000 tons in 2024 to 112,000t in 2025 after smelters were mothballed in the second quarter. The mines kept producing chrome ore. But the furnaces, largely, fell idle.

For Glencore-Merafe, the new tariff cuts the price from what Fullard says was about R1.39/kWh under the previous negotiated pricing agreement. Lion, its most technically advanced smelter, could restart



Japie Fullard, CEO, Glencore Ferroalloys South Africa

after an interim reduction to 87.74c/kWh. But the older, more energy-intensive Boshhoek and Wonderkop smelters needed 62c to survive.

Fullard says Lion is already operating, though not yet at full tilt. Boshhoek will take three to four months to reach nameplate capacity. Wonderkop should take five to six weeks.

For the past year, Glencore-Merafe has not been spending capital on dormant assets. Working capital has been run down. Feedstocks and other inputs must be rebuilt, safety interventions are needed, and equipment has to be repaired.

Samancor has a five-year arrangement. Glencore-Merafe chose three years. Why take the shorter deal if five years was available? Fullard says it came down to risk. To get to 62c/kWh, Glencore-Merafe must commit to a two-year take-or-pay arrangement, paying for at least 80% of installed capacity regardless of market conditions. A five-year deal would have meant a three-year take-or-pay commitment. For Glencore, that was too lengthy a lock-in.

"We don't know what happens tomorrow. We don't know what happens in six months. We don't know how the Chinese are going to retaliate," he says. "We just felt that we were not in a position to lock ourselves in for a full 36 months versus 24 months."

If Glencore-Merafe brings all its current smelters back, Fullard says the group could return to about 1.5Mt-1.8Mt of ferrochrome capacity. If matched by Samancor, South Africa could return to 4.2Mt/year – a major hike, yet still short of installed capacity of 4.9Mt.

Fullard says the Lydenburg and Rustenburg smelters will not be restarted now as he's uncertain whether smelting in South Africa can be viable long term.

This has direct consequences for chrome ore exports. It takes 2t of chrome to make a ton of ferrochrome. If Glencore restarts all its smelters, up to 4Mt of ore destined for China could be converted into 2Mt of ferrochrome.

But he resists notions South Africa can simply 'beneficiate' (manufacture) all its chrome. It cannot. South Africa exported 24Mt of chrome ore last year. Even if Glencore-Merafe and Samancor restart fully, domestic smelters can convert only about 8Mt, says Fullard. "So the rest of the chrome ore must still be exported."

Glencore-Merafe has lifted its Section 189 retrenchment process, and cancelled layoffs after the new tariff was approved. But furnace restarts do not mean a wave of new direct jobs at Glencore. "We've been paying our people for the last year – full pay, full salary – to keep them in jobs without producing one ton of ferrochrome," he says.

Instead, job creation is among contractors and business partners. Fullard says more than 1,500 new jobs will be created as service providers return to the operations.

For Eskom, the deal has been framed not as charity but as 'load retention'; that is, unprofitable supply is better than no supply.

At the public hearings, Eskom argued that losing smelter demand would have wider system costs, including lost revenue and underused generation capacity. The tariff improves its liquidity without requiring higher tariffs, additional borrowing or further government support, while providing predictable sales volumes for up to five years. "Give it to us at 62c," Fullard says. "At least what you can then understand is that we are paying very well. We pay fairly quickly."

COAL DEAL FOR ESKOM?

One proposal aimed at establishing a sustainable tariff with Eskom is to supply coal – potentially from established producers or

junior miners – which Eskom then converts into electricity for baseload users such as Glencore-Merafe and Samancor.

There is, Fullard says, "a massive opportunity" to support junior miners through coal supply into Eskom, while the ferrochrome producers absorb the resulting energy. He disagrees with the claim that in such a tie-up, Glencore would benefit on both sides; that is, marketing coal and getting cheap power. The point, in his telling, is to create a broader industrial bargain: Eskom gets predictable demand, miners get an offtake opportunity, and smelters get power at a level that lets them run.

'We don't know what happens tomorrow. We don't know what happens in six months. We don't know how the Chinese are going to retaliate'

– Japie Fullard, Glencore

There are critics. Meridian Economics' Adam Roff warned during the Nersa process that too little information had been disclosed for the public to assess the new tariff deal properly: how the price was determined, what it costs Eskom to supply the power, the effect on other customers and the exact jobs impact are unaddressed. He argued that 62c/kWh may well be the best overall socioeconomic solution, but that the evidence had not been placed fully before the public.

That is the vulnerability of the deal. A household paying several rand per kilowatt hour may look at 62c and see a subsidy. Eskom and the smelters say that retaining large, predictable baseload customers protects the system and prevents wider tariff pressure. The agreement also includes upside-sharing with Eskom if ferrochrome prices rise above a certain threshold.

Fullard insists Glencore is not trying to extract a private benefit at public expense. "If we do make money on the smelter side,

we are more than willing to give back," he says. "Obviously, Eskom gave us this as a concession. So we need to give back."

OFFSHORE INVESTORS

What comes after the three-year reprieve?

Fullard says the first requirement is a permanent electricity solution, whether through Eskom, independent power producers or power purchase agreements. Glencore Alloys, he says, is prepared to sign long-term power purchase agreements as an energy offtaker. That could support energy suppliers and junior coal miners, and could help accelerate renewables elsewhere in the system. But for the smelters themselves, renewables cannot simply replace Eskom.

He is also open to foreign investment on a partnership basis. Asked about Chinese joint ventures, he says Glencore would not "shy away" from any partner willing to invest in beneficiation in South Africa. Samancor and Sinosteel already have significant Chinese investment, he says. Glencore has also spoken to the US.

The need is not only capital; it is technology. Converting older smelters to the Premus technology used at Lion would cost not millions but billions of rand. On a three-year tariff window, that investment is hard to justify.

"At the smelters, we are not really going to make money. It's just going to be to ensure that we can keep it open so that the people can still have work," says Fullard. Glencore would rather test other technologies that can deliver similar efficiencies with less capital intensity.

If the 62c model can be made to work, Fullard argues, other energy-intensive industries could piggyback on the same blueprint.

That matters because ferrochrome is not the only downstream industry that has been hollowed out by electricity costs. Fullard points to ferromanganese and steelmaking as examples of sectors in which South Africa once had industrial weight but has since lost ground.

For all his warnings, Fullard has not lost faith in the industry. Asked whether ferrochrome could return to thriving profitability rather than merely surviving, he does not hesitate. "Yes. Otherwise, why would I have fought so hard for this if I didn't believe in that?"

Mining that matters

The Buttonshope Conservancy Trust (the Buttonshope Trust) was established by Northam Platinum Limited (Northam) in 2011 specifically to manage Booyssendal Platinum Proprietary Limited (Booyssendal's) conservation efforts given the mine's location within the Sekhukhune Centre of Plant Endemism, a biodiversity rich region which has been described as irreplaceable by the Mpumalanga Tourism and Parks Agency (MTPA).

The Buttonshope Trust is funded through guaranteed contributions from Northam and Booyssendal and is governed by a board of trustees with representation from Northam, the MTPA and independent environmental practitioners.

This biodiversity offset agreement was a first of its kind and was concluded between the Buttonshope Trust, the MTPA and

Booyssendal in a benchmark example of public-private collaboration.

It commits the Buttonshope Trust to further expand its offsets and land under management, in line with the MTPA's long-term conservation goals.

The De Berg Nature Reserve, which is part of the properties under the ownership of the Buttonshope Trust, was declared South Africa's 30th Ramsar site, which is something that Northam is very proud of.

At Northam we believe in the positive impact of mining, mining that benefits our employees, our communities, the environment and our investors. Mining that Matters.

Please refer to Northam's website at www.northam.co.za for more details of this initiative and many others that the group undertakes.

A maze of minerals policy

South Africa's minerals policy is a contorted affair after years of government tinkering. But few aspects of it are as troubled as the quest for new manufacturing – or 'beneficiation' as it's uniquely described in the country. In June, miners were faced with another setback: enter the chrome-plated return of forced beneficiation, writes **TIM COHEN**



IT is a cliché of effective industrial policy that developing an industry works best if there is “policy certainty”. It is also one of those clichés that becomes a cliché because it is true, and nowhere is it truer than in mining, where investment decisions are made over decades, capital is committed before revenue exists, and the investor's first question is not whether the geology is attractive, but whether the rules of the game will still resemble themselves by the time the first rock is blasted.

After years of argument, the South African mining industry was beginning to feel it was making some progress with the Department of Mineral and Petroleum Resources. The debate around the Mineral Resources Development Bill has been fraught, but it has at least been taking place in the right room, with the right department, around the right statute. Then the Department of Trade, Industry and Competition (DTIC) ar-

rived with its new Industrial Development Strategy (IDS) and just when the mining industry thought it could see the outline of a bargain, the IDS reopened the older, larger and more combustible question of forced beneficiation.

The awkwardness lies not in the fact that government wants beneficiation. Every government in South Africa and elsewhere has wanted an increase in the local manufacturing base; it is the prayer permanently pinned to the national mining-policy fridge. The problem is that the IDS does not merely encourage beneficiation, or propose incentives for downstream industry, or suggest conditions under which beneficiation might become economically rational. It proposes that beneficiation objectives be linked to mining rights themselves, that the right to mine could, in future, be made conditional on some undertaking to beneficiate. A critical exchange on this took place at the Junior Mining Indaba in June. Conference

chairman Bernard Swanepoel read out the relevant passage from the IDS and put the question directly to Jacob Mbele, director-general of the mining department. The document called for “a review of mining legislation on the allocation of mineral rights” to enable government to attach conditions facilitating beneficiation conditions that would be embedded in mining licensing decisions. “How is this not policy uncertainty?” Swanepoel asked.

