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ISSUE 87 2026

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INSIDE MINING ZIMBABWE

The Clear Perspective

Keith Sungiso

Do you have any contributions or suggestions? Contact us on

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Zimbabwe's mining industry continues to demonstrate its importance as the backbone of our economy. Across the country, mines are expanding, new projects are emerging, and investment interest remains strong across gold, platinum, lithium, chrome, coal, and base metals.

As we present this special Chamber of Mines of Zimbabwe edition of Mining Zimbabwe Magazine, we recognise the vital contribution of mining professionals, investors, policymakers, communities, and industry leaders who continue to shape the sector's future.

Mining today is about more than extracting minerals. It is about creating jobs, generating foreign currency, building infrastructure, supporting communities, and positioning Zimbabwe as a competitive global mining destination.

This edition highlights key developments shaping the industry, including major investments, technological advancements, policy updates, beneficiation initiatives, safety improvements, and the people driving progress across the sector.

While challenges such as capital access, energy reliability, infrastructure, and market volatility remain, Zimbabwe's mining industry continues to show resilience and adaptability.

We extend our appreciation to the Chamber of Mines of Zimbabwe, our contributors, partners, advertisers, and readers for their continued support. We hope this edition provides valuable insights and showcases the opportunities that lie ahead for Zimbabwean mining.

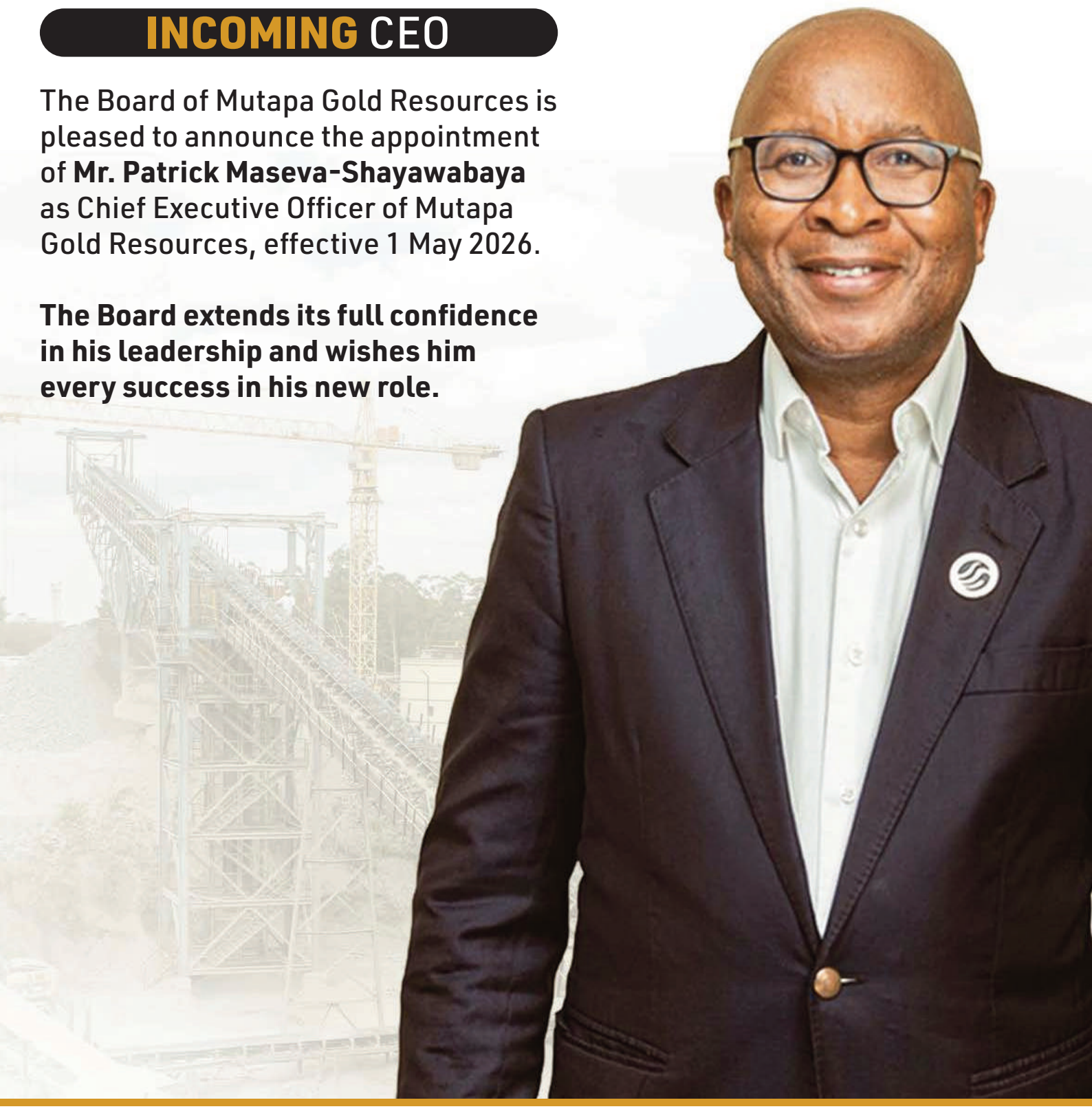
Please remember to support mines, suppliers and service providers who make it possible for us to bring you edition after edition month after month.

BOARD ANNOUNCEMENT

INCOMING CEO

The Board of Mutapa Gold Resources is pleased to announce the appointment of **Mr. Patrick Maseva-Shayawabaya** as Chief Executive Officer of Mutapa Gold Resources, effective 1 May 2026.

The Board extends its full confidence in his leadership and wishes him every success in his new role.



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Kambamura Delivers on His Five-Pillar Promise

Dr Polite Kambamura

When Dr Polite Kambamura was sworn in as Mines Minister on 11 December 2025 by HE President Emmerson Mnangagwa, he promised five pillars: **mandatory corporate investment, data-driven governance, smart mining, environmental stewardship, and skills transfer.** One hundred days later, he is enforcing every one of them.

Pillar One: From CSR to Corporate Investment

The 25 February 2026 ban on raw mineral and lithium concentrate exports forces companies to process locally. The Community Development Levy is now mandatory, with 3 per cent of lithium sales flowing to rural districts. In Mberengwa and Kamativi, communities are seeing schools and clinics funded by mining revenue.

Pillar Two: Data as a Strategic Asset

The e-cadastre system is on track for 2026, and a national aeromagnetic survey has been approved. Crucially, the Ministry has secured vehicles for surveyors and inspectors, ending the paralysis that left claims unverified. Staff efficiency has been overhauled, and approval times have dropped.

Pillar Three: Smart Mining and Laboratories

Portable XRF analysers and laboratory verification now close loopholes where high-grade material was declared as waste. The Government is establishing internationally accredited laboratories at borders and transport corridors. MMCZ officers equipped with testing equipment are already deployed at key posts.

Pillar Four: Environmental Stewardship and Dumps

Mining operators must now have dedicated Safety, Health and Environment departments. A national audit of dumps and tailings is underway, and historic waste piles must be reprocessed before sites are abandoned.

"No more leaving behind poison," Kambamura told Parliament.

Pillar Five: Skills Transfer – With Teeth

The Ministry has issued a directive that 98 per cent of executive positions in mining companies must be held by Zimbabweans. Foreigners are banned from small-scale mining; that sector is now reserved for citizens. Agents and middlemen are banned from the export market; only licence-holding companies or their direct employees may present minerals for export. This has disrupted cartels that historically undervalued and smuggled material.

Enforcement: Inspectors Given Teeth

Inspectors now have immediate closure powers, seizure authority, and police backing.

"You cannot police the sector from a desk," a senior official said.

Industrial Delivery: Lithium Sulphate

On the processing front, Prospect Lithium Zimbabwe's Arcadia sulphate plant is already operational and has exported its first product. The company is now moving to produce crude lithium carbonate. Meanwhile, Bikita Minerals is building the largest lithium sulphate plant in Africa, with a capacity of 100,000 tonnes per year.

The Verdict

One hundred days in, Kambamura has turned promises into binding action. The ban forces investment. The levy forces community benefit. Inspectors enforce compliance. The 98 per cent local rule and the bans on agents and foreign small-scale miners close leakages. The audit of dumps forces environmental closure.

On Mining Zimbabwe's facebook page on May 30th we asked "What's your comments on Dr Kambamura's term in office so far". Majority of Miners on facebook largely gave Kambamura a thumbs up with many strongly encouraging him to walk the talk

Some even posted a defience of his announced 1 year mandatory Mine workers contract allegedly by Jianguo mining co who made a worker sign a 2 months contract.

The global market is watching, and the Minister, a career mining engineer, is walking the talk.

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Responsible mining must move beyond voluntary compliance – Chamber of Mines

The Chamber of Mines of Zimbabwe has announced that it is developing a new verification framework to objectively enforce compliance among mining entities, moving beyond the current system of self-reported annual audits, which the Chamber admits may not be one hundred per cent reliable, Mining Zimbabwe can report.

Chamber of Mines CEO Isaac Kwesu

By Rudairo Mapuranga

Speaking recently in Harare on at the Responsible Mining Roundtable organised by the Institution for Sustainability Africa (INSAF) in partnership with the Global Reporting Initiative (GRI), Caroline, who stood in for Chamber of Mines Chief Executive Officer Dr Isaac Kwesu, outlined the Chamber's roadmap towards credible compliance monitoring.

She drew a clear distinction between the Chamber's voluntary membership structure and the binding compliance obligations that apply to all miners under Zimbabwean law.

"The Chamber of Mines is a private entity with voluntary members," Caroline explained. "We don't really regulate all the mines within the country."

She emphasised that all member organisations within the Chamber are obligated to adhere to the country's compliance requirements.

"In terms of environmentally sensitive areas, these are not mined. We ensure that before we undertake any project, we go through the processes of Environmental Impact Assessments (EIAs), and these are approved."

However, she acknowledged that the situation is different for non-member organisations.

"This we know is happening within the country," she said, adding that, as of two weeks ago, legislation had been passed regarding mining along rivers and other ecologically sensitive areas.

Addressing a critical gap in the current system, Caroline disclosed that the Chamber is moving beyond reliance on annual member audits.

THE CHAMBER OF MINES OF ZIMBABWE

"When I spoke of the audits that we do on an annual basis, these also look at our compliance obligations. But one of the things that remains outstanding is verification," she said.

She admitted candidly: "We are currently relying on the audits that we are collecting. We also believe that this might not be 100% because there's a lot of subjectivity that comes with the audits."

To address this, Caroline said the Chamber is actively working on a framework to enforce and verify what is being reported by mining entities.

"That's number one," she stated.

The framework will introduce objective verification mechanisms to complement the existing audit process, pushing member organisations towards genuine compliance rather than subjective self-reporting.

Responding to criticism that the Chamber remains a "big boys' club", Caroline addressed the growing significance of small-scale miners, who reportedly contributed about 66% of the country's gold production in the past year.

"The framework that was developed was mainly for the major producers. The feeling is this may be too much for a small-scale miner," she said. "With small-scale miners, you want to start small. You want to start by capacitating them."

She announced that the Chamber is developing a separate, simplified framework specifically for small-scale miners.

"One that is simple and specific for the small-scale miners. We hope that this will be rolled out through engagements done by the small-scale miners as we try to drive the process within the artisanal mining front."

On whether small-scale miners can join the Chamber, Caroline confirmed that membership is open to them but remains voluntary.

"The small-scale miners need to want to be part of the membership. This is also one of the drives that the Chamber is working on – to go to the people and talk to them and encourage them to be part of the Chamber."

She clarified that the Government's responsible assurance audits are separate from the Chamber's own annual member audits, with the Chamber playing a supporting role to the Government.

The Responsible Mining Roundtable continues to explore pathways towards a more inclusive and accountable mining sector in Zimbabwe.