It was an unusually revealing moment. Mbele, who had spent much of the discussion arguing that South Africa's mining problem was administrative weakness rather than policy uncertainty, suddenly had to answer for a proposal from another department that cut directly across his own licensing terrain. His reply was careful, brief and telling: “No, it is not [the DTIC's domain], but it's a proposal that they're putting forward.”

That was a diplomatic kick for touch of the



kind South Africans have become exhausted by for two decades. It suggested the mineral-rights system remains the statutory terrain of the mining department, and that the DTIC's ambitions have not yet been absorbed into mining law. But the fact that Mbele could describe it as a proposal does not mean the proposal is harmless. The Minerals Council certainly did not treat it as such. In a sharply worded statement, it noted "with regret" the IDS proposals on chrome ore export taxes and quotas and the linking of beneficiation to mining rights. The council's CEO, Mzila Mthenjane, described it as an "unfortunate policy intention" that, "while not yet a law", added to the "incessant policy uncertainty" constraining investment.

That phrase *while not yet a law* is the industry's way of acknowledging Mbele's point while refusing to concede that only law matters. For investors, proposed laws, strategy documents, Cabinet statements,

ministerial discretion and draft regulations all matter because they create a probability field around future investment. Mining investment is not frightened only by what government has already done. It is frightened by what government appears to be thinking of doing.

The Minerals Council's deeper argument is that mining and beneficiation are separate economic activities: beneficiation is manufacturing, not mining, and cannot simply be loaded onto mining as a licence condition. The council is not saying beneficiation is bad. It is saying that if government wants beneficiation, it must create the conditions for investment in it; it must not impose beneficiation on the act of mining itself.

Chrome is the perfect test case, because it is where the political argument for beneficiation is most tempting and the economic argument against compulsion is most concrete. South Africa is a giant in chrome ore but has lost much of its historical strength in ferrochrome, the energy-intensive alloy used in stainless steel. On the face of it, the story seems absurd: a country with enormous chrome resources exports ore to countries that then perform the value-adding process it says it wants. But the industry's answer is simple: the missing ingredient is not chrome ore, it is cheap, reliable electricity. Electricity tariffs have risen by more than 900% since 2008, making the ferroalloys industry globally uncompetitive. In that view, an export tax on chrome ore would penalise miners for the collapse of smelting economics rather than repair the cost base that made smelting impossible.

The DTIC may now believe that old objection has been partly answered. The government has recently moved to provide major tariff relief to ferrochrome producers, with Glencore-Merafe and Samancor receiving electricity rates that could make previously distressed smelters viable again. If the problem was electricity, the DTIC can now say it is addressing electricity and that export controls are not an isolated blunt instrument but part of a package: cheaper power, export quotas, special economic zones and a licensing regime that favours downstream investment.

In theory, this is industrial policy in its most muscular form. In practice, it is also exactly the kind of policy mixture that

makes miners reach for the blood-pressure tablets. Every additional instrument creates a new negotiation, and every negotiation creates discretion, and every discretion point becomes somewhere a mining project can be delayed, redirected, bargained over or quietly suffocated.

Internationally, South Africa's DTIC is not imagining the world incorrectly. The age in which governments spoke solemnly about free markets while quietly building industrial champions is over. The US has the Inflation Reduction Act. The EU has its carbon-border mechanisms and critical raw materials agenda. Indonesia banned nickel ore exports to force domestic processing and has built a significant nickel-processing industry. Resource nationalism has moved from the fringe to the mainstream. In that context, South Africa's desire to use its mineral endowment as the basis for industrial development is understandable, and perhaps unavoidable.

MPRD

The difficulty is that South Africa wants to play this new global game with a state apparatus that often struggles to perform the old basic one. Before a country can impose sophisticated industrial conditions, it must be able to issue mining rights efficiently, maintain a reliable cadastral system, coordinate approvals, run railways, operate ports and administer rules predictably. That was exactly the point emerging from the Indaba panel before Swanepoel detonated the IDS passage.

Similar anxieties surround the Mineral Resources Development Bill. The department presents it as a modernising measure formalising artisanal mining, improving consultation, strengthening enforcement, aligning with the critical-minerals strategy. But to the industry, certain clauses suggest a renewed appetite for administrative control rather than simplification. The original draft extended black economic empowerment-type requirements into prospecting rights, alarming exploration companies because exploration is the riskiest stage of the mining cycle and usually has no cash flow against which empowerment structures can sensibly be financed. That proposal was corrected, a partial retreat that confirmed both the department's sensitivity to criticism



Jacob Mbele, Department of Mineral and Petroleum Resources

and the industry's suspicion that problematic clauses can appear before their practical consequences have been understood.

The second flashpoint is Section 11, dealing with the transfer of mineral rights and changes in control. If ministerial consent is required too widely, ordinary deal-making becomes slower, more uncertain and more exposed to discretion. For an industry dependent on raising capital, bringing in partners and restructuring ownership as geology and markets change, that can quickly become a brake on investment. The department has corrected some of the most contentious wording, but lawyers and industry bodies argue that uncertainty remains.

South Africa ought to be using the current commodity cycle to rebuild exploration, accelerate licensing, attract junior miners and create conditions for downstream investment. Instead, the fear is that just as the mining department is trying to sort out the basics, the DTIC has thrown a new conceptual wrench into the machine.

There is a defensible pro-IDS case: that South Africa has spent 30 years watching its mineral endowment leave the country too cheaply while industrial capacity declines

and unemployment remains at catastrophic levels; that no serious industrialising country leaves everything to the market; that beneficiation will not happen without government forcing coordination across energy, mining, finance, infrastructure and trade.

There is also a powerful anti-compulsion case: that beneficiation is not created by decree but by comparative advantage, infrastructure, energy prices, skills and investment confidence; that attaching beneficiation undertakings to mining rights risks deterring exploration and mine development; that chrome smelters did not close because miners refused patriotism, they closed because electricity became too expensive; and that if government wants beneficiation, it should incentivise manufacturers, not encumber miners.

Mthenjane made an important distinction at the Indaba: political risk and policy uncertainty are not the same thing. Political risk is the risk of expropriation, coups or nationalisation. That is not the central complaint about South Africa. The complaint is more granular and, in some ways, more maddening: that rules may be clear in Pretoria but applied differently in a regional

office; that statutory deadlines may exist but not be observed; that ministerial discretion is too wide; that a document can emerge from one department proposing changes to licensing logic administered by another. The IDS has touched a nerve because it seems to confirm the industry's most persistent fear is not that government is anti-mining, but that it is internally incoherent.

The IDS may be only a proposal in relation to mining rights, as Mbele suggested, but proposals shape expectations, and expectations shape investment. If the DTIC wants to use mining rights as industrial-policy levers, it must say exactly how, through which statute, after what consultation, subject to what limits, with what appeal rights and under whose authority. If it cannot answer those questions, the proposal should be withdrawn or recast as an incentive framework rather than a licensing condition.

South Africa does need beneficiation. It does need to stop exporting so much raw potential and importing so much finished value. But it also needs mines, and mines begin with rights, certainty, capital and time. If the state makes the right to mine contingent on a promise to solve manufacturing, electricity and industrialisation all at once, it may end up with less mining and no beneficiation.

The dispute is not about the destination. It is about whether South Africa gets there by making beneficiation possible, or by making mining conditional. That difference is not semantic. It is the difference between industrial policy and industrial wishful thinking.

South Africa ought to be using the current commodity cycle to rebuild exploration, accelerate licensing, attract junior miners and create conditions for downstream investment. Instead, the DTIC has thrown a new conceptual wrench into the machine



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Did govt get its lines crossed again?

BY DAVID MCKAY

A DEMONSTRATION of South Africa's new minerals licensing software by government to the Minerals Council last month appears to have gone better than expected. "There's been encouraging progress," says the council's spokesman, Allan Secombe. "We await the full rollout to see how all of the provinces are captured in the system."

The main contention of the new cadastre – implemented in the Western Cape in late 2025 – is the use of software that operates on a grid system rather than honouring the farm boundaries that have been used for about a century to map mineral rights ownership.

Industry executives polled by Miningmx are worried the technology will add to permitting complexity, currently in backlog worth hundreds of applications. There are even concerns the complexity suits corrupt parties within the Department of Mineral

and Petroleum Resources (DMPR). "My assumption is that there are too many powerful players involved who benefit economically," says Errol Smart, the former CEO of Orion Minerals and now a consultant.

Adding to these concerns is the repeated delay in implementation of the new cadastre. Minerals and petroleum resources minister Gwede Mantashe twice extended the deadline for its rollout in the Western Cape last year. He first announced the replacement of the creaking and ill-suited Samrad system in 2021.

"The longer it's taking to be delivered, the less confident we become in terms of what the final product will look like," said Minerals Council



Measured by hoof: Why SA's land is hard to square

BY JADE DAVENPORT

FEW countries wear their history on the land as plainly as South Africa, where rainfall, soil and mineral belts have shaped who could live, farm and prosper. Nowhere is this clearer than in the story of private land ownership. When the Dutch established their

settlement at the Cape in 1652, it was to run a refreshment station for passing company ships, not to build a colony. To provide the reliable supplies of fresh food and water, the Dutch East India Company took the liberty of granting what they chose to treat as terra nullius along the banks of the Liesbeek River. These were strips of arable land where the river formed one boundary and a few poles demarcated the other edges. It was basic and improvised, but it was the beginning of a cadastre.

As the population grew, settlers pushed into the hinterland. Rain was scarce, rivers less reliable and vegetation sparse. The further they went, the less the original field sizes could sustain a family. Farmers needed thousands of morgen to keep sheep and cattle on thin grazing, a morgen being a historical unit of land roughly equal to a hectare. Surveyors struggled to keep up with the pace of expansion.

The solution that emerged was the 'ordonnantie'. A farmer chose a prominent feature in the landscape and from that point rode his horse at a walking pace



CEO Mzila Mthenjane at the industry body's annual general meeting on 27 May. "And unfortunately, the longer it takes, the more speculation we hear about the reason it's not being delivered on time."

"It remains an open question," said a UK-based mining industry financier, on the question of whether the technology adopted by the DMPR is the right one. "The grid approach is to be used on new applications. All post-2004 applications (the date the Minerals and Petroleum Resources Development Act was promulgated) defaulted to farm boundaries, except mining permits which are limited to about five hectares," he says.

There is no legal requirement for permits awarded using farm boundaries to migrate to the new system, reducing the matter to practice or convention. But the question is how will new applications relate to existing rights and to all other stakeholder interests, from administrative boundaries to protected area boundaries which all use surveyed farms, he adds.

There are other concerns. So far, the rollout

has been relatively successful. The Western Cape, however, is a simple mineral jurisdiction compared to Mpumalanga with its highly contested and unconcentrated coal operations. It will be the last province to be incorporated into the new software. KwaZulu-Natal is next in the queue, followed by the more complex jurisdictions of Gauteng, the Northern Cape and Limpopo provinces. The full rollout is not likely until well into 2027.

Industry sources told Miningmx the software does tackle the hazard in Samrad for over-pegging. Transparency is improved. But the ability of the cadastre to operate seamlessly with other government departments – for instance to comply with the environmental act NEMA – will only be implemented in a second phase from 2027. This is not a quick process, it seems.

Another risk is the migration of old data, much of it sitting in regional DMPR offices in bundles of paper. "We were told that process is going very well," a source says. Whether the transfer of information is accurate is "a case of wait-and-see", he adds.

for half an hour in several directions. Those rides sketched an approximate circle on the veld that officials later turned into a standard farm of about 3,000 morgen. It was imprecise and open to abuse, but it suited a sparsely settled pastoral frontier.

The Voortrekkers carried this practice into the Orange Free State, the Transvaal and Natal, and so the same irregular patterns were established across the expanse of the country. Some holdings were close to the nominal size, others far bigger, but all were grounded in local recognition and the memory of where a man had ridden.

This world of horseridden farms left a distinctive pattern on the landscape. Boundaries followed no rational grid. They bent to water, grazing, local features and the needs of a family and a flock. What gave them authority was not geometry but the fact that neighbours knew where one farm ended and another began. In the absence of walls, beacons were improvised – a cairn here, a marked tree there. It was still a cadastre that was more customary than

scientific.

Under British rule at the Cape this informal system began to harden into something closer to the modern cadastre. From 1813 land could not be sold unless it had been properly surveyed and registered. A Surveyor General's office was established in 1828 to examine diagrams and test surveyors. Gradually the rough circles and irregular polygons generated on horseback were revisited, farm lines were straightened and beacons standardised. Sketches gave way to diagrams with numerical measurements that could be checked and reproduced.

On Union in 1910, South Africa was still divided between colonial and republican survey practices. The Land Survey Act of 1927 pulled this into one system with a single national standard, tied surveys to the geodetic triangulation network and required surveyors' field records to be kept in the Surveyor General's office so that boundaries could be traced from beacon to control point.

This is what turned South Africa into what surveyors call a physical cadastre. Boundaries here are not figures in an

office but straight lines between marks on the ground, with coordinates and diagrams used to reinstate those marks when they are lost or disputed.

Later laws refined procedures but did not change that principle. The legal boundary is still where the beacon and the approved diagram place it, not where a computer happens to draw a line.

That is the cadastral fabric the mining industry inherited. The mineral rushes occurred on already surveyed land, so claims, leases and mineral rights were all recorded in terms of those farm names and boundaries. It was a system that worked well for over a century.

The grid-based map of the new mineral cadastre may suit places with weak property systems and unsurveyed land, but in South Africa every farm portion already has measured lines tied into the national triangulation network, so grid squares that cut across farms cannot replace them, and rights granted on a grid must still be tied back to farm portions, beacons and deeds before anyone can know which land is affected.

Transnet reform has left the station

BY TIM COHEN



SOUTH Africa's freight rail reform has moved beyond the stage where it can be dismissed as another policy aspiration in search of a timetable.

This is because the Transnet Rail Infrastructure Manager, known as TRIM, now exists. The first Network Statement has been published, rail access tariffs have been gazetted, private train operating companies have been selected, and rail access agreements have been signed. There were minor derailments, but the train has left the station.

There is however a whole bunch of outstanding questions for miners, financiers and cargo owners, and that is whether the new rail access framework is commercially robust enough to turn a slot on Transnet's network into an investable asset rather than merely a permission slip to take on risks that remain largely outside the operator's control.

Ian Bird, senior executive responsible for transport and logistics at Business for South Africa (B4SA), says TRIM is already more than a notional reform unit. "It's up and running. It has its own chief executive, Moshe Motlohi. It has its own staff. They've recently completed the appointments of all the exco members. It should be charging Transnet Freight Rail (TFR) as the first, and currently the only, train-operating company."

That institutional separation is the heart of the reform. TRIM is meant to sit between the state-owned rail network and the train operators that use it, including TFR itself, determining corridor capacity, allocating train paths, setting access tariffs and enforcing the Network Statement and Rail Access Agreement. It is, in effect, the first attempt to convert the freight rail network from a closed Transnet operating system into an open-access platform in which TFR remains dominant but no longer exclusive.

The reform is therefore real, but it is also incomplete. TRIM has been separated internally, but it is not yet a separate legal entity. "It's not a subsidiary," Bird says. "It's an operating division within Transnet. There's only one legal entity, and that's Transnet SOC Limited." The eventual idea is that TRIM, like the Transnet National Ports Authority, should move further away from Transnet's operating businesses and into a stand-alone entity under the Department of Transport, but that is not yet possible because TRIM is not financially viable on a standalone basis.

The reason is simple and awkward: the network is too damaged to pay for itself on a full-cost-recovery basis without making rail uncompetitive against road. Bird says the first tariff structure attempted to recover costs on a regulated-asset model, but the result was commercially unsustainable, resulting in a significant shortfall.

That shortfall matters because TRIM is trying to perform three jobs at once: act as an impartial infrastructure manager, fund and coordinate the rehabilitation of a degraded network, and create a bankable access regime for new operators whose entry is meant to help lift freight volumes from the current level of about 170 million tons towards the national target of 250Mt by 2030.

In theory, those objectives reinforce one another. More operators mean more traffic, more revenue and better use of the network. In practice, they collide at the level of contract risk.

The first phase has produced a group of 11 private train operating companies, in addition to TFR, with slots allocated across strategic

corridors and commodities. Bird says all 12 operators, including TFR, should have signed the same Rail Access Agreement and should face the same tariff sheet on the same corridor for the same cargo. "TFR pays the same rates as well. They've all got the same tariff sheet. If TOC A applied for a slot from Durban to Joburg for containers, TOC B would get exactly the same, if there was further capacity."

On paper, that is an important step towards neutrality. In substance, it still leaves Transnet overwhelmingly dominant. Bird says TFR has effectively retained about 180 million tons of capacity, which is its current operating plan, while the first round released roughly another 30-million tons for the new operators, of which around 22-million to 24-million tons has been taken up.

The reform is therefore not yet a competitive displacement of TFR; it is an attempt to add marginal capacity around an incumbent that still owns the customer relationships, most of the rolling stock, the operational history and the institutional gravity of the system.

This is not necessarily a flaw. Transport Minister Barbara Creecy has made the same point publicly: the new operators are meant to add capacity, not cannibalise Transnet freight. But the success of that addition depends on whether operators can finance locomotives, wagons, crews, maintenance and customer contracts against a rail access right that lenders can understand and enforce.

This is where the reform becomes much less celebratory. Bird says the current version of the Network Statement and Rail Access Agreement is not yet sufficiently bankable. "The bankability of the current version of the Network Statement and the rail access agreements, by any measure, has not been sufficient," he says. "Some of the train operating companies may have signed with caveats. I don't know. And they may all not have the requisite level of operating and transactional experience to assess the potential financial risks in advance."

Those dangers are now well known in the rail industry, and they are not abstract legal quibbles.

James Holley, CEO of Traxtion, one of Africa's largest private freight rail companies, has said publicly that the next version of the Rail Access Agreement must be "fully bankable" and must include service-level guarantees for awarded slots, reciprocal and not one-sided penalties, balanced legal protections and clear recognition of lender rights.



Reform yes, but is it bankable?

Traxtion did not apply for slots in the first round, and its position has become the shorthand for the central concern: no matter how enthusiastic investors may be about South African rail reform, they cannot finance rolling stock against a contract that gives them too little certainty over access, too few remedies when the network fails, and too little protection if the project runs into distress.