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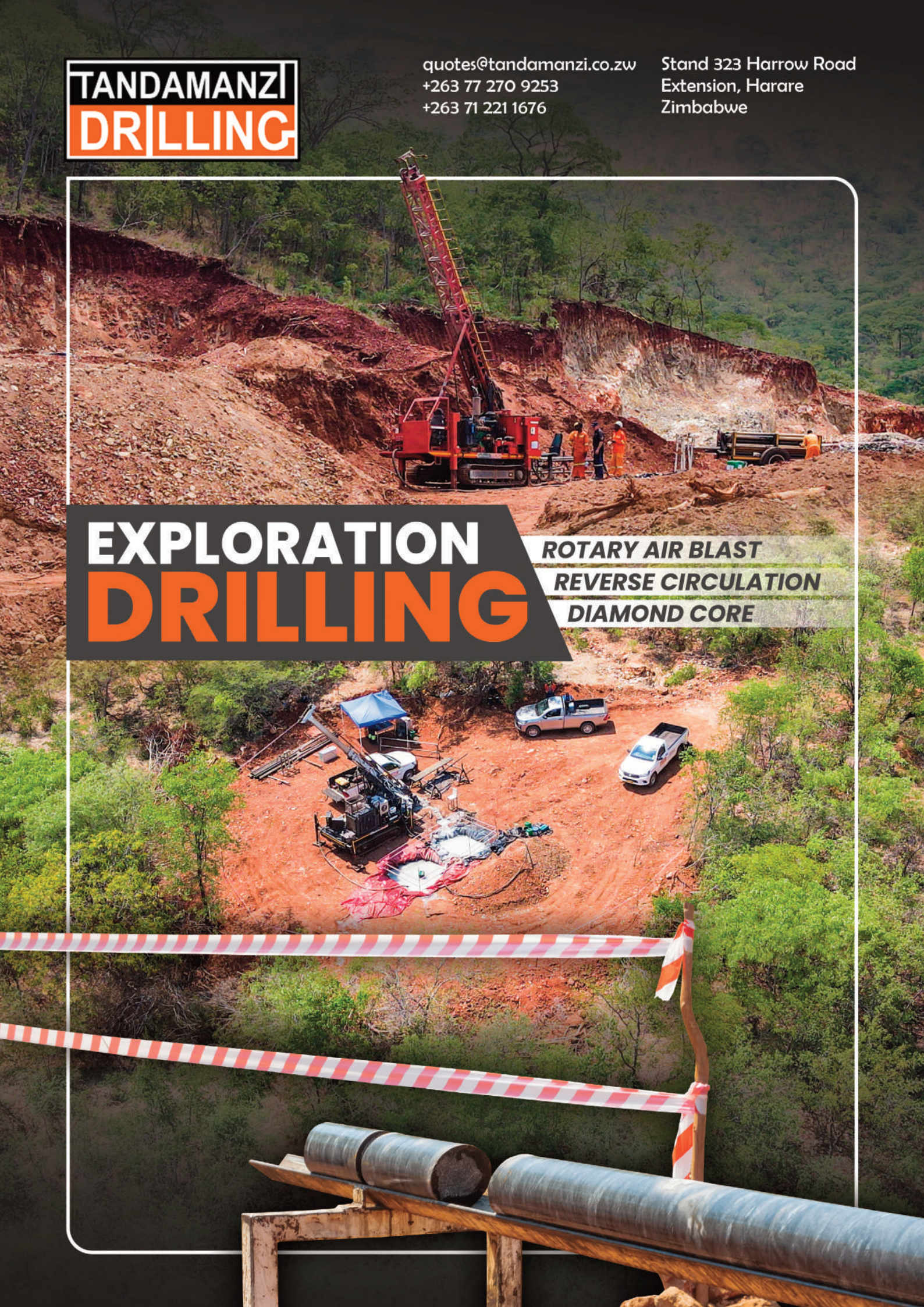

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Walking the talk on fiscal guarantees:

What Zimbabwe's recent Invictus and Tharisa deals mean for investors

Zimbabwe is moving from policy promises to contractual reality, using targeted fiscal guarantees to unlock capital in mining and energy. The recent Invictus Energy Petroleum Production Sharing Agreement (PPSA) and Tharisa's Karo Platinum framework have emerged as twin templates for derisking large-scale resource projects.

For years, global investors hesitated at the perceived gap between policy rhetoric and legal enforceability. That gap is closing. Through these two landmark agreements, Harare is putting binding commitments behind its investment promises.

By Ryan Chigoche

The Power of Fiscal Guarantees

Fiscal guarantees address the single biggest anxiety of capital-intensive projects: the risk that tax rules or ownership requirements will change after billions are sunk into the ground. By writing stability clauses into binding agreements, Zimbabwe is ensuring today's deal will endure.

The common thread linking both deals is externalisation, the ability to generate, remit, and service foreign currency obligations. For greenfield and frontier projects with no operating cash flow, offshore financing is the only viable pathway. Fiscal guarantees are contractual prerequisites without which international lenders will not sign.

The Invictus PPSA: Locking in Stability

On May 27, the government signed the PPSA for the Cabora Bassa gas project. The agreement locks in a hybrid fiscal arrangement, royalties and corporate tax overlaid with a sliding-scale profit-sharing mechanism, that cannot be unilaterally altered.

For Invictus, this contractual certainty is the difference between raising project finance and stalling at the feasibility stage. Offshore financiers are otherwise reluctant to commit capital to frontier exploration assets where sovereign risk amplifies geological risk.

Finance and Investment Promotion Minister Mthuli Ncube emphasised that the agreement provides a stable fiscal and regulatory framework:

Project	*Sector*	*Key Fiscal Guarantee Focus*
Invictus Energy	Frontier Gas	Hybrid fiscal structure and profit-sharing stability
Tharisa (Karo)	Tier 1 Platinum	Currency remittance, tax incentives, and duty-free import provisions

"The government appreciates the significant capital, technology expertise, and risks that investors yourselves have undertaken... We continue to refine our policies and legal framework to ensure that Zimbabwe remains competitive regionally and globally while safeguarding national interests."

Karo Platinum: A Parallel Blueprint

A parallel fiscal framework is already advancing in the platinum sector. Tharisa's Karo project, a Tier 1 greenfield asset, secured key arrangements under its special mining lease, including:

- Foreign currency remittance and offshore debt repayment provisions.
- Preferential tax treatment.
- Duty-free importation of capital equipment.

Karo is currently engaging lenders for funding exceeding US$300 million for Phase One. That Karo can advance financing discussions alongside on-site construction is directly attributable to this secured fiscal certainty.

Aligning with Global Expectations

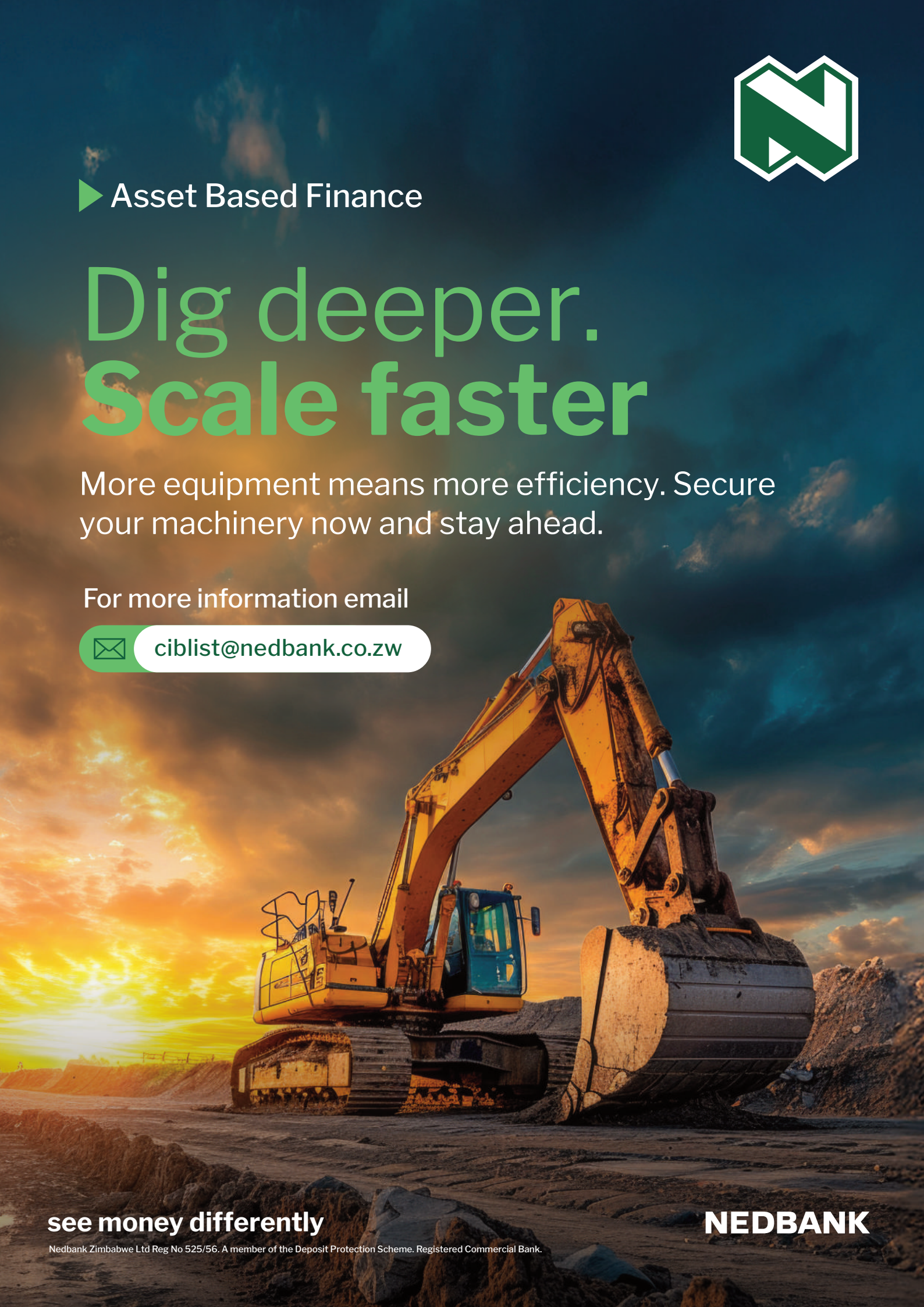
These fiscal guarantees directly address concerns raised by international financial institutions. The World Bank's December 2025 Zimbabwe Economic Update noted that regulatory complexity and policy unpredictability discourage investment, while the IMF has consistently pressed for investment protection and institutional efficiency.

By signing these agreements, the government is delivering the enforceable contractual stability that protects investors from future legislative shifts.

The Road Ahead

While this trajectory is positive, challenges remain. Fiscal guarantees are only as credible as the dispute resolution mechanisms backing them, and investors will closely watch how future disagreements are handled.

Nevertheless, by signing binding guarantees on two major resource assets, Zimbabwe is successfully moving from aspirational documents to enforceable contracts. For an investment community weary of empty promises, this shift from talk to contractual walk marks a critical turning point.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Caledonia's US$590 Million Bilboes Plan

Rests on Mid-2026 Interim Facility as Grade Decline at Blanket Puts Spotlight on New Mine

Caledonia reported a strong quarter financially, but a funding gap and grade decline at its Blanket Mine put the spotlight on its future growth project.

Caledonia Mining Corp. disclosed in its first-quarter results that the full US$590 million needed for the Bilboes gold project depends on securing an interim funding facility by mid-2026.

The Victoria Falls-listed producer, which operates the Blanket Mine in Zimbabwe, is pursuing a four-pillar funding strategy that includes hedging and a US$150 million convertible notes offering.

However, the interim facility remains outstanding. Initial funding is already secured, the company said, though it did not specify how much. Mining Zimbabwe can report.

By Ryan Chigoche

The disclosure matters because Caledonia's existing mine is showing signs of strain. In the first quarter, Blanket produced 14,767 ounces of gold, down nearly 21% from a year earlier. Head grade fell to 2.5 grams per tonne from 3.1 grams. That pushed all-in sustaining costs up 54% to US$2,765 per ounce. When grade falls, the same amount of rock yields less gold. It is a familiar risk in underground mining, and it played out directly in Caledonia's numbers.