Taken together, these five risks may make the current Rail Access Agreement framework unbankable, operationally asymmetric, commercially inflexible, financially punitive and misaligned with global rail-access norms.

It is unbankable because a rail slot, as currently structured, cannot yet be relied upon as a bankable asset. A train-operating company may receive a slot, but financiers cannot easily take security over that right, there is insufficient recognition of lender step-in rights, the terms may change through future versions of the Network Statement, and the operator may remain liable for access charges even where the underlying network is not usable.

For rolling-stock finance, this is critical. Locomotives are expensive, specialised assets, particularly in South Africa's Cape-gauge system, where there is no large global pool of suitable equipment waiting to be deployed. Bird says many of the new operators are still trying to source rolling stock, particularly locomotives, and that even leasing will not be cheap. "They're going to be faced with a shortage of rolling stock, and very expensive rolling stock if they are able to lease it."

The framework is operationally asymmetric because train-operating companies are exposed to network and performance risks they do not control. Bird puts the issue plainly: "If something goes wrong on the track it should be TRIM's fault. But now if you can't operate because the track is in a bad condition, or didn't get maintained, or there's a derailment, where does TRIM sit in all of this?"

That question goes to the core of the contract. If a train-operating company has promised a cargo owner that freight will move, but the slot cannot be used because signalling fails, overhead electrification is down, security incidents disrupt operations, or a derailment blocks the corridor, the operator may face customer penalties while having no contractual recourse against the infrastructure manager.

It is commercially inflexible because the operator's access payment obligations

do not appear to flex adequately with outages, force majeure events or infrastructure failures beyond its control. Force majeure is supposed to suspend obligations where neither party can perform.

In the current framework, industry critics argue that the burden is uneven: the operator pays for access and carries the commercial consequences even when the infrastructure is unavailable or degraded. For a large incumbent with diversified traffic, that may be an irritant; for a new entrant with one or two slots, leased locomotives and a single anchor customer, it can be a solvency risk.

It is financially punitive because the slot term can run for up to 10 years while the operator's commercial environment may change completely. A cargo owner may reduce volumes, a commodity cycle may turn, a mine may close, road freight may become more competitive, tariffs may move, or the corridor may deteriorate. If the train-oper-

Finally, it is misaligned with global rail-access norms because it makes the TOC the party responsible to cargo owners for reliability and safety, while giving it insufficient enforceable assurance that the network will be fit for purpose. In open-access systems elsewhere, the infrastructure manager's obligations, service levels, maintenance commitments, capacity statements and performance remedies are central to the model.

NETWORK STATEMENT

In South Africa, the network is not only state-owned, it is also degraded, undermined, security-constrained and operationally fragile. Bird estimates that, across the relevant rail subsystems, the network may be operating at only 65%-70% of nameplate capacity, though he notes that it is difficult to separate the pure track constraint from the effects of signalling, overhead electrifi-

applicants to be train-operating companies, supported by letters from cargo owners; the next version is expected to allow cargo owners themselves to apply for slots and then procure train operators. "That's how it should be," Bird says. "If you're Thungela or one of the mining companies, you should actually apply as the cargo owner for the slot, and then you go and negotiate and say, 'I need a train-operating company.'"

That change would be significant, particularly for mining, because the balance sheets that can support long-term rail investment often sit with the cargo owners rather than with start-up operators. A mining company with bankable freight demand can contract a specialist operator, support rolling-stock procurement or leasing, and align rail capacity with mine production. Under the current model, the operator has to secure the slot and then carry both the operational and customer risk, which risks perpetuating the current environment rather than a genuinely competitive freight market in which cargo owners can choose among operators.

The other unresolved issue is maintenance. TRIM remains responsible for the network, but the backlog is substantial and the system is a compound machine: track, formation, signalling, overhead electrification, train control, locomotives, wagons, crews and security all have to work together.

Bird says Transnet can contract private parties to perform maintenance work under its control, and that, where corridors are concessioned, maintenance responsibility could pass to concessionaires. He says the coal exporters through the Richards Bay Coal Terminal and the iron-ore users are willing to partner with TRIM on identified maintenance packages, while government's Budget Facility for Infrastructure, the World Bank and perhaps most importantly private-sector participation structures could all help fund the backlog. The problem, therefore, may not only be money; it is also sequencing, governance and delivery.

The conclusion is therefore neither that Transnet reform is failing nor that it has succeeded. It has reached the decisive middle phase, where policy intent is being translated into contracts, and where the distinction between a reform that looks correct and a reform that can be financed becomes painfully important.



Barbara Creecy, Transport Minister

ating company remains locked into access obligations despite lost customers or uneconomic terms, the agreement becomes less a platform for investment than a long-dated liability.

Bird says there are penalties to prevent slot hoarding, and that is understandable because scarce rail capacity cannot be sterilised by speculative applications, but anti-hoarding provisions have to be distinguished from a framework that traps operators in uneconomic obligations they cannot manage.

cation, locomotives, wagons, personnel, train control and security.

This is why the next Network Statement matters so much. Bird says Version 4 is expected to address many of the concerns raised by train-operating companies and by players such as Traxtion. "It'll play out, and I think in the next version of the Network Statement that will largely address a lot of the concerns." The statement is due out soon, but is already more than six months late.

He also points to one important conceptual correction: the first process required

Coal miners taking different roads

BY DAVID MCKAY & JEANDRÉ PIKE

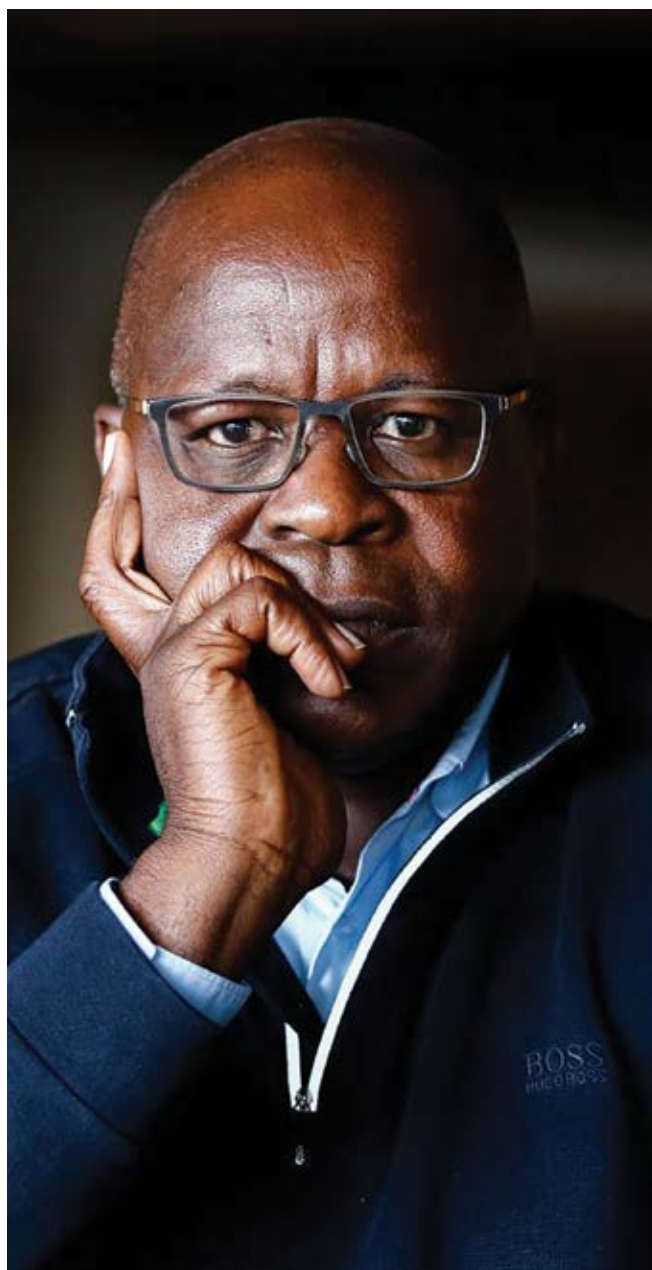
TWO South African coal companies, two different trajectories. The message was clear from Thungela Resources in a June presentation to analysts and investors: it has cooled on mergers and acquisitions in favour of improving operating performance. Exxaro has a similar message on efficiencies, naturally, but it's set out bold diversification plans.

"On average, we expect coal to still deliver between 40 and 50%, but we expect other commodities, including renewable energy, to provide over 50% in terms of earnings by 2030," said Riaan Koppeschaar, Exxaro's CFO in a capital markets presentation. Exxaro has already announced a R11.67bn investment in manganese, which could rise to R14.67bn within a year; now, however, it is working on a potential copper exploration joint venture as well as several other portfolio adjustments.

"We will be spending \$10m to \$30m," says Ben Magara, CEO of Exxaro on his firm's potential copper investment. "It's opportunistic for us; it's not like we are desperate to go and find it." The copper joint venture, if one is concluded – potentially in the next 12 months – would most likely be in Zambia or the Democratic Republic of Congo, where Magara has experience. "It's something that we think is affordable and within reach – without compromising investor dividends."

In terms of returns to investors, Exxaro plans to pay out 30-40% of earnings as ordinary dividends in the 'pass-through' of dividends from its 20% stake in Sishen Iron Ore Company, held in joint venture with JSE-listed Kumba Iron Ore, and from an adjustment in its payout policy which amounts to an enhanced dividend cover ratio of 1.5-2.5 times.

It's not that Exxaro has given up on coal, it's more a case of having to wait for logistics to catch up. According to Magara, the



Ben Magara, CEO, Exxaro Resources

**'We will be spending \$10m to \$30m.
It's something that we think is
affordable and within reach'**

– Ben Magara, Exxaro Resources



Deon Smith, CFO of Thungela

company is only transporting about a million tons from the Limpopo province mine Grootegeluk to Richards Bay coal line when it should be closer to four million tons annually. The solution is a deal with Transnet to either invest in rolling stock or bring about improved efficiencies on the line; preferably both.

“What we think is that this will be through concession-type models,” says Koppeschaar of plans by Transnet to open up the line to third-party operators, run by an independent infrastructure manager it

‘When your neighbour’s house goes up for sale, we go and have a look on a Sunday afternoon’

– Deon Smith, Thungela Resources

calls TRIM. Exxaro doesn’t rule out taking an equity stake in such an arrangement but it can’t be the actual operator. “We think there are more competent counter-parties, like train operating companies, that could take those leases, and we may take a slice,” says Koppeschaar.

But this is not a quick solution, hence the move to diversification, though the benefits of that may take time. Prices for manganese are not expected to shoot the lights out until after 2030. “We definitely see weaker Chinese steel production placing pressure on prices in the near term,” says Koppeschaar.

Thungela Resources, the creation of the demerger of assets from Anglo American, had last year also raised the prospect of diversifying into metallurgical coal or even other bulk minerals. The metallurgical coal market is facing a supply emergency following a tragic accident in May at a coal mine in Shanxi, China, in which 82 people were killed and a further 120 injured.

Between 15 and 20 million tons in metallurgical coal have been lost to the market while safety reviews at other mines have removed a further 50-55Mt. “Restart risk and lower utilisation likely could lift the China domestic cost curve,” says Goldman Sachs.

Thungela CFO Deon Smith didn’t appear to think deal activity was an immediate priority, however. Commenting in June, he told analysts the company was focusing on operational performance.

“Our main focus is on mining what we have today, safely and cost-effectively, and giving the market confidence that we can meet or exceed our guidance,” he said. “That’s the primary focus for both management and the board – operating what we have well, rather than debating M&A.”

Thungela will remain opportunistic regarding acquisitions but it has suffered a recent setback having written down assets, some of which included its Ensham mine in Australia, bought in 2025 for R4.1bn. The write-down, taken for last year, totalled just over R8.8bn and made a dent in its previously highly polished operational and financial performance.

Stephen Friedman, an analyst for UBS, believes the future rating of Thungela will

depend on its ability to allocate capital well, including growing its portfolio either through projects or acquisitions. “We believe the investment case is evolving from one centred on thermal coal prices and logistics recovery towards business quality and capital allocation,” he says.

“Improving Transnet Freight Rail performance should enhance export optionality and support stronger realised sales, but cannot fully offset the structural decline Thungela’s production base as Greenside and Khwezela mature,” he adds. Even the group’s organic project pipeline is aimed at maintaining output rather than growing it.

Unlike Exxaro, Thungela has tended to keep “within its lane” on commodity growth. Might that, though, change? Certainly, it would seem it indulges in some ‘window shopping’, judging by Smith’s comments. “What I can tell you, consistent with what we’ve said before, is that when your neighbour’s house goes up for sale, we go and have a look on a Sunday afternoon,” he said.



Moses Madondo, CEO of Thungela

The furnaces that could relight South Africa's industrial ambition

BY DAVID MCKAY



Vuslat Bayoğlu, Menar Group MD

MENAR Group, an unlisted coal producer, says it can double mineral exports from its South African mines and projects and create 800 jobs through new ferromanganese production. But its plans turn on government succeeding where it so often fails: providing competitive energy and a reliable rail network.

Few companies are more exposed to the pitfalls of the country's industrial policy than Menar. Its MD Vuslat Bayoğlu says his company is speaking to government on both legs of its business.

Menar produces 3.6 million tons a year of thermal coal from two collieries which is sold on export markets. A third mine, Gugulethu, was put on care and maintenance owing to limited rail capacity. The rising cost of diesel has ruled out trucking to the ports, says Bayoğlu.

It has, however, been selected as one of 11 private train operating companies (ToCs) in terms of state-owned rail and ports firm Transnet's new partnership model. The ToCs will work with TRIM (the Transnet Rail Infrastructure Manager), which has been created to manage private-sector entrants to the Transnet Freight Rail (TFR) network.

Transnet reckons the TRIM initiative can add 28 million tons in new freight custom a year to its network, largely by converting existing minerals and container business from road to rail. The initiative will also ease the pressure on Transnet's balance sheet. But Bayoğlu — while acknowledging Transnet's vision — says its model is far from perfect.

One potential drawback is the ability of ToCs to competitively source mineral cargoes. Many of them are not integrated miners like Menar, he says. He also questions whether outsourced delivery deals will beat existing take-or-pay agreements between TFR and miners.

"Are they going to be more competitive than TFR or more expensive?" Bayoğlu asks. "If they're more expensive, companies aren't going to use them. Another important question is whether ToCs can be more reliable. This might present as a low bar test but it's worth asking the question."

These concerns aside, the stage is set for Menar Ports & Rail, as Menar Group's TOC is named. "If we can do it with our own rolling stock (purchased new) without relying on Transnet, we will be utilising more than 8.5Mt," says Bayoğlu. Some of that export tonnage would be in ferromanganese from Khwelamet, a processing complex near Meyerton in Gauteng province acquired by Menar with Ntiso Investment Holdings from Samancor (South32 and Anglo American) in 2025.

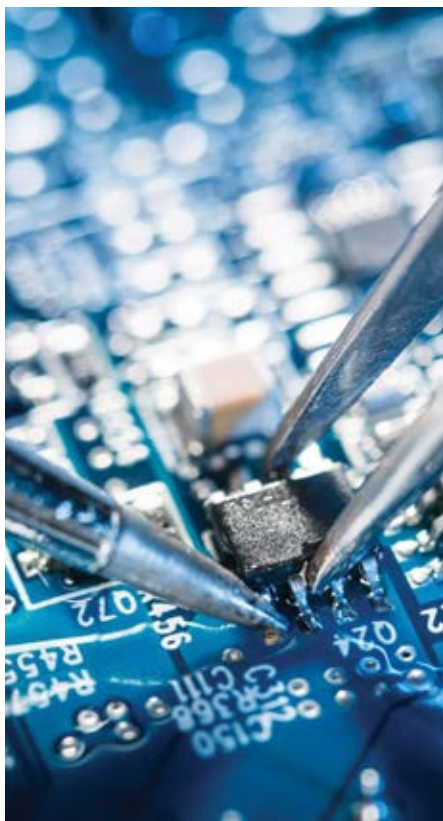
Menar has promised to invest up to \$100m to reopen two of Khwelamet's four furnaces, producing 250,000t/year for export. First, though, Menar needs a new deal on electricity.

The 62 South African cents per kilowatt hour agreed conditionally between Eskom and South Africa's ferrochrome producers, Samancor and Glencore, is an ideal model. But can Menar get the same terms given the power is being supplied by Eskom far below the standard 172c/kWh tariff? The Minerals Council South Africa says the Eskom deal is specific to the beleaguered ferrochrome industry, described by the council's president Paul Dunne as a "burning platform". Without it, South Africa all but disappears from the ranks of the world's ferrochrome producers.

"We have applied [to Eskom] and they asked more questions to motivate why we think we need an incentivised price. By the fourth quarter of this year we'll have feedback from them."

It is hard to understate how transformative a reduced energy price is for South Africa's energy-intensive users. If the final terms are agreed, revived ferrochrome will incentivise the production of anthracite, a reductant.

"If Glencore and Samancor start producing ferrochrome again, the market will need anthracite. That gives us enough to turn ZAC [Zulu Anthracite Colliery] and Springlake back on," Bayoğlu says of two other coal mines currently mothballed by Menar.



Platinum's next big thing

BY DAVID MCKAY

THE hydrogen economy was supposed to be platinum's salvation, but it is turning out to be the lightest of lifelines.

Deployment of electrolyser capacity, the technology that positioned green hydrogen

as an energy storage miracle, is expected to be 7,000MW this year. That's not an insignificant addition, yet green hydrogen of that scale absorbs only 45,000 ounces in platinum group metal (PGM) supply, says Metals Focus, a UK-based industry research house. That's a small return considering the broad-based policy support given to hydrogen energy and storage applications since 2020.

Platinum miners are therefore acknowledging that 'green hydrogen' – which is a fraction of the 7.7 million oz in annual platinum demand (excluding other PGMs) – is completely insufficient to remedy its long-term demand concerns.

Current PGM demand is heavily reliant on the automotive sector, particularly from internal combustion engines which use PGMs heavily in their autocatalysis compared to hybrid cars, which combine petrol and battery technology and use less. Both technologies are threatened by battery electric vehicles (BEV) which don't require autocatalysis. While BEV adoption has slowed lately in favour of hybrids, giving PGMs precious time to find alternative uses, the expectation is that BEVs will dominate the drive-train eventually.

Luckily, the PGM sector has always managed to find other specialised industrial uses whenever the question of future demand comes up. "With green hydrogen dreams steadily diminishing, the PGM sector is now turning its attention to other potential sources of demand, this time in the tech space," say analysts at BMO Capital Markets, George Heppel and Helen Amos.