That is why Bilboes has become critical. The project holds 1.75 million ounces of reserves and has a 10.8-year mine life. It was approved for single-phase development following a November 2025 feasibility study. First full-year production is expected in late 2028 at around 200,000 ounces, more than double the company's current annual output. Bringing Bilboes online would diversify Caledonia's production base, increase scale, and reduce exposure to disruptions at any single asset.

Caledonia Mining Corp. disclosed in its first-quarter results that **the full US$590 million needed for the Bilboes gold project** depends on securing an interim funding facility by mid-2026.

Management is not standing still at Blanket. A contractor has been brought in to accelerate access to higher-grade ore zones. A new ball mill is being commissioned to improve processing capacity. Worker fatigue was flagged as an operational challenge, so shift patterns were restructured from six days to seven days per cycle. The change is intended to improve consistency and safety underground. Post-quarter production, the company reported, has improved and is running as expected.

Caledonia Mining Corporation Plc

Deep drilling at Blanket continues as well. The company is targeting down to 34 Level, at approximately 1,110 metres. Encouraging high-grade intersections have been reported, and these results are being used to upgrade resource classification. That does not solve the first-quarter grade issue, but it suggests the orebody remains consistent at depth.

Despite the production drop, Caledonia's finances were strong, thanks to record gold prices. Profit after tax surged 69.4% to US$18.9 million. Revenue rose 18.3% to US$66.4 million. The average realised gold price jumped 66.3% to US$4,816 per ounce. That price tailwind covered a lot of ground. Earnings per share climbed 78% to 0.80 cents. Free cash flow more than doubled to US$12.3 million. Operating cash flow stood at US$18.9 million, and EBITDA increased 50.2% to US$33.87 million.

Cash on hand ended the quarter at US$170 million. That figure was significantly boosted by the US$150 million convertible notes issuance in January. The board declared a quarterly dividend of 14 cents per share, maintaining the company's long-standing policy of returning cash to shareholders.

Beyond Bilboes and Blanket, Caledonia also has the Motapa exploration project. The company has budgeted US$3.8 million for exploration work in 2026, focusing on near-surface oxide potential and deeper sulphide mineralisation. A maiden Mineral Resource Estimate is targeted for the third quarter of this year.

So here is where things stand. Caledonia has a strong balance sheet, a phenomenal gold price environment, and a development asset that could double its output. But the full funding for Bilboes is not locked in. It depends on an interim facility with a mid-2026 deadline. The company has not outlined what happens if that deadline is missed. No contingency plan is detailed in the presentation.

For now, the calendar is the story. Mid-2026 is roughly a year away. That deadline will determine whether Caledonia can secure the interim facility and keep its growth plan on track. If it succeeds, Bilboes moves forward and the company transforms. If not, the transformation waits. The company has not said which outcome is more likely. It has only laid out what must happen next.

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Equity + Production Sharing: Why Mthuli Ncube Says Zimbabwe Needs Both

For decades, resource-rich nations have wrestled with how to capture maximum value from mineral wealth without scaring off investors. Zimbabwe is now charting a clear answer: a hybrid model combining state equity in mining assets with a direct claim on production or revenue, rather than relying solely on royalties or dividends.

This twin-pronged approach comes directly from the Minister of Finance and Economic Development, Prof. Mthuli Ncube.

"We need both, that's what is recommended, especially in oil and gas," Ncube told Mining Zimbabwe.

The Two Legs of the Hybrid

Equity Shareholding (Governance)

Held through the Mutapa Investment Fund (MIF) and the Ministry of Finance, equity gives the state a seat at the board-room table.

"You have to have a shareholder because then that allows you to have a say on the direction of the company, on the governance, on the strategy of the company," Ncube explained. "And for that, you receive a dividend as well."

The state's shareholder role is now consolidated under MIF, which holds a sprawling portfolio re-organised into commodity-specific clusters, including Mutapa Base Metals, Mutapa Gold Resources, Mutapa Platinum, Mutapa Energy Minerals (lithium and nickel), and Mutapa Rare Earths.

Production-Sharing Agreements (Revenue)

The second leg is a Production-Sharing Agreement (PSA) or revenue-sharing agreement.

"Either you receive the product, sell it, get revenue, or receive the revenue directly after the company is sold," Ncube said. "A PSA covers both the shareholding aspect and the revenue-sharing aspect."
The Trap This Avoids

Relying on equity alone leaves resource-owning countries vulnerable to watching tonnes of ore leave the ground without seeing any cash arrive, often told that profits were reinvested or wiped out by losses.

"Otherwise, you could have a situation where a company holds for years without declaring dividends," Ncube warned. "You're on the board, you think you're in the direction of the company, but there's no money coming in. There is production every day."

A PSA cuts through this. The state gets its share of output or revenue directly, regardless of whether the company declares a dividend. "That way you are hedged properly as a country," Ncube said.

The Model in Action

The hybrid approach is already active. Zimbabwe piloted a Petroleum Production Sharing Agreement for the Cabora Bassa Project (estimated 20 trillion cubic feet of gas and 845 million barrels of condensate), using a sliding-scale formula based on project returns.

Concurrently, Mutapa's mining cluster grew from US$2.41 billion to US$3.22 billion in fair value during 2025. Key projects include a US$270 million lithium concentrator at Sandawana and a US$500 million platinum mine development seeking partners.

The Supporting Critical Minerals Strategy

In late May 2026, Mines Minister Dr. Polite Kambamura gazetted a classification of 14 critical, special critical, and strategic minerals (including lithium, nickel, and PGMs). This policy bans raw exports and mandates state equity through special-purpose vehicles. While the classification sets the legal rules of entry, Ncube's hybrid model sets the fiscal terms of reward.

Implications for Investors and Implementation

For mining companies, a simple royalty or a minority free-carried equity stake is no longer sufficient. However, a well-designed PSA aligns incentives: the government wants output maximised, the investor retains upside, and the state's equity stake reduces the risk of unilateral policy changes.

The challenge lies in implementation. The government intends to hold a 26% free-carry stake in new mining projects and is prepared to negotiate with existing operators. Former Mines Secretary Pfungwa Kunaka acknowledged the delicacy: "When you have decisions which were made some years back... you cannot just willy-nilly go and change that. It takes negotiations."

A Model Worth Watching

Zimbabwe's mineral revenue is projected to reach US$7.5 billion in 2026, up from US$5.9 billion in 2024, with first-quarter 2026 lithium sales jumping 106% year-on-year.

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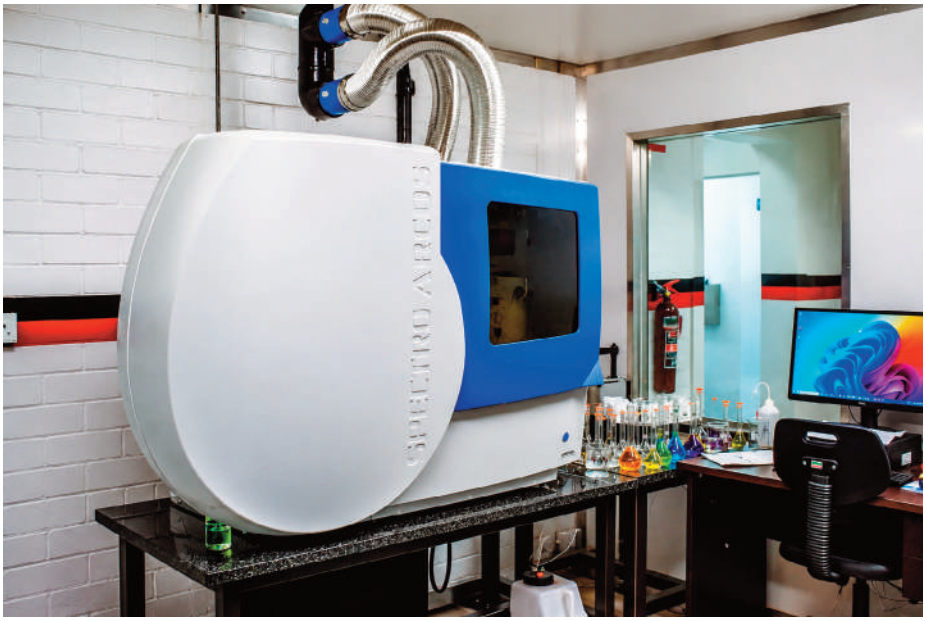
Local Lab, Global Standards:

How Performance Laboratories Is Positioning Zimbabwe to End Reliance on Foreign Mineral Testing

As Zimbabwe tightens controls on mineral exports through a new framework that requires accredited assay laboratories, internationally recognised testing standards, and stronger verification of mineral values, one local institution believes the country is closer than ever to ending its dependence on foreign laboratories.



In an exclusive interview with Mining Zimbabwe, the laboratory's Managing Director Kiran Desai outlines how its expanding capabilities in lithium, rare earth elements (REEs), precious metals, and base metals testing could help government close mineral valuation gaps, strengthen compliance, reduce export turnaround times, and keep millions of dollars in testing revenue within Zimbabwe.

In light of the new 11 conditions requiring accredited assay labs on site and internationally certified facilities, can you elaborate on your ISO 17025 accreditation and what specific tests it covers, from geochemical analysis to lithium and rare earth element (REE) identification?

When we talk about ISO 17025 accreditation in this context, there are two parameters of interest, the method of analysis and the element of analysis. Performance Laboratories has accreditation for 6 methods of analysis and a total of 29 elements of analysis.

- Gold analysis by two methods of analysis
- Determination of base metals by multi Acid Digestion
- Determination of PGM's by Fire Assay
- Determination of PGM's by Nickel Sulphide Fusion
- Determination of Multi-Elements by Sodium Peroxide Fusion

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We are currently in the final stages of the audit process to add a 7th method of analysis the 2-Acid Digestion which will also incorporate a subset of the rare earth elements and will bring our total total accredited elements of analysis to 35.

We also offer other methods of analysis and elements of analysis that are not accredited but similar principles of quality assurance are applied to these. If we include these, currently our elements of analysis are 55 and soon to be 61.

What is your lab's current analytical capacity for lithium minerals (spodumene, petalite, lepidolite) and, crucially, the suite of associated by-minerals like tantalum, niobium, caesium, beryllium, and the 17 rare earth elements mentioned in Parliament? Can you break down the minimum, maximum, and optimal detection levels?

We are running one shift on our ICP-OES analysis at the moment and we are training additional staff to introduce a second operational shift for the ICP-OES analysis. This will take our capacity to between 15,000 and 20,000 results per month. There are a number of variables to consider so giving an accurate monthly capacity is difficult to do. The limits of detection are dependent on the method of analysis used but our ICP-OES is able to detect in the parts per billion range.
As a lab, we are continuing our effects to develop and accredit new methods and elements and to increase our capacity as demand in the market increases.

The government plans to deploy scanners at borders and create analytical hubs at universities. How does your lab's infrastructure and capacity complement this national plan, and can you help train the personnel to populate those hubs?

The last few years of development of the lab have focused on increasing testing capacity and capabilities. These developments were aimed at supporting the ongoing need to test minerals in the country, so we are all positioned to support the new plan of the government.

Performance Laboratories is open to provide some technical consultation to assist with development of the training programs, but we do not have the correct capacity to train on a large scale.

What is the role of modern lab techniques (like zeta potential studies or heap leach simulation) in optimizing the recovery of these associated minerals, and are these services currently accessible from within Zimbabwe?

Simulation of mineral extraction in the laboratory setting is crucial to optimising mineral recovery. These lab scale simulations allow us the ability to physically test mineral extraction under different conditions with varying parameters. These results are used to determine the optimal extraction processes which form a vital input into the design of plant and equipment.

These services are currently available in Zimbabwe but with limited capacity and capabilities. We are implementing in 2026 a new metallurgical testing department aimed at bridging this gap for the industry.

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Kiran Desai

Performance Lab has operated as a local, ISO-accredited facility since 2011. What are the concrete advantages in terms of cost, turnaround time, and logistical certainty that you offer compared to sending samples to South Africa or China, especially given the time-sensitive nature of the mine-to-market supply chain?

Time is money! Is it not? Our cost of testing and turnaround is well aligned with international standards. Using Performance Laboratories as a local Zimbabwean lab, cuts out a large part of the logistics process. For one to export samples, there is an approval process which must be followed as well as transporting the samples to the point of analysis. This creates a lot of risk for the business as well as the samples due to the increased handling. Let's not even dive into the additional cost of handling and storage of ore as it awaits export approval.