Enter ruthenium and iridium, minor elements in the PGM family of metals. Demand is growing for iridium and ruthenium, which are produced in relatively small proportions to the overall basket. Exponentially, some say, pointing to the infrastructure rollout behind AI's advance.

The World Platinum Investment Council, an industry-funded marketing and research organisation, estimates that some 500,000oz in incremental PGM demand was created in the past two years from data storage, optical networks and semiconductor manufacturing. "On aggregate, the iridium deficit is expected to increase year-on-year in 2026 while ruthenium deficit is expected to decline but remaining substantial at 14%

of demand," says Investec analyst Nkateko Mathonsi in a recent note.

It's not just ruthenium and iridium; fibre glass manufacturers are also buying more platinum. The metal is used in machines that make micro-processors. Bushings coated with fibre glass containing platinum vastly improve component connectivity. "The two minor metals together with platinum are expected to be the biggest beneficiaries of AI-linked demand in 2026 and beyond," says Mathonsi.

In addition, AI componentry constitutes recurring demand as each bushing needs recoating. That is quite unlike PGM-bearing internal combustion engines and hybrid BEVs, which once driven off the lot, become last year's demand statistic. "The industry forecast suggests that platinum demand from the glass sector alone could increase by 83% in 2026, driven by new fibre glass capacity expansion from stronger demand for applications including AI-related technologies," says Craig Miller, CEO of Valterra Platinum.

Valterra is entering into more new supply agreements with end users than ever before, partly driven by iridium and ruthenium. The market is "at a higher level of contractedness than we've had before" for these metals, Miller says.

The minor metals also bring with them an extremely helpful revenue boost. "These markets are small, concentrated and supply-constrained, meaning incremental demand does not need to be large to move prices materially," says Arnold van Graan, an analyst for Nedbank Securities in a recent report. "Even a modest acceleration in technology-driven demand could provide a meaningful tailwind."

"Everyone is joining the opportunity to really think through how do we diversify the demand into different buckets, rather than being overly reliant on just the automotive sector," says Miller.

Good news surely, but with this new demand comes the trickiest of challenges for PGM miners. While the industry is well positioned to supply and catalyse nascent technology, it also runs the risk of destroying its own investment case by committing to new production. "The PGM sector must telegraph its ability to guarantee long-term supply to growing sectors without placing

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Poplar at Evander, a shallow high-grade 6.45Moz Mineral Resource at 6.99g/t project adjacent to Evander's existing infrastructure, positioned to become one of the Group's next cornerstone operations.

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too much emphasis on looming oversupply, which could erode the recent price support found for platinum and palladium,” say Heppel and Amos.

BAD HISTORY

Investment and fund manager analysts are fearful of miners embarking on new projects for future, untested demand. It raises the stakes on capital allocation potentially drawing funds from future dividends. Something of a knife-edge, you could call it.

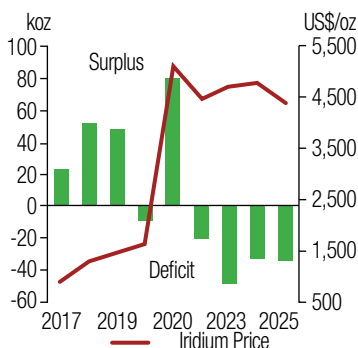
The market remembers the last time PGM prices flew high. Share prices ended up being severely damaged. That’s because the market was snatched from under the feet of those miners who were too enthusiastic on growth. “I want to take you back to 2019, when I sat across the table from investors who basically said the company had become ‘uninvestable,’” said Nico Muller, CEO of Impala Platinum, earlier this year. “I’d rather have a strong balance sheet, so we don’t get into that position again.”

Miller thinks those lessons continue to sting, somewhat usefully. Valterra cut R12bn in costs in 2024/25 and is ever watchful of how inflation has become a factor again post the attack on Iran in February, and the wider Middle East conflict. New, unexpected inflationary pressure has been heaped on miners. Valterra is tracking its cost guidance



Craig Miller, CEO, Valterra Platinum

Iridium Physical Surplus/Deficit



for 2026, but 6% of costs are impacted by diesel, chemical, and explosive prices.

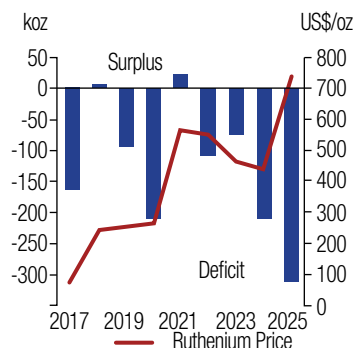
Yet there is a place for production growth. “If you operate in the lower half of the cost curve, if you have well-capitalised assets and discipline around the execution of that, then you should be able to sustain new production coming into the market,” says Miller.

Valterra’s flagship mine in Limpopo, Mogalakwena, can grow output a fifth – for a net growth of 10% – by mining the giant resource underground. So far, however, Valterra hasn’t committed to it. The board is due to opine on an investment decision next year. Other miners are less forthcoming. Implats has an option to build a palladium mine, also in Limpopo, but won’t do it; not yet.

Demand from AI adds an interesting dynamic to the PGM picture but it, too, might not be a “silver bullet”, though perhaps times have changed since expectations around green hydrogen were first raised six years ago. The US has risen as a hoarder of critical minerals; the EU is also considering its options. Miller says it’s important to interrogate why PGMs are critical to each bloc: in the US, it’s for rhodium; in Europe it’s platinum, both owing to the unique circumstances of their automotive industries. There’s no comforting single source of demand but at least there’s really only one source of primary refined PGM supply, which is South Africa.

Richard Stewart, CEO of Sibanye-Stillwater, believes governments could support PGMs by offering US-style price floor guarantees. “Iridium is a good example,” he said in an interview. “They aren’t going to devel-

Ruthenium Physical Surplus/Deficit



Source: Metals Focus, Bloomberg

op the [AI] technology until they’re certain of supply, but likewise, supply is not going to develop until it’s certain of demand.

“So you get caught in this catch-22 between who’s going to invest first to drive the other. That’s where being able to bring in floor prices – to say we’ll protect that to a point, to get a certain amount of critical supply to drive comfort in terms of demand levels and ultimately balance the market – that’s another mechanism where I think it can work,” he says.

Introducing price floors, especially provided by the public sector, is not to everyone’s taste, and difficult even for governments to adopt. The EU doesn’t favour them, even in lithium, where the US has provided a price protection mechanism.

The PGM market is not in a bad place. Metals Focus, UK semi-fabricator Johnson Matthey, and chemicals firm BASF agree that the platinum deficit of the past two years is set to continue. Views on palladium diverge sharply between deficit and surplus but rhodium will be in balance. “We think you’ll have some growth in secondary supply – recycled volumes – but ultimately the deficits I spoke about in platinum, we do see those continuing,” says Miller.

The market is divided on the future for palladium. Says Miller: “Every time we sit down and talk about a palladium surplus, it seems to just move out another year or so. I think rhodium, because of some of its applications, will either be in deficit or in balance. And ultimately those three metals support a higher price environment than what we saw back in 2024 and 2025.”

Home is where the ore is

Sibanye-Stillwater got its name as a result of offshore expansion, but following a damaging decline in metal prices that exposed its balance sheet, its new CEO is promising a homegrown approach to mining, writes **DAVID MCKAY**



Richard Stewart, Sibanye-Stillwater's newly appointed CEO

2021 was peak expansion for Sibanye-Stillwater. Valued at \$16bn on the JSE – an all-time high – the company in that year unveiled a \$1bn deal for two mines in Brazil. It was the latest in a string of expansions driven by the group's founding CEO, Neal Froneman.

If concluded, the transaction would have seen Sibanye-Stillwater developing new mineral production on three fronts: the Keliber lithium project in Finland; an option to develop a lithium/boron project in the US; and in Brazil, the reopening of the Santa Rita nickel-cobalt and Serrote copper/gold mines. This was in addition to platinum and palladium recycling output in the US, and platinum, palladium and gold production in Sibanye-Stillwater's South African base which, crucially, provided the bulk of the group's free cash flow.

The platinum group metals (PGM) market was buoyant at the time, thanks to rock-eting palladium and rhodium prices. Then, suddenly, the bottom fell out of the market. In a trice, Sibanye-Stillwater's balance sheet

looked dangerously over-exposed – as some analysts warned it might do. Trouble also came in the form of Appian Capital Advisory, the seller of Santa Rita and Serrote. It slapped Sibanye-Stillwater with a \$1bn legal suit after Froneman decided against buying the mines.

It's no coincidence, therefore, that five years later, Richard Stewart's first major act as Sibanye-Stillwater's newly appointed CEO was a \$215m settlement with Appian. Sibanye-Stillwater had already decided not to exercise its US lithium option, and had shut some US palladium/platinum production. But in seeking to end the prolonged public legal tussle with Appian, the expense to shareholders notwithstanding, he closed the door on the group's buccaneering past.

In its place, and with PGMs trading higher again, Stewart has set out a new domestic strategy that focuses on the contiguous expansion of the South African platinum business and sustaining gold output for as long as its price allows. A third leg is the development of a chrome busi-

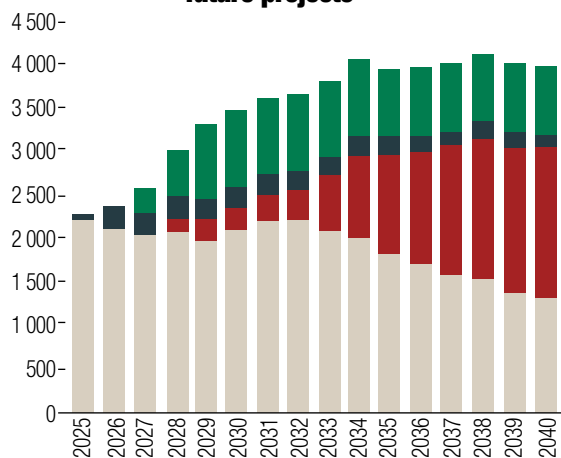
ness. While chrome is a PGM by-product, Sibanye-Stillwater is now giving it focus as a commercial proposition in its own right.

Sibanye-Stillwater retains an "offshore presence" in its massive R15bn Keliber lithium mine, opened in April and potentially due for expansion into refined metal. It also has a business in Australia, though it's winding down. But if cash is to be made easily, South Africa is where the beating heart is.

"We have got an unbelievable portfolio today if we do nothing," said Stewart in a presentation to investors and analysts on June 26. "I wouldn't swap our portfolio of platinum group metals with any other anywhere." Those are revealing words given Sibanye-Stillwater's willingness to seemingly do anything offshore. "We have a two-million-ounce precious metals business that will continue for the next 20 years," he said.

A catalyst to this strategy was the 2023 buyout of Valterra Platinum's (then Anglo Platinum's) stake in a joint venture that allowed the group freer rein over cross-bound-

Chrome production profile including future projects



Source: Sibanye-Stillwater

ary mining of the Kroondal and Rustenburg mines. By dropping boundaries between contiguous assets, and using more mechanisation, Stewart sees production growth in the existing portfolio, not shrinkage.

By shelving mergers and acquisitions (M&A) and focusing domestically, Sibanye-Stillwater has removed major risk from the business: no deal risk, and known asset and jurisdictional risks. "The risk on projects on PGMs is unbelievably low," said Stewart. "Geological risk has gone. People risk has gone. Infrastructure risk has gone. We understand it well."

Seven PGM projects, each previously flagged to investors, now form a single strategy against which capital can be pinned. It perhaps makes for less interesting headlines (sadly), but better bottom lines. That would be one way of thinking.

Based on current planning, Sibanye-Stillwater's PGM production is expected to fall to about 1.2 million oz/year by 2030 from 1.7 million oz in its last financial year. But if the switches are flicked on the expansion projects, output will actually be 300,000oz/year better off by 2030 at some 1.5 million oz/year. "We can also go up to 1.8 million oz/year if the markets support it," said Stewart.

"That is the optionality we have and why I say what I do about our portfolio."

But it's not inexpensive.

Stewart estimates total project spending of between R25bn and R26bn is required – a hefty capital expenditure bill, especially as only R8bn has been approved.

Capex also excludes approved capital for the completion of Keliber, and other offshore options such as underground development of the Stillwater mine in the US, and Mt Lyell, a copper prospect that Sibanye-Stillwater's board is yet to approve.

Sibanye-Stillwater estimates it can fund half of unapproved projects from cash. In practice this means it can plough in

R4bn in growth capital in its 2026 financial year on the basis of R12bn in free cash flow, analysts at RMB Morgan Stanley estimate. The balance goes into debt reduction and dividends.

DELIVERY

Analysts have been generally receptive to the strategy. Nedbank Securities analyst Arnold van Graan said it provided grounds for a share rerating, which is exactly what Stewart is hoping for.

"Sibanye-Stillwater's 2026 Capital Markets Day affirmed our view that the company's strategy is clearer, more streamlined and firmly focused on execution," said Van Graan. "We believe the table is set for a rerating; however, the key to unlocking this potential is delivering on its strategy and consistent operational execution."

The question of delivery is pertinent. "The presentation focused more on the growth potential and less on the ability of the existing operations to meet guidance," said RMB Morgan Stanley's Brian Morgan.

Morgan adds that the greater adoption of mechanisation when Sibanye-Stillwater expands into other orebodies raises the question of cost control, even though mechanisation tends to be more efficient. The new projects are mechanised and the company sees mechanisation rising from

38% to 64% by 2035.

Said Morgan: "From our vantage point we can't yet say whether replacing older conventional mines with newer mechanised ones is a headwind or tailwind to costs on a R/oz basis. Medium-term capex comes in at about R7bn per annum, about R1bn per annum lower than we expected."

CHROME PLATED

For a company that sought diversification, there is a huge irony in that there is a degree of that under Sibanye-Stillwater's nose. Chrome production last year totalled 2.3 million tons, about 10% of the supply produced by South Africa, itself the dominant player in the market with about 60% of global supply. In terms of Stewart's plans, however, this could be doubled.

Under a previous chrome marketing agreement (CMA) with Glencore, Sibanye-Stillwater took a price discount on production. But a renegotiation of the agreement, finalised last year, has incentivised the company to increase output. In addition, the with Glencore ends in 2031. Given the CMA scope of PGM expansion envisaged by Stewart, there's a possibility Sibanye-Stillwater will become a four-million-ton-a-year chrome producer.

"Sibanye is already the fourth-largest chrome producer globally, and this will make it significantly larger than its next peer," said analysts at RMB Morgan Stanley.

Said Stewart of chrome: "It's no longer just a byproduct in our thinking. It's a deliberate additional value stream that improves margins and strengthens project economics. Where we see a pathway, it's in becoming a top five, significant chrome producer in the world."

And is there any remnant interest in M&A?

It remains an option. "I'd love to own more of DRDGold," said Stewart of his group's 50.1% stake in the gold retreatment business. "But is today the time to do that? Gold expansion into Africa wasn't ruled out, but it's not imminent, especially given premiums placed on gold assets currently."

"That's not where we see the best returns. Today, we see the best returns going into PGMs," he said.



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Return of the rainmaker

NEAL Froneman led the company he founded, Sibanye-Stillwater, for 13 years before abruptly announcing he would step down last year, aged 65. Those years were a punchy, all-action time of dealmaking all dealt with in Froneman's swashbuckling, no-nonsense style. He once quipped he was looking forward to travelling in retirement, having seen the inside of many of the world's best hotels but rarely the cities in which they were built. Vain hope. Froneman was never going to sit in a gondola while there were more deals to be made. He speaks to **DAVID MCKAY**



You describe yourself in your email signature as a 'retired rainmaker'. What's that about?

I'm still a rainmaker, and, you know, retirement, to me was never about stopping work. It was about a new chapter. I decided I wanted to get back to what I think I'm probably best at, which is being more entrepreneurial. You know, building and running big companies becomes very, very process-orientated as they get to a certain size. You end up with shareholders that are less flexible, you end up with a board that is more focused on governance and process.

I'm probably as busy if not busier, but what changed is freedom of choice. So I've got a lot of varied interests, which I'm sure you want to get into. I'm into a recycling business that Justin [Froneman], my son started. I'm chairing Podium Minerals, a PGM startup in Australia. I'm on the board of Neo Energy, another uranium startup. I'm on the board – and the chair – of a company called Supercritical Metals, which is going to list on Nasdaq and is extracting uranium from seawater. So, really focused on

critical minerals, but in startup companies.

Did I hear right, uranium from seawater?

The biggest resource of uranium, because uranium's not scarce (it's scarce in the right grades) – is in the seawater. So, what Canon [Bryan, founder of Terrestrial Energy and former colleague at Uranium One] did is he acquired patents from the US government, who had already established how to extract uranium from seawater. We are busy commercialising it now. We've acquired access to an oil rig in the Gulf of America (formerly Gulf of Mexico), and the intention is to list this company and commercialise the process. And I'm chairing that company.

I'm still stuck on the seawater part?

Yeah, essentially, what you use is fibres that absorb certain minerals. And of course, the technology is in the fibres that absorb these minerals. Now, they don't only absorb uranium. In fact, one of the biggest metals from an absorption point of view is cobalt. But uranium is very high on the list. So if you put these fibres and expose them in the

right way to a uranium-rich environment, they'll absorb uranium, and then you can extract the uranium off these fibres.

Now, you've got to do it on a scale that makes sense, and that's what we've got to commercialise. So that, again, is off-the-wall stuff. You can't do that in, as an example, Sibanye, because you lose analysts, you lose investors – they see it as speculating. I can see the opportunity, and in an entity that is focused on doing that, I can play a role. And I am playing a role, and that will soon be listed on Nasdaq.

Will it be an IPO?

We are funded for what we need now. But of course, having a listing gives us access to capital markets. I've invested in the company, but there are a number of other private funders, including Canon as well.

You mentioned a recycling business. That's something you got Sibanye-Stillwater into as well. Why take it on again?

Justin and I have a recycling company based in Oklahoma. It's a small company,

which was marginal to loss-making at best, but we've managed to turn it around, and that recycles catalytic converters. The competitive edge is its ability to operate these plasma arc furnaces. We've conducted trials on titanium. One of the other companies I'm advising is a company with an antimony project in North Macedonia. And we've signed an LOI [letter of intent] for the antimony to come through our processing plant in the US.

Then there's Podium Minerals, a PGM company that's got the Parks Reef project. The mining is simple, but the processing is a bit challenging. Again, in terms of funding, PGMs are critical metals, and looking towards the US is certainly of interest to us. **That's a lot, even for a rainmaker?**

You can see how this combination of companies where I have made investments – I sit on the boards – could ultimately become a group of critical metals companies that are real, tangible, sustainable companies in their own right. It could become a group of companies that form a critical metals base.