The savings for business come from both the direct cost of testing and the indirect ore handling. Cutting out the sample export process will half the turnaround time of results.

The ban and conditions are there to stop misdeclaration. How does your chain-of-custody and data management system (e.g., the Perf Labs Chatbot) ensure that the data you provide is both secure and fully transparent for regulatory bodies like MMCZ and ZIMRA?

As part of our ISO 17025 accreditation, our data handling process is fully audited and traceable. It is certified to be confidential. This is a fundamental core competency of the lab and its processes. As the lab grows, we will continuously upgrade these systems and processes to ensure that new requirements are met. Those who need the information will be given access to it.

Given your partnerships with the Zimbabwe School of Mines and Harare Polytechnic, what is the state of human capital? Do you have the local metallurgists and analysts ready to lead this new era of technical compliance?

Human capital exists in a perpetual state of development. Certainly, there is room for improvement but that can be said about any system. Working and thriving within the metallurgical and chemical analysis space requires distinct aptitude and passion. Although there are many fine young professionals coming out of these institutions and others, we hunt for those with the right passion for what we do. Coupling this recruitment strategy with our robust internal training program, we will build our team as we need to. So, I might not have all the players in place yet, but they will be there when required.

Considering the government's framework to end reliance on foreign labs, what is your specific proposal for a standardized 'industry testing suite' that ensures every export consignment is properly valued, thereby eliminating the US$400 per tonne gap we currently face compared to Australia?

In this case, I believe that the balance has to be found between regulation and what is realistically practical. I do not think that there is a "one size fits all" industry testing suite that can be applied. The understanding of this matter requires input from industry, support services such as the lab, geology and geological survey. We need to define test suites that fit the geology from which that ore is coming. This is likely to get the widest acceptance.

The 11 conditions include a 10% beneficiation tax and a timeline for building lithium sulphate plants. How can Performance Lab assist new and existing producers navigating this roadmap, ensuring that their process audits and final product specs meet both local and international off taker standards?

Performance Laboratories offers analytic services that not only cover exploration but can also be used to verify results obtained by onsite labs. Good practice is to verify 5% to 10% of samples tested by your internal laboratory. In addition to this, the onboarding of our metallurgical department will allow companies to run lab scale mineral recovery simulations to verify the output prior to processing. These steps will introduce assurance to the process.

Beyond reactive testing, how can the mining industry in Zimbabwe leverage your lab to shift toward predictive metallurgy, using data to reduce processing costs and improve recovery yields of both primary and secondary minerals?

Lab scale metallurgical testing should become an operational tool. As new zones are being mined, companies should be verifying that the new ore zone being mined is compatible with the current plant parameters. Optimising these parameters as ore characteristics change will allow mines to maximise the extraction and value gained from their equipment.

Finally, as Zimbabwe moves toward Vision 2030 and a minerals-based industrial hub, what is your final message to local miners who might doubt the capacity of local labs, and to international investors watching Zimbabwe's execution of this policy?

Vision 2030 brings Zimbabwe into competition with the global market. As a lab, we strive to operate at the same levels as our international competitors.

Perception can be overcome by what one can see, touch and feel. So to those that have doubts, I invite you to come and see Performance Laboratories, we will show you the lab and how we work, let your senses dissolve your doubt. The industry wants world class laboratory services. We are here to serve.

"Ore Alone Is Not Enough"

Inside Mutapa Base Metals' Strategy to Deliver US$180 Million in Annual Ferrochrome Revenue

When a furnace sits idle for eleven years, most write it off as a relic. But in August 2024, ZimAlloys shocked Zimbabwe's mining industry by restarting smelting operations on a US$7 million bet. Now, Godwin Gambiza, the CEO leading that turnaround and the newly restructured Mutapa Base Metals, is laying out an even bolder vision: 120,000 tonnes of ferrochrome annually, a strategic equity partner, and a fight to make Zimbabwe a global processing hub, not just a pit-to-port ore exporter.

Godwin Gambiza

In this exclusive interview he reveals the three decisions that saved ZimAlloys, why cheap power matters more than chrome reserves, and the single policy intervention that could unlock it all.

By Rudairo Mapuranga

MZ: After 11 years of downtime, ZimAlloys has restarted smelting operations following a US$7 million investment, a genuine turnaround story that every industrial minerals executive in Zimbabwe is now studying. What were the three most critical decisions that turned this historic asset around, and what lessons can other struggling mining assets learn from this model?

GG: The turnaround of ZimAlloys should not be viewed simply through the lens of restarting a furnace. After more than a decade of dormancy, the bigger challenge was rebuilding the foundations of a sustainable mining and beneficiation business.

The first critical decision was to undertake a realistic assessment of the asset base and determine what remained technically and commercially viable. We needed to understand the condition of the mining assets, processing infrastructure, smelting facilities, and resource base before committing significant capital.

The second was adopting a phased recovery approach. Rather than pursuing large-scale investment upfront, we focused on restoring operational capability, validating technical assumptions, and rebuilding confidence in the asset.

The third was recognising an important reality about ferrochrome production: it is fundamentally a scale business. The restart of the M1 furnace in August 2024 demonstrated that ferrochrome production was technically achievable. However, it also reinforced the importance of scale, competitive power, and operating efficiency in determining long-term viability.

The key lesson is that turnarounds are not about restarting equipment. They are about rebuilding an economically sustainable business model. In mining, technical success and commercial success are not always the same thing.

MZ: Zimbabwe holds the world's second-largest chrome ore reserves, yet for years we exported raw chrome rather than beneficiated ferrochrome. Under your leadership, Mutapa Base Metals is now targeting 120,000 metric tonnes of high-carbon ferrochrome production annually. What will it take, in terms of capital, policy, and partnerships, to make Zimbabwe a global ferrochrome processing hub, not just an ore exporter?

GG: Zimbabwe's opportunity is significant, but it is important to recognise that the challenge is no longer resource availability. Zimbabwe possesses one of the largest chrome resource bases in the world. The question is how we convert that geological advantage into industrial and economic value.

Government has already provided strategic direction through Vision 2030, NDS1, and now the NDS2 framework, all of which place strong emphasis on beneficiation, value addition, and industrialisation. Chrome has consistently been identified as one of the minerals capable of anchoring downstream industrial development and contributing meaningfully to economic transformation.

The next phase is execution.

Recent developments in South Africa provide an important lesson for the region. Despite possessing the world's largest chrome resource base and a long-established ferrochrome industry, rising power costs have resulted in the closure or suspension of significant smelting capacity. Several producers required tariff support and operational restructuring to remain viable. This demonstrates that chrome resources alone do not create a competitive ferrochrome industry. Long-term success depends on the ability to combine resources with competitive energy, technology, capital, and market access.

So, to become a globally competitive ferrochrome producer, Zimbabwe will require three things: competitive and reliable power, long-term investment capital, and strategic partnerships with organisations that bring technical expertise, operational experience, and market access.

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Beneficiation should also be viewed as a continuum rather than a destination. Historically, Zimbabwe exported chrome ore. The next step is increasing local ferro-chrome production. Beyond that lies broader participation in the chrome value chain. The objective is not beneficiation for its own sake, but progressively increasing Zimbabwe's participation in higher-value activities where we can compete sustainably.

MZ: Mutapa Investment Fund has restructured Kuvimba Mining House into five specialised commodity verticals, with you now leading Mutapa Base Metals, focused exclusively on chrome. How does this new structure change your ability to make decisions, attract capital, and execute against beneficiation targets compared to the previous holding company model?

GG: The restructuring creates greater strategic focus.

Chrome has its own technical, operational, and commercial dynamics. Beneficiation, smelting economics, resource development, and infrastructure requirements are materially different from those of other commodities such as gold, platinum, or lithium. A dedicated chrome platform allows management and technical teams to focus exclusively on the opportunities and challenges within that value chain.

The new structure also improves investment discussions. Potential partners are now able to evaluate a dedicated chrome business with a clear growth strategy and beneficiation roadmap rather than assessing chrome within a broader multi-commodity portfolio, as was previously the case. This improves transparency and allows capital allocation decisions to be more closely aligned with the needs of the business.

Importantly, the restructuring is also consistent with the broader national objective of creating focused, commercially driven entities capable of supporting beneficiation and industrial development.

MZ: ZimAlloys has announced a phased furnace expansion: a 13.5 MVA semi-closed furnace targeting 24,000 tonnes per annum by 2025, followed by a 31 MVA furnace targeting an additional 24,000 tonnes. Where does this expansion currently stand, and what gives you confidence that ferrochrome demand will absorb this increased capacity given global steel market volatility?

GG: The long-term beneficiation vision remains unchanged, but it is important to distinguish between strategic ambition and execution sequencing.

Our immediate focus is on establishing the foundations required for sustainable large-scale ferrochrome production. These include resource validation, securing long-term feedstock, evaluating energy solutions, and engaging strategic technical and capital partners.

A key component of this work is strengthening resource confidence through internationally recognised reporting standards. Large-scale beneficiation investments require long-term certainty regarding the quality, quantity, and life of the resource base supporting those investments. Before significant capital is committed to smelting infrastructure, investors need confidence that sufficient economically recoverable resources exist to support those assets throughout their operational life.

For that reason, resource definition and verification are not merely geological exercises; they are fundamental building blocks for beneficiation. We believe internationally recognised reporting standards such as JORC have an important role to play in strengthening investor confidence and supporting the long-term development of Zimbabwe's chrome sector.

The resuscitation of our furnaces remains a key component of our long-term beneficiation strategy. However, the timing and execution of that project must be aligned with technical, commercial, and funding considerations. Our objective is not to restart capacity for its own sake, but to ensure that future smelting operations are competitive and sustainable.

With respect to demand, ferrochrome remains an essential input into stainless steel production and global industrial development. However, the industry is cyclical and increasingly influenced by energy costs and international competitiveness.

Starting in the lab gave me **a strong technical foundation in testing and analysis,** which later evolved into **process oversight and leadership.**

Our confidence, therefore, comes not from assumptions about future market conditions, but from the belief that Zimbabwe's long-term success will be driven by competitiveness. If we can secure the right resource base, power solution, technology, and partnerships, Zimbabwe is well positioned to play a larger role in global ferrochrome markets.

MZ: At the Mutapa Mining Indaba in Cape Town, you announced Mutapa Base Metals is actively pursuing a strategic equity partner to drive chrome beneficiation, targeting initial revenue of close to US$180 million annually. What are you looking for in a strategic partner, and what message do you have for potential global investors watching Zimbabwe's chrome sector?

GG: We are looking for a partner that brings more than capital.

The ideal partner should understand the entire chrome value chain and be capable of contributing to resource development, beneficiation, smelting, infrastructure development, and market access. Ferro-chrome production is capital-intensive,

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energy-intensive, and technically demanding. Success depends on integrating all of these elements into a commercially viable business.

We are particularly interested in partners who share our long-term view of beneficiation and industrial development. The opportunity is not simply to mine chrome ore. The opportunity is to build a competitive and integrated chrome business capable of creating sustainable value over many years.

Resource confidence is an increasingly important part of that conversation. As the industry seeks larger pools of international capital, investors and strategic partners require confidence in the size, quality, and longevity of the resource supporting long-term beneficiation investments. We believe internationally recognised standards such as JORC will play an increasingly important role in supporting investment decisions and strengthening the bankability of future projects.

For investors, the message is clear. Zimbabwe possesses a world-class chrome resource base and a policy environment that increasingly supports beneficiation and value addition. Government has consistently signalled its intention to encourage local processing and industrialisation.

The opportunity is substantial, but success will depend on disciplined execution, appropriate technology, competitive energy solutions, and patient capital.

MZ: Beyond chrome, Mutapa Base Metals sits on extensive claims along the Great Dyke. With global demand surging for battery minerals and stainless steel inputs, how are you positioning Zimbabwe's chrome assets within the broader critical minerals supply chain, and what new geological opportunities is Mutapa Base Metals evaluating?

GG: Chrome remains the primary focus of Mutapa Base Metals and the foundation of our beneficiation strategy.

The recent designation of chrome as a critical mineral is an important development for the sector. It reflects growing recognition that chrome is strategically important not only because of its resource base, but because of its role in stainless steel production, industrial development, and downstream beneficiation. For Mutapa Base Metals, this reinforces the need to take a long-term view of resource development, beneficiation, and value-chain participation.

The Great Dyke remains one of the world's most significant geological formations and continues to offer substantial opportunities for resource development. Our immediate priority is to better understand, define, and optimise the chrome resource base available to the business and ensure that future investment decisions are supported by robust geological, metallurgical, and economic assessments.

As an industry, the critical mineral designation of chrome increases the importance of understanding and quantifying the resource base that underpins future beneficiation. As Zimbabwe in general, and Mutapa Base Metals in particular, seeks to attract larger pools of international capital, resource confidence and internationally recognised reporting standards will become increasingly important in assuring those investors that there is a sustainable return on their investment.

While global attention has increasingly focused on battery minerals and critical mineral supply chains, and rightly so, we should not underestimate the strategic importance of chrome. Stainless steel, which forms the head end of the chrome value chain, remains essential to infrastructure, transport, manufacturing, energy systems, and industrial development worldwide.

Our objective is therefore not simply to develop mineral resources, but to position those resources within a broader beneficiation and industrialisation strategy capable of creating long-term value for Zimbabwe.

MZ: As we approach the Chamber AGM and look towards Zimbabwe's goal of becoming an upper-middle-income economy, what is your single biggest bet for the chrome sector over the next five years, and what one policy intervention from government would most accelerate that vision?

GG: My biggest bet is that Zimbabwe can significantly increase its participation in the chrome value chain over the next five years.

The conversation should not be limited to ore exports versus ferrochrome production. The larger opportunity is to progressively increase local participation in higher-value activities across the chrome value chain, in line with Vision 2030 and the beneficiation objectives articulated through government policy.

Countries that participate in more stages of the value chain capture greater economic value, create more skilled employment, and build stronger industrial capabilities.

If there is one policy intervention that would accelerate this vision, it would be the creation of a long-term ferrochrome competitiveness framework anchored on reliable and competitively priced power.

Power remains one of the most important determinants of ferrochrome competitiveness globally. A stable and predictable energy framework, combined with policy consistency and continued support for beneficiation, would significantly enhance Zimbabwe's ability to attract investment and expand local processing.

The importance of competitive energy cannot be overstated. Developments in South Africa have demonstrated how quickly ferrochrome competitiveness can be eroded when power costs become uncompetitive. Conversely, government intervention to improve tariff structures has enabled portions of that industry to stabilise and restart operations. Zimbabwe has an opportunity to learn from these experiences as it develops its own beneficiation strategy.

Ultimately, the future of Zimbabwe's chrome sector will not be determined by the size of its ore reserves alone. It will be determined by how effectively we convert those resources into industrial and economic value.

Bikita Minerals Is Building Zimbabwe's Biggest Lithium Sulphate Plant, and it's Not Waiting for 2027

Zimbabwe has set a clear deadline: by 2027, no raw rock leaves the country. For miners, that means a fundamental shift from exporting concentrate to keeping value onshore. Few are moving faster than Bikita Minerals, which is already pouring US$400 million into a lithium sulphate processing plant, the first phase of which is set for commissioning in Q2 2027.

Amanda Makausi

In this exclusive interview with Mining Zimbabwe, Vice General Manager Amanda Makausi explains why the company is investing through a brutal lithium price collapse.

MZ: The government has given the industry a clear deadline: by 2027, no raw rock leaves Zimbabwe. Bikita is already moving ahead with a US$400 million lithium sulphate processing plant. Can you update us on the project's timeline and the strategic thinking behind making this multi-million-dollar bet in Zimbabwe?

AM: Let me be direct: we are not waiting for the 2027 deadline; we are building toward it. Our lithium sulphate plant is being delivered in phases, with the first phase targeted for commissioning in the second quarter of 2027 at an annual output of 100,000 tonnes, and a second phase that will expand capacity further. Preliminary and site works are already underway. This is no longer a plan on paper; it is steel going into the ground.

The strategic thinking is simple. For decades, Bikita Minerals dug rock, processed it to a concentrate level, and shipped it, while the real value, the refining, the chemistry, the jobs, was created somewhere else. This plant changes that. It turns Bikita Minerals from a concentrate exporter into a producer of battery precursor chemicals, and it keeps that value inside Zimbabwe. With a resource base that has grown to more than 113 million tonnes and the financial and technical backing of Sinomine Resource Group, we have both the ore body and the conviction to commit for the long term.

The question was never whether to invest in Zimbabwe. It was how quickly we could stop exporting our value and start building it.

MZ: Your parent company is planning a new round of investment in Zimbabwe. With Bikita's 100,000-tonne-per-year lithium sulphate plant, how do you see Zimbabwe's position evolving in the global electric vehicle supply chain, and what makes the country a competitive destination for this kind of advanced processing?

AM: Lithium sulphate is the bridge between the rock and the battery, the high-value intermediate that feeds directly into the lithium carbonate and hydroxide that power electric vehicles. By producing it here, Zimbabwe stops being a supplier at the very bottom of the chain and becomes a participant in the part of the chain where value is actually created.

Zimbabwe is already Africa's largest lithium producer, sitting on some of the finest hard-rock deposits in the world. Our competitive edge is the combination of world-class grade and scale, the enormous advantage of processing at the mine instead of shipping rock across oceans, improving power infrastructure including our own solar generation and the Tokwe–Bikita line, a capable workforce, and a government beneficiation policy that gives investors a stable horizon. That combination is rare, and it is why serious capital is choosing to refine here.

> We have commissioned a **world-first caesium plant**, built a tantalum recovery plant, and we have a lithium refinery rising on our site. We did not wait for perfect conditions or perfect certainty. **We created the certainty ourselves by building.**

For a century, the world came to Africa for raw materials and left with the value. This plant is part of rewriting that narrative.

MZ: Bikita has already commissioned the world's first caesium flotation plant and is developing a tantalite processing facility. How significant are these critical minerals for Zimbabwe's diversification strategy, and what message do these breakthroughs send to global markets about the country's processing capabilities?

continued on the page 28>>

AM: These are not incremental projects; they are firsts. Our caesium flotation plant is the only one of its kind in the world, recovering very low-grade pollucite from tailings the industry had long written off as waste. Our tantalum-niobium recovery plant does the same: it pulls marketable value out of material that was already mined and discarded. Caesium is a genuinely strategic and scarce mineral, sourced from only a handful of deposits on earth, and Zimbabwe is now on that very short list of producers.

Let me be direct: **we are not waiting for the 2027 deadline**; we are building toward it. Our lithium sulphate plant is being delivered in phases, **with the first phase targeted for commissioning in the second quarter of 2027** at an annual output of 100,000 tonnes

For the country's diversification strategy, this matters twice over. It broadens our critical minerals base well beyond lithium, which cushions us against any single price cycle. And it sends an unmistakable message to global markets: Zimbabwe can execute complex, world-leading metallurgy. We are not a place that simply digs and ships. We are a place that solves the hard problems other producers walk away from.

MZ: Last year, you highlighted the severe impact of lithium prices plummeting by 90%. Despite this, Bikita has pressed on with major investments. How has the company managed to maintain its expansion trajectory through such volatile market conditions, and what lessons can other miners learn from your approach?

AM: The price collapse was real, and it was brutal, close to ninety percent off the peak. We did not pretend otherwise, and we did not retreat. We held our trajectory for four connected reasons: a genuinely low-cost operating base, relentless efficiency, diversification into caesium and tantalum revenues that do not rise and fall with lithium, and the discipline to reprocess historic tailings, which delivers high-value product at modest capital cost.

Underpinning all of it is a counter-cyclical conviction, backed by a parent willing to invest through the trough. We chose to build while others paused so that our capacity is commissioned and ready the moment the cycle turns. If there is one lesson for fellow miners, it is this: do not stake your future on one commodity at one price. Diversification, beneficiation, and the courage to keep building in a downturn are the only real hedge against volatility.

MZ: Finally, what is the single most important message you want every mining CEO in that room to take away from Bikita Minerals' journey? What would you say to an investor who is still on the fence about committing to large-scale beneficiation in Zimbabwe?

AM: My message is: beneficiation in Zimbabwe is no longer rhetoric; it is reality. We have commissioned a world-first caesium plant, built a tantalum recovery plant, and we have a lithium refinery rising on our site. We did not wait for perfect conditions or perfect certainty. We created the certainty ourselves by building.

To the investor still on the fence, I would say this with respect: the policy is clear, the resource is world-class, the infrastructure is being laid, and the window belongs to the first movers. The value in Zimbabwe's ground will be captured by those already building, not by those still calculating. In a sector this strategic, hesitation is the only real risk.

CONGRATULATIONS!
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The Board, Management, and Staff of Mutapa Gold Resources extend their sincere congratulations to **Mr. Innocent Rukweza** on his appointment as Chairman of the Lithium Association of Zimbabwe.

We are proud of this remarkable achievement and wish you every success in your new role as you lead and advance the growth of Zimbabwe's lithium industry.

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The Hidden Value in Zimbabwe's Tailings:

Why Heap Leaching for Rare Earths Demands Urgent Attention

Zimbabwe's growing use of heap leaching for gold extraction may be unlocking far more than precious metals. While the technology has helped expand artisanal and small-scale mining, it may also be extracting valuable rare earth elements (REEs) and creating environmental risks that remain largely unmonitored.

Heap leaching works by applying chemical solutions to crushed ore, dissolving target minerals for recovery. However, the process is not selective. Where ore bodies contain multiple minerals, including rare earths, valuable elements can be mobilised without being identified, recovered, or accounted for.

The key question is simple: what else is being leached from Zimbabwe's mineral deposits?

What the Science Shows

Rare earth extraction relies on a different chemistry from gold. While gold is commonly recovered using cyanide, ion-adsorption rare earth deposits are typically leached using ammonium sulfate and other electrolyte solutions.

Research published in the Journal of Cleaner Production has shown that rare earth elements bound to clay minerals can be efficiently extracted through ion-exchange processes. The effectiveness of the process depends on the cations used, with ammonium ions proving the most efficient.

However, the same studies warn that ammonium sulfate presents significant environmental risks. Residual ammonium can be released from tailings, leading to wastewater contamination, soil degradation, and even structural instability in heap leach pads and tailings facilities. Researchers have also linked rare earth heap leaching to land degradation, water contamination, and increased risks of landslides.

In short, the technology can unlock valuable minerals, but it can also create long-term environmental liabilities if not properly managed.

Lessons from Madagascar

The economic potential of rare earth heap leaching has already been demonstrated in Africa.

In 2025, metallurgical test work at the Ampasindava Project in Madagascar confirmed that ionic clay-hosted rare earths could be recovered efficiently using low-impact heap leach methods. Recovery rates reached 88% for neodymium, 86% for praseodymium, 73% for dysprosium, 79% for terbium, and 67% for yttrium using ammonium sulfate.

These are commercially attractive recoveries that demonstrate the viability of extracting critical magnet metals through heap leaching.

If similar clay-hosted rare earth mineralisation exists within Zimbabwe's gold-bearing ore bodies, valuable minerals may already be entering pregnant leach solutions or tailings streams without being measured or recovered.

Research published in the **Journal of Cleaner Production** has shown that rare earth elements bound to clay minerals can be efficiently extracted through ion-**exchange processes.**

The Testing Gap

Government has already recognised the need for greater mineral accountability.

In February 2026, Mines Minister Dr. Eng. Polite Kambamura announced the suspension of raw mineral and lithium concentrate exports and emphasised that government would verify the mineral composition of all consignments before approval.

However, export testing addresses only part of the value chain.

Heap leach operations generate pregnant leach solutions containing dissolved metals. After gold recovery, residual solutions and tailings may still contain rare earth elements. The question is whether these materials are being tested or whether valuable minerals are simply being discarded as waste.

Under Zimbabwe's Mineral Value Chain Framework, the University of Zimbabwe has been designated as the national hub for lithium, uranium, and rare earth analysis. Yet it remains unclear whether this capability is being systematically applied to heap leach operations across the country.

The Regulatory Challenge

Current regulations focus primarily on declared mineral production and exports rather than the full spectrum of minerals that may be extracted during processing.

A mining operation can legally recover gold through heap leaching without ever testing for rare earth elements present in its ore, solutions, or tailings. As a result, valuable resources may be lost while environmental impacts remain poorly understood.

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Evidence from China, where ion-adsorption rare earths have been mined for decades, shows that poorly managed heap leaching can cause severe environmental damage, including sulfate accumulation, soil salinisation, ecosystem degradation, and groundwater contamination.

Zimbabwe shares many geological and environmental characteristics with regions where these challenges have already emerged.

What Must Be Done

Zimbabwe's beneficiation agenda seeks to maximise value from its mineral resources. Rare earth elements such as neodymium, praseodymium, dysprosium, terbium, and yttrium are critical to electric vehicles, renewable energy technologies, and defence systems, making them among the world's most strategically important minerals.

To ensure these resources are not lost, three actions are urgently needed.

First, government should mandate comprehensive testing of heap leach solutions and tailings for rare earth content. The University of Zimbabwe's rare earth laboratory should establish baseline data across the mining sector.

Second, heap leach operators should be required to submit regular reports on reagent use, solution chemistry, waste streams, and environmental management practices.

Third, Zimbabwe should develop a fiscal and regulatory framework that encourages rare earth recovery while penalising unmanaged discharges and environmental contamination.

The science is clear. Heap leaching can mobilise rare earth elements from clay-rich ores. The technology exists to recover them. The environmental risks are well documented.

The unanswered question is whether Zimbabwe is capturing the value or allowing it to flow away through tailings dams, leach ponds, and waste streams, unseen, untested, untaxed, and unaccounted for.

Uranium: The Untapped Power Source Zimbabwe's Mining Boom Needs

Zimbabwe's mining sector is booming with new lithium, gold, platinum, and steel projects. Government policy mandates local mineral processing (beneficiation), which demands massive amounts of electricity.

However, the national grid is failing. While reliable supply struggles to reach 1,500 MW, total demand is projected to hit 5,000 MW by 2030, with mining and beneficiation driving over 80% of that surge.

To survive, major exporters like Zimplats, Blanket Mine, and Dallaglio are investing millions in private solar and captive power. Experts warn these are costly, tactical stopgaps that signal a major structural failure the grid cannot fix.

Why Solar and Hydro Aren't Enough

Solar and hydro energy cannot provide the stable, 24/7 baseload power required for high-voltage mineral refining. Production halts during cloudy afternoons or droughts at the Kariba Dam. Furthermore, Zimbabwe's aging infrastructure lacks dedicated green transmission corridors, meaning uncoordinated renewable integration risks disrupting the single alternating current (AC) national grid.

Uranium and Small Modular Reactors (SMRs) as the Solution

Energy expert Dr. Edzai Kachirekwa argues that Zimbabwe must leverage its untapped uranium resources for long-term energy security.

"Zimbabwe has uranium resources, and we should be seriously considering how to leverage that endowment in our long-term energy strategy. Why are we not engaging partners such as Russia to explore the development of nuclear power plants?

In particular, Small Modular Reactors (SMRs), which can generate approximately 500–600MW each, present a practical option. If we were to deploy around ten 500MW reactors, that would give us roughly 5,000MW of reliable baseload power, significantly strengthening energy security."

To achieve this, Zimbabwe needs to revive its stalled nuclear cooperation frameworks with Russia's state atomic energy corporation, Rosatom. Russia has proven success in African nuclear deployment (such as in Egypt) and its land-based SMR designs could bring both scalable technology and viable financing models to Zimbabwe.

Zimbabwe's Uranium Potential and the Cost of Inaction

Zimbabwe possesses tangible uranium assets, notably the Kanyemba deposit in the Zambezi Valley. The country has roughly 1,800 tonnes of assured resources and an estimated 25,000 tonnes of speculative resources.

Renowned geologist Jean Rheiner confirms the viability of these deposits, noting his company explored them in the 1980s before prices collapsed. He estimates it would take a US$100 million investment to make these deposits operational under the right policy incentives.

Without a shift to nuclear power, private energy costs will continue to eat into export earnings and stall industrial growth. Uranium, developed alongside an experienced partner like Russia, offers the definitive path to securing Zimbabwe's industrial future.

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PGMs Lead Zimbabwe's Mineral Revenue Surge

as New Entrants Prepare to Reshape the Great Dyke

Platinum Group Metals have cemented their position as Zimbabwe's single largest mineral (excluding gold) export earner, delivering a record-breaking US$543.97 million in combined concentrate and matte sales during the first quarter of 2026, according to data from the Minerals Marketing Corporation of Zimbabwe.

By Rudairo Mapuranga

This exceptional performance, underpinned by firming global prices and rising demand from automotive, industrial, and clean energy applications, represents a pivotal moment for a sector now poised for its most dramatic expansion in two decades.

PGM concentrate sales surged to **30,178 metric tonnes** valued at US$191.73 million, a 98 percentincrease in volume and an extraordinary 319 percent surge in value compared to the same period last year. Meanwhile, **PGM matte sales reached 3,080 metric tonnes worth US$352.24 million**

The numbers tell a compelling story of value unlocked. PGM concentrate sales surged to 30,178 metric tonnes valued at US$191.73 million, a 98 percent increase in volume and an extraordinary 319 percent surge in value compared to the same period last year. Meanwhile, PGM matte sales reached 3,080 metric tonnes worth US$352.24 million. Although matte export volumes declined by 38 percent, the value realised increased by 69 percent, reflecting both stronger international prices and a strategic shift toward higher-value product streams.

Behind the aggregate export figures, the first-quarter production results from Zimbabwe's three largest PGM miners delivered a mixed picture. Zimplats, the country's dominant producer, boosted 6E concentrate volumes by 18 percent year on year to 159,000 ounces, as improved mechanised fleet availability and higher open-pit volumes drove milled throughput 15 percent higher.

However, matte production slumped 45 percent to 76,000 6E ounces after furnace maintenance disrupted smelting during the quarter. Tapping was reinitiated in mid-March, and Zimplats expects to deplete an accumulated concentrate stockpile of around 63,000 6E ounces over the remainder of the 2026 financial year.

Mimosa Mining Company, the 50:50 joint venture between Impala Platinum and Sibanye-Stillwater, saw 6E concentrate production fall 2 percent to 58,000 ounces, as sporadic regional power disruptions impeded operating momentum. Milled head grade declined 2 percent to 3.55 grams per tonne due to complex ground conditions and changing ore mineralogy.

Unki Mines recorded a 4 percent decline in PGM production to 51,700 ounces, reflecting planned mining of lower-grade ore as part of normal mine sequencing. The Anglo American Platinum-owned operation continues to navigate the geological realities of a maturing orebody.

Deepening Local Beneficiation Through Collaboration

A significant development reshaping the sector's value retention is the deepening of local processing capacity. Zimplats operates a base metal refinery, and Mimosa has entered into an agreement with the country's largest PGM producer to use that facility for toll processing, ensuring that Zimbabwe maximises benefits from its PGM endowment rather than shipping concentrate abroad for final refining.

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The Great Dyke Awakening: New Entrants Take Shape

Dr Polite Kambamura

Perhaps the most significant story unfolding along the Great Dyke is the emergence of three major new producers poised to transform Zimbabwe's PGM landscape. Minister of Mines and Mining Development Dr. Polite Kambamura delivered a clear policy deadline at the Mining Indaba in Cape Town, naming specific projects: "It's in our strategic plans that this year we need to be somewhere with regard to all that are in the Middle Dyke, Great Dyke Investments, Bravura, Karo is already working, so that the PGM sector is resuscitated by the end of this year."

Karo Platinum, which the Minister noted is "already working," has invested over US$190 million to date in Phase 1 development of its Selous project, which carries a total budget of US$543 million. Jointly owned by Karo Mining Holdings (85 percent) and the Government of Zimbabwe (15 percent free carry), the project has defined initial probable reserves of 35.5 million tonnes at 2.31 grams per tonne, containing approximately 2.5 million ounces of PGMs. First ore production is targeted for the first half of 2026, and once operational, Karo will process 2.5 million tonnes of ore per annum, producing 190,000 ounces per year of 6E PGMs over an initial 17-year life, with company officials indicating potential for a lifespan exceeding 50 years. To address power security, Karo is developing a 30 MW solar PV plant.

Great Dyke Investments, operating under Mutapa Platinum, is advancing the

Munashe Shava

Darwendale project, a world-class asset with estimated resources of 44 million ounces of PGMs located approximately 65 kilometres west of Harare. Mutapa Platinum CEO Munashe Shava confirmed that the company expects to commence open-pit development with an initial throughput target of at least 2 million tonnes per annum. The project carries an estimated development cost of US$500 million, and Shava confirmed that funding discussions are at an advanced stage.

Bravura Holdings has completed feasibility studies for its Selous PGM project and is advancing toward the development phase.

Sustaining Growth Through Infrastructure and Policy

For these new projects to succeed, the supporting infrastructure must keep pace.

Karo's Dr. Joe Zimba

The mining sector's electricity demand now reaches approximately 2,600 megawatts against constrained national generation. Recognising this vulnerability, emerging producers are building their own power capacity alongside their processing plants. Beyond power, fiscal stability remains a critical enabler. Tharisa, Karo's major shareholder, confirmed that funding discussions for the project are advancing alongside talks with the government on fiscal stability agreements, which are nearing conclusion. These arrangements are aimed at providing long-term certainty on taxes, royalties, and operating conditions.

The global market backdrop provides additional support. Johnson Matthey's 2026 PGM Market Report forecasts continued deficits for platinum, ruthenium, and iridium, with platinum demand from hybrid vehicles projected to reach an eight-year high. Platinum prices reached record highs in January 2026, and the broader PGM basket price has provided meaningful revenue relief even as individual production trajectories diverge.

Perhaps the most significant story unfolding along the Great Dyke is the **emergence of three major new producers** poised to transform Zimbabwe's PGM landscape.

A Sector at an Inflection Point

Zimbabwe holds the world's third-largest platinum reserves after South Africa and Russia. When Darwendale, Karo, and Bravura reach full production, the country's PGM producer base will expand from three to as many as six operational mines, adding significant production capacity, creating thousands of direct and indirect jobs, and deepening Zimbabwe's integration into global clean energy supply chains.

The foundation has been laid. Export revenues are at record levels. Local processing capacity is expanding through collaboration. New producers are advancing toward first ore. And policy is now explicitly aligned with keeping value in-country. The task ahead for Zimbabwe's PGM sector is execution against the deadline the Minister has set: by the end of this year, the Great Dyke's Middle Dyke must be working. With millions of ounces of reserves, billions in committed capital, and a clear policy framework now in place, all the pieces are on the table. The only question that remains is whether the industry can move from ambition to delivery before the year runs out.

Tip of the Iceberg: 'We Have Barely Scratched Zimbabwe'

In this exclusive interview with Mining Zimbabwe (MZ), Zimbabwe Geological Survey Director, a Living Legend, Forbes Mugumbate (FM) lays out a compelling geological case for why the country's mineral potential remains overwhelmingly untapped. Drawing comparisons with Western Australia's 300-tonne annual gold output versus Zimbabwe's 40 tonnes, he challenges CEOs to rethink exploration, from under-explored greenstone belts and the Great Dyke's dormant chromite and gemstone wealth, to the urgent need for Exclusive Prospecting Orders (EPOs) and modern exploration technologies.

Living Legend - Forbes Mugumbate

MZ: In a past presentation, you described Zimbabwe's mineral potential as the "tip of the iceberg," given that 60% of our land surface is underlain by Archaean rocks similar to those in Australia and Canada. For CEOs reading this today, what would you say is the single most encouraging geological indicator that we have barely scratched the surface of our true mineral wealth?

FM: The reference to the current known information about the geological potential of Zimbabwe as being the tip of an iceberg comes from information being generated from similar geological terranes such as the Archaean cratons of Western Australia and those of Canada. Also, the little exploration carried out in Zimbabwe, especially in the mid-1990s, and extrapolation of data from the numerous derelict mines, suggest huge opportunities for new discoveries or rediscoveries of mineral deposits.

Systematic mineral exploration in the Western Australian and Canadian cratons has revealed that such Archaean geological terranes contain many world-class mineral deposits in varied geological structures. The growing evidence that the Zimbabwe Craton was at one stage in geological history linked to the Yilgarn Craton of Western Australia implies that it is a matter of subjecting the Zimbabwe Craton to systematic exploration to prove similar potential to related cratons. At independence, on average, annual gold production from the Zimbabwe Craton was similar to that of Western Australian cratons of similar size. Now, while annual gold production from the Zimbabwe Craton averages 40 tonnes, Western Australia is producing 300 tonnes. The difference between 40 tonnes and 300 tonnes can be said to be an indication of the potential in the Zimbabwe Craton.

MZ: CEOs know Zimbabwe has 22 Archean greenstone belts that have produced over 60 million ounces of gold, ranking Zimbabwe as one of the most productive gold terrains on Earth at 6kg Au per km² compared to 1kg Au per km² globally. With recent record gold prices making previously marginal deposits viable, which of these under-explored belts do you believe holds the greatest potential for a new world-class discovery?

FM: A look at the mineral map of Zimbabwe clearly shows an anomalous concentration of mineral deposits within or in the environs of Archaean greenstone belts. This evidently shows the great influence the greenstone belts have had on mineralisation. With 22 such greenstone belts, Zimbabwe can be said to be richly blessed. All the greenstone belts have produced gold to various levels from mainly small mines. However, with the current high gold prices, the advent of new exploration technologies, and modern understanding of geological processes and mineral systems, it can, without doubt, be stated that all greenstone belts need to be revisited.

Although the Midlands greenstone belt has previously received some anecdotal exploration as a result of its size, centrality, and history of mining, it is very much under-explored, like the rest of the country. Small greenstone belts and those marginal to the craton, for instance, the zone running from Matepatepa in the west to Mount Darwin through Dindi to Makaha in the east, could not be explored systematically due to security concerns during the Second Chimurenga, while greenstone belts such as Beatrice, Felixburg, Odzi, and Lower Gwanda have not attracted systematic exploration due to their small sizes, yet they have several known gold deposits that show evidence of anomalous mineralisation.

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MZ: NASA's Earth Observatory has called Zimbabwe's 2.5-billion-year-old Great Dyke "one of the most significant igneous structures on Earth," visible even from space. With its vast deposits of PGMs, chrome, gold, nickel, and critical metals, this remarkable feature holds the world's second-largest PGM reserves and a significant portion of global chromite. When you look at the Great Dyke, what excites you most about its untapped potential?

FM: The Great Dyke is indeed a geological wonder and an international heritage, not only in terms of its size, projected emplacement mechanisms, and vast mineral resources, but also for its role in deciphering geological processes of the young Earth.

In terms of mineral production, although the Great Dyke ranks second in the world in PGM production, the Bushveld contributes over 70% of production. The same skewed production is observed in chromite, where the Great Dyke contains the largest resources in the world, yet is very lowly ranked in terms of production. There are therefore huge opportunities for increasing production of both the PGMs and associated base and precious metals, and chromite. Minor minerals such as gemstones (mtorolite, chrysoprase, agate, verdite), serpentine and soapstone, and magnesite could be promoted for small-scale production.

MZ: Zimbabwe possesses Africa's largest and the world's sixth-largest lithium deposits, substantial reserves of rare earth minerals, and hosts the continent's most significant PGM reserves. With the global energy transition accelerating demand, what geological evidence suggests we have only begun to quantify the full scale of these critical mineral resources?

FM: With regards to energy transition and other critical minerals, Zimbabwe is again on the world map of important countries for these minerals. The Great Dyke is a world-class repository of PGMs, second after the Bushveld of South Africa, yet in terms of production, the country is very lowly ranked, which suggests great opportunities for increased production by enhancing the capacities of producing mines and opening up new mines.

Traditionally, Zimbabwe has tended to concentrate the little exploration efforts on searching for gold at the expense of other minerals that are clearly abundant. Again, a look at the base metal map of Zimbabwe shows many prospects for different minerals scattered in many geological terranes, especially greenstone belts. For instance, several pegmatite deposits, including those containing lithium, tin, tantalite, tungsten, caesium, beryllium, etc., are shown on the map. These and many other minerals have remained prospects with unknown reserves because they have not been explored. It is only recently that some lithium prospects were subjected to systematic exploration that the potential of Zimbabwe has been exposed. Consequently, many critical mineral prospects and their environs should be treated as good targets for systematic probing.

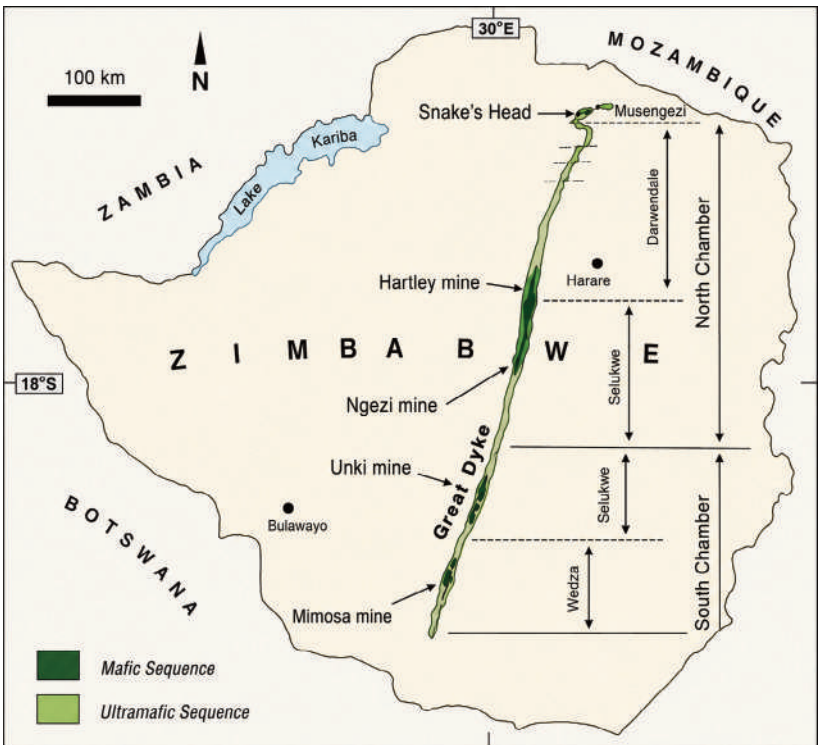
MZ: You have spoken about the need for Zimbabwe to resume issuing Exclusive Prospecting Orders (EPOs) to attract serious exploration capital. With modern exploration technologies now available, what previously hidden mineral systems could we unlock if we systematically applied these advanced techniques across our most prospective terrains?

FM: EPOs are the foundation of the mining industry. Without systematic exploration, the industry faces certain death, as the few large mines that are exhausting fast will not be readily replaced. The closure of one large mine has devastating effects not only on mineral production, but also on employment, taxes, social amenities, etc. Mineral exploration is also an industry in its own right; it brings forex to fund exploration, employs hundreds of geologists and support staff, and causes the flourishing of support industries such as laboratories, drillers, and consultants.

There have been very few opportunities to subject the country to modern exploration techniques such as high-resolution geological mapping, geophysics and geochemistry, remote sensing, and the related integration of the data in GIS and AI systems. These are likely to reveal a lot of interesting data in known mineralised areas and identify new metallogenic provinces. Zimbabwe is lagging far behind in these respects. With all these advantages, I do not see why EPOs should not be granted en masse.

MZ: You have previously confirmed that the Umkondo Basin may contain "massive quantities of kimberlite." Could this basin represent Zimbabwe's next major diamond frontier, and what does current geological data suggest about its potential scale relative to our existing diamond fields?

FM: The Umkondo Basin appears to be an underrated metallogenic province. The discovery of gold in the Tarka Forest of Chimanimani, whose nature and source have not been determined, the occurrences of several copper prospects including the Umkondo deposit, the presence of iron ore deposits in some sedimentary horizons, and the occurrence of ancient diamond placer deposits in a basal conglomerate at Marange and in a grit at Charleswood Farm near Chimanimani, whose sources have not been worked out, clearly indicate an important geological environment for searching for these and other minerals.



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“It’s not just a plan on paper: It’s already in motion”: Namib Minerals’ big gold plans in Zimbabwe

The sound of the high-capacity pumps at Redwing Mine provides the soundtrack to one of the biggest gold restart stories currently underway in Africa.

Namib Minerals CEO Tulani Sikwila at Redwing

The site is the centrepiece of one of Zimbabwe’s biggest mining revival projects, led by a Nasdaq-listed company now backed by international investors, including those from the United States of America, seeking exposure to gold and high-potential mining assets.

Since late January this year, Redwing Mine in Penhalonga, which had been under care and maintenance, has pumped more than 544,000 cubic metres of water from the mine, lowering water levels by nearly 22 metres. New power lines are being installed and equipment is being shipped to the site.

Who is Namib Minerals?

The company behind the Redwing Mine restart is Namib Minerals, which is making one of the largest new gold investment commitments currently underway in Zimbabwe as global investors increase exposure to gold producers amid sustained high bullion prices and renewed interest in African resource assets.

Namib’s Zimbabwe portfolio includes **How Mine near Bulawayo,** alongside restart projects at **Redwing Mine** and **Mazowe Mine.**

Namib listed on the Nasdaq Stock Exchange in New York in 2025, in what was the largest Special Purpose Acquisition Company (SPAC) deal in African history. The listing has brought American and international institutional investors into the company, highlighting strong global interest in Namib’s asset base and long-term growth strategy. It also gives Namib access to capital pools often inaccessible to regional peers.

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Redwing Mine visit

Namib's Zimbabwe portfolio includes How Mine near Bulawayo, alongside restart projects at Redwing Mine and Mazowe Mine. The company's strategy is to use the operational stability at How Mine as a model for Redwing and Mazowe, both mines with significant resources.

How Mine gives Namib something investors value highly, proof that it can run large-scale operations profitably. The proven success of How Mine is now being rolled out into Redwing and Mazowe.

"How Mine remains a very strong asset, and we are proud that the operation is a symbol of our track record in delivering value, whether to shareholders, government, or communities," according to chief executive officer Tulani Sikwila.

New leadership

Sikwila took over as CEO in March, representing a leadership transition that will lead the next phase of expansion. A chartered accountant who started his career at Ernst & Young Zimbabwe, Sikwila has worked across finance, operations and leadership roles within the group.

"I am humbled to be taking up this responsibility at a key moment in the company's history," he says. "I have been part of this business for two decades, across various leadership positions in finance, operations and leadership. I know these assets. I am tuned in to the operating environment. I know the communities around our operations."

For Namib, the next phase is about scaling production and unlocking the value of its Zimbabwe assets.

"We want to build a capital-efficient African mining platform, one that creates real value for investors, employees, and the communities we operate in," Sikwila says. "The success of How Mine as an operation shows our capacity as a business. But the real opportunity is in unlocking the full potential of our asset base. Redwing and Mazowe are brownfield projects with very good resource endowments. Getting them back into full, formalised production is our priority right now."

Brownfield projects such as Redwing and Mazowe are attractive in a strong gold market because they already have infrastructure and historical workings, making them cheaper to restart than entirely new mines. Namib plans to invest between US$300 million and US$400 million into restarting and expanding Redwing and Mazowe.

"As we reinvest, improve efficiencies, and expand exploration, we expect production to grow beyond these levels," says Sikwila.

Technical capacity

As it prepares for expansion, Namib is also strengthening its technical team. The company recently appointed Antonio Nieto as vice president for technical services, bringing more than 25 years of international mining experience into the group.

International firm WSP Global has been engaged to lead definitive feasibility studies across Namib's assets, including Redwing.

Job creation and community

The investment story also carries major implications for jobs for Zimbabweans. Some workers at Redwing and Mazowe have already started returning as rehabilitation work accelerates. Direct employment across Namib's Zimbabwe operations is expected to rise from 1,375 jobs to around 3,100 as Redwing and Mazowe return to production, excluding indirect jobs created through local procurement and supplier development.

Beyond production, the company also plans to replicate How Mine's community model at Redwing and Mazowe. At How Mine, Namib has supported healthcare infrastructure projects in Bulawayo and across Matabeleland provinces while operating a clinic that provides free basic healthcare services.

"At Redwing, for example, we are upgrading the mine clinic, which provides free basic healthcare to the surrounding community. A new ambulance has been acquired to serve the community, and the mine bus will be available for local school children. It's just the start of many community partnership projects," Sikwila explains.

Brownfield projects such as **Redwing and Mazowe are attractive in a strong gold market** because they already have infrastructure and historical workings, **making them cheaper to restart than entirely new mines.**

Namib's rehabilitation work, funding discussions and technical studies are all advancing in parallel, positioning the revival of Redwing and Mazowe as one of the largest gold growth stories currently emerging in Zimbabwe and southern Africa.

"What I want people to understand is that this is not just a plan on paper," Sikwila says. "It is already in motion."

Chief Executive Officer (CEO) Tulani Sikwila

Namib Execs at refurbished Redwing Clinic

Intelligence-Driven Ground Control Can Cut Mine Fatalities

With 64 miners lost to fall-of-ground incidents in Q1 alone, Zimbabwe's mining sector faces a clear choice: embed real-time geotechnical intelligence or continue counting bodies. *by Wayne Mudamburi*

Industry data shows that 54% of fatal events are now preventable using existing technology and engineering protocols.

Fall of ground (FOG) is the industry's top killer. Dust and gas exposure rank second, with silicosis claiming lives long after shifts end. But the solution set is neither exotic nor capital-intensive.

Low-Cost Ventilation Fixes Work

Poor ventilation allows silica dust and toxic gases to accumulate, especially in small-scale operations. Yet wet drilling, basic water sprays, and directed airflow can dramatically reduce exposure.
For ASM crews, controlling dust at the source is not compliance; it is the difference between a pay cheque today and lungs that work tomorrow.

Shaft Sinking: A Protocol Problem, Not a Geology Problem

Under the five-point safety system, shaft sinking fails at Point No. 1: checking the entrance to the workplace. Virgin ground brings risks such as water inrushes, blast damage, and pillar collapse. The intelligence-based solution is procedural: support as you sink, probe before you blast, and treat the shaft pillar as the mine's spine.

Tailings as Permanent Infrastructure

Many Zimbabwean operations lack formal geotechnical design, relying on upstream raises with poor drainage. The solution requires stability analysis, shear strength, pore pressure, and seismic risk assessments, before raising a wall, not after cracks appear.
"A tailings dam is permanent. Build it like your grandchildren will farm next to it."

Digitisation: Making Geology Visible

Sensors, scanners, and IoT-enabled pumps feed real-time data on ground movement, gas levels, airflow, and production.
Geotechnical applications include scanning a heading after each blast to detect deformation before bolts fail and monitoring pore pressure in tailings dams to identify rainfall-driven failure risks.

The gap is that many mines still operate on paper-based systems.

"Fall-of-ground incidents and dam failures do not strike without warning. Digitisation does not remove geology, but it makes it visible. And what you can see, you can control."

Deep-Level Economics: Yield Pillars, Not Rigid Pillars

At depth, rock stress forces larger pillars, leaving 40–50% of ore in the ground.
Yielding and crush pillars, engineered to fail slowly without violent bursts, improve extraction while managing risk.

Heat is the real cost driver. Virgin rock temperatures above 60°C make cooling account for 15–25% of operating expenditure.
The intelligence play is to plan refrigeration like a primary orebody.

"Deep-level mining pays only when grades are high, pillars are engineered to yield rather than burst violently, and heat is managed predictably. Otherwise, depth eats profit faster than you can mine it."

Wayne Mudamburi is a Mining and Rock Mechanics Engineer. or +263 788 696 588. waynemudamburi023@gmail.com

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Zimbabwe Orders Mines to Appoint 98% Local Management

In a bold and unapologetic crackdown on foreign dominance in the mining sector, the Zimbabwean government has issued a firm directive that 98 percent of all senior and middle management positions at mines, including the fast-growing lithium subsector, must be held by Zimbabwean citizens with immediate effect, Mining Zimbabwe can report.

Dr Polite Kambamura

Minister of Mines and Mining Development, Dr Polite Kambamura, delivered the ultimatum, warning that foreign-owned mining companies, particularly Chinese lithium operators notorious for running all-expatriate management structures, must comply or face the consequences.

By Rudairo Mapuranga

"To ensure compliance with the Mines and Minerals Act [Chapter 21:05] and the Mining Management and Safety Regulations of 1990 (Statutory Instrument 109 of 1990), senior and middle management staff of gold mines and all other mines must be constituted of 98% Zimbabweans," said Dr Kambamura. "We expect immediate compliance with this call."

While the directive applies to all mining operations, the government's toughest message is aimed squarely at Chinese-owned mines, which have been accused of sidelining Zimbabwean professionals and filling every key decision-making role, from mine managers, chief engineers, safety officers and financial controllers, with Chinese nationals.

Industry observers say some Chinese mines operate with almost no Zimbabweans in senior positions, reducing local staff to manual labourers and low-level supervisors. This practice, the government argues, violates both the spirit and the letter of Zimbabwe's mining laws.

"The days of seeing a foreigner as a general manager, another foreigner as the chief safety officer, another as the HR director, and Zimbabweans only carrying picks and shovels are over," a senior ministry official told our newsroom on condition of anonymity. "Lithium is ours. The jobs must go to our people."

Immediate Compliance Required

Mining houses have been given no grace period. The minister said all mines must restructure their management teams with immediate effect. Companies found in breach risk fines, suspension of operating licences or even revocation of mining claims.

The directive is backed by the Mines and Minerals Act and the 1990 Safety Regulations, which give the state sweeping powers to regulate mine management composition.

The government also confirmed that foreign-owned gold mining assets held idle for speculation will be repossessed, and all small-scale foreign mining operators must transition to large-scale status by 1 January 2027, or exit the sector altogether.

Speaking at a separate miners' graduation event in Chegutu, Dr Kambamura did not mince his words. He accused some foreign investors of treating Zimbabwe as a "resource colony" where locals are denied decision-making power.

"You cannot come and mine our lithium, our gold, our diamonds, and then bring your own drivers, your own secretaries, your own mine captains and your own accountants from your country," he said. "That is not investment. That is exploitation. Our people are qualified. Our people are competent. And now, the law will protect them."

The Zimbabwe Miners Federation (ZMF) has applauded the move, saying it will end the systemic exclusion of Zimbabwean professionals in their own country's mining sector.

What This Means for Foreign Investors

The government has made it clear that it remains open to responsible foreign direct investment, but on new terms. Foreign capital and technology are welcome, but management must be local. Expatriates may only occupy a maximum of 2 percent of senior and middle management roles, and only where proven local skills gaps exist.

For Chinese lithium giants like Zhejiang Huayou Cobalt, Sinomine and others operating in Kamativi, Bikita and Goromonzi, the directive forces an immediate overhaul of their staffing policies.

"Compliance is not optional," the minister stressed. "We will be going on the ground to check. No foreigner will run a mine in this country while Zimbabweans watch from the gate."

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AMMZ President Maps Zimbabwe Mining's Next Decade

Zimbabwe's mining sector stands at a pivotal crossroads. Accounting for approximately 14% of GDP, 75% of export earnings, and 20% of government revenues in 2026, according to the World Bank Group, the industry is the undisputed backbone of the national economy. Yet as investment flows in and operations push deeper underground, a suite of pressing challenges from safety and ventilation to digitalisation and ESG compliance demand urgent and sophisticated responses.

Eng Gift Mapakame

Zimbabwe continues to record fatal mining accidents across both large-scale and small-scale operations. In your view, what are the biggest mine safety challenges currently facing the industry?

The statistics are both sobering and galvanising. In 2025, Zimbabwe recorded 237 fatalities across its mining operations, one of the worst years in the country's recent mining history and a dramatic increase from the 139 fatalities recorded in 2022. In just the first two months of 2024 alone, there were 33 fatalities from 37 incidents, with 15 of those deaths attributed to fall-of-ground, the single most highly rated fatal risk in our underground operations. These numbers are not acceptable, and they demand an honest, structured response from every stakeholder in the industry.

The first and most acute challenge is the sheer size and informality of our artisanal and small-scale mining (ASM) sector. The Chief Government Mining Engineer has publicly stated that most of the 2025 deaths occurred in unregistered, illegal operations. ASM employs over 500,000 people directly, and an estimated three million indirectly, yet a significant portion of those operators are outside the regulatory framework entirely. They work in shallow, structurally compromised ground, they depillar abandoned stopes without geotechnical assessment, and they have neither the training nor the equipment to respond to emergencies. Our Mine Safety Regulations were designed primarily for formal, large-scale operations, we need a fit-for-purpose regulatory tier that addresses the ASM reality.

For formal operations, the persistent challenges are fall-of-ground, shaft incidents, and gassing. These are not new hazards they have always existed in underground mining, but what is new is the increasing depth and complexity of our workings, combined in some cases with deferred maintenance on ageing infrastructure. We are also seeing a skills & intellect gap as experienced miners retire, and the transfer of critical safety knowledge becomes inconsistent.

The Mines and Minerals Act is overdue for reform, and the industry has been urging Parliament to modernise the legislation to bring it into alignment with contemporary global standards. Until that happens, we are enforcing safety through Mine Safety Regulations that, while they set minimum standards, such as the requirement for a competent person to inspect each tailings storage facility every three days, do not fully reflect the risk profile of today's operations. AMMZ is committed to working alongside government and the Ministry of Mines to close these regulatory gaps, but the sector itself must also demonstrate leadership by investing proactively in safety management systems rather than waiting for compulsion.

For formal operations, the persistent challenges are **fall-of-ground, shaft incidents, and gassing.** These are not new hazards they have always existed in under-ground mining, but **what is new is the increasing depth and complexity of our workings**

As mining operations go deeper, ventilation becomes increasingly critical. How would you assess the state of underground ventilation systems in Zimbabwean mines today?

Ventilation is a life-support system for an underground mine. A properly designed ventilation network delivers fresh air to the working face, dilutes and removes blast fumes, controls dust, and manages heat load. As Zimbabwe's mines go deeper, the thermal gradient increases, the pressure requirements on the ventilation system rise, and the engineering complexity multiplies.

The honest assessment is that the ventilation status of Zimbabwean mines is uneven. Our large, mechanised operations, Zimplats, Unki, Mimosa, and Blanket Mine have invested in primary and secondary ventilation infrastructure commensurate with their depth and scale. These operations conduct regular air quality monitoring, maintain auxiliary fans at working headings, and in some cases are beginning to implement real-time environmental monitoring at the face. That represents good practice.

However, a significant number of medium and smaller operations are running ventilation systems that were designed for shallower depths and have not been re-engineered as mines have extended. We see auxiliary fans that are poorly positioned, stoppings and regulators that are in disrepair, and, critically in the artisanal sector, operations that have no engineered ventilation at all. This is why gassing accounted for 3 of our 33 fatalities in the first two months of 2024. Carbon monoxide from blasting and naturally occurring gases at depth are silent killers, and without adequate dilution airflow and atmospheric monitoring, workers are exposed to lethal concentrations with little warning.

What the industry needs is a mandatory ventilation survey requirement, tied to a mine's depth, extent of mechanisation, production rate and enforced through the inspectorate. We also need to increase the number of competent ventilation practitioners in the sector. The universities and the Zimbabwe School of Mines need to ensure that ventilation engineering is given prominence in their mining programmes. The capital cost of a well-designed ventilation system is recoverable many times over through improved productivity and, most importantly, through the prevention of a single gassing fatality.

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Eng Mapakame presenting at Chamber of Mines Annual Conference in 2025

Zimbabwe is seeing renewed investment in underground mining. How important will shaft sinking be in unlocking future production growth and extending mine life?

Shaft sinking is the gateway to orebody depth, and in Zimbabwe's geological context where the most significant mineralisation often lies hundreds of metres below surface, the ability to sink and equip