A masterplan for another Sibanye-Stillwater?

There's easy money for funding critical minerals projects, especially in the rare earths space, but there's going to be a lot of mistakes made. I think if you can develop each one of these standalone companies and then eventually, in a smart way, combine them into a diversified critical metals producer – once they are all sustainable – I think that's the best way to create value and deliver into the requirements of a market that is friendly,

'There's easy money for funding critical minerals projects, especially in the rare earth space, but there's going to be a lot of mistakes made'

is supportive, will finance it, and will give good valuations. So that's the new chapter.

Whatever happened to the idea for bringing Formula One back to South Africa?

It's going well. We have secured land near Cape Town. We've been very focused on completing a detailed financial model. We've appointed Rothschilds as our advisers, and they have completed auditing and are checking the models. We will shortly be embarking on raising the funding and approaching Formula One. So it's been hard work.

It has to be more than just a racetrack. This is a high-end real estate development: hotels, restaurants, condos, track-side. It's sort of modelled on Silverstone. So there's a combination of debt, equity, and founder funding, which is what we are funding now. Interestingly, the board I've put together consists of colleagues from the industry, like Venkat [Srinivasan Venkatakrishnan, former CEO of AngloGold Ashanti and chair of Endeavour Mining]. Venkat is on the board

– he's a financial expert. Robert Appelbaum from Webber Wentzel, who works with me on crime and corruption [Froneman is chair of Business Against Crime], and Bobby Hartsliel, who ran the last Grand Prix in South Africa. He is the CEO. So we're the four directors, or founders, on the board.

That would be a boost for SA, especially given the challenges. It's something you've been outspoken about: the poor levels of governance, the high crime rate, the years of poor policymaking, and a lack of public sector accountability. Do you see any hope?

Just look at the Fraser Institute survey [which ranks mining jurisdictions by investor attractiveness]. We constantly go backwards, and why? Because we implement bad policy. And what is bad policy? Bad policy is anything that is racially based. Now, I say that in full knowledge that we have an apartheid era to catch up on. But I would argue that a lot of that has happened. So we have bad commercial policy. Whether it's BEE [black economic empowerment], whether it's affirmative action, whether it's expropriation without compensation, it's bad policy. Then we have bad foreign policy as well, where we align with countries that are not fundamental to the way we work. We are a Western-facing business sector, because our capital comes from Western capital markets, not Eastern. And you might say, well, China can give you debt. That's about all they can give you. Russia can give you nothing. Iran can give you nothing. So it's misguided foreign policy.



JSE's junior miners are few, battered, but not quite finished

BY MARC HASENFUSS



AT mid-June, the Satrix RESI 10 exchange traded fund – which offers investors exposure to the 10 biggest resource listings on the JSE – was up close to 55% over a year. At an earlier juncture in 2026, that 12-month measure was much higher, with gains of closer to 150%. Such sterling short-term gains in big commodity stocks enthuse retail investors to the point that sentiment becomes much more accommodating of newer, greenfield ventures.

Older readers will remember – going back 20 to 25 years – when even abridged and gentler upswings in commodity cycles could bring ambitious little mining entities rushing to the JSE. Around 20 years ago there was a plethora of junior mining stocks covering a broad universe of commodities – names like Century Carbon, SA Chrome, Petra Mining, Minaco Granite & Marble, Metorex, Tridelta Magnet, Southern Mining and Rare Earth Extraction. Some were good, such as Kalahari Gold or

Eland Platinum; some fizzled – like Afgem, Great Basin Gold and Sallies – and others ended up in a heap, like Pamodzi and Good Hope Diamonds.

That so-called junior mining segment – once a hive of activity for small-cap punters – is now a more mundane corner of the JSE. At current count there might be, at a stretch, 20 junior mining listings, including secondary listings like Montauk Renewables and Southern Palladium as well as hybrid mining businesses like Afrimat and mining services specialist Master Drilling. Their collective value might just top R25bn – less than DRDGold's R32bn market cap and a mere 5% of Gold Fields'.

New listings activity has been worryingly scarce, with only Shuka Minerals, Copper 360 and the reverse listing of Mantengu Mining offering fresh investment opportunities. Despite the surge in the gold price, not a single new gold mining or exploration venture has headed for the JSE, once the centre of the gold mining investment world.

This stands in contrast to Toronto, Sydney, New York and London, where Reuters reported that by May, no fewer than 18 mining companies were either applying for listings or had already listed.

Taking a positive stance, at least locally listed junior miners are a resilient lot. Two long-suspended juniors – coal miner Salungano and platinum business Wesizwe – recently started trading again to a fairly warm reception; during their time in share-trading limbo, both benefited from rallies in their respective commodities. It seems, in both cases, that a shift into the black on the income statement convinced punters to look past some seriously material liabilities on the balance sheet.

In truth, it's been a mixed period for the JSE's juniors. The jury is still out on the trio of copper plays – Jubilee, Orion and Copper 360. Merafe – cash-flush and tethered to Glencore – arguably remains the default junior mining stock. Master Drilling underlined a robust project pipeline by



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recently rewarding shareholders generously after earlier caution had delayed a dividend. But micro ventures like Europa Metals and Mantengu Mining appear to have eroded the last vestiges of investor sentiment, while Kibo Energy remains suspended after various mergers and acquisitions plans went badly awry.

There are a handful of listings, though, that could fly the flag for local junior mining in the medium term. Here are three worth watching. None is a classic mining business and all are at inflection points that will determine their long-term fate.

AFRIMAT

Best known as an aggregates business, Afrimat has shifted, via acquisitions, into enough selected industrial minerals to be considered a hybrid mining venture. The iron ore business is currently under strain with the iron ore price weakening and major client ArcelorMittal SA (AMSA) curtailing orders.

Short-term prospects are likely to remain brittle. CEO Andries van Heerden has flagged the importance of AMSA's discussions with the Industrial Development Corporation and the Department of Trade, Industry and Competition. "Not only is this outcome fundamental to Afrimat, but it is critical for South Africa," he said. For roughly 12 to 18 months, lower volumes of iron ore will be supplied to AMSA as it exhausts stockpiles from a previous supplier – though Afrimat has applied for an increased

allocation on the iron ore export line from its current 870,000 tons a year.

The Nkomati anthracite business has also scalded profits, mainly due to the shutdown of local ferrochrome smelters in August last year. The mine was in full shutdown from November to the end of January before restarting in February to supply Glencore-Merafe's Lion smelters, and Van Heerden says volumes will reach full production by midyear. Export volumes surged from under 75,000t to 206,271t, but pricing was too low to offset the loss in local volumes.

A reduced electricity tariff for the ferrochrome industry could "dramatically change" prospects for Nkomati, says Van Heerden – sufficient, he believes, to allow additional smelters across the country to open, broadening supply opportunities for Afrimat. Cash flow from bulk commodities is key to Afrimat's debt-reduction plans. But a share price jammed at a multiyear low suggests the market believes Afrimat is in for prolonged strain.

INSIMBI

This low-key commodity producer describes itself as an 'above-the-ground' miner, its main business being the recycling of ferrous and non-ferrous alloys, and refractory and foundry materials. Sustainable profits have proved elusive, but the group has undergone a robust restructuring, closing or repurposing underperforming operations. CEO Fred Botha says that in the past 24 to 36 months, Insimbi reduced its workforce by about 200 employees with minimal impact on volumes and revenue, and operating expenditure has been cut to pre-COVID levels – a decline of about 30% since the 2022 financial year.

Further savings should come from relocating the secondary aluminium smelter to the Wadeville head office, consolidating Alloy Supplies and Aluminium Alloys into a single hub. Botha expects full recommissioning within the 2027 financial year. "It realises a long-term goal of having all our South African operational locations occupying properties owned within our own property portfolio," he notes.

The leaner Insimbi will need to quickly fortify its gross profit margin – only 6% in the past financial year – and bolster critical cash flows. The group breached debt

covenants before securing a waiver until end-February next year, and has set a gearing target of 50% (currently 105%) for the 2028 financial year. Botha notes that reaching this milestone will position the group to pursue an expansionary strategy, whether by greenfield investment or acquisition.

Outgoing chair Robert Dickerson flags that de-industrialisation continues to weigh on metals recycling. Insimbi historically sourced 60-70% of its commodities locally; that share has now fallen to about 40%, with the balance split between regional neighbours and India and China.

KORE POTASH

Kore's promising Kola potash project on the Republic of Congo coast has been a long time in the making. Even investors familiar with the vagaries of junior mining projects may find progress to production painstakingly slow, and at times frightening, given that the government (a significant stakeholder) intervened in a most threatening manner a few years back.

Kore is now in the early stages of execution, with first production slated for 2029. At last count it was the quarter to end-March – the company was still completing marine drilling and bathymetric studies for the jetty design, finalising beneficiation test work required under the construction contract, and progressing shaft and underground front-end engineering design. An environmental impact study has also resumed.

Kore's formal sales process, in which two parties were evaluating buying the entire company, has hit a snag: one has withdrawn, though the other remains engaged and in due diligence. The share price reflects more than a smattering of doubt, having dropped from a record high of 100c in September to 66c, not far from the 12-month low of 52c. Should the remaining party walk away, the share price could struggle in the absence of operational momentum.

CEO André Baya believes the group is making "excellent progress, with all our partners, towards delivering the key milestones on the way to commencing first production at Kola". Brave investors, willing to absorb a possible short-term setback or two, stand closer.



Andries van Heerden, CEO, Afrimat

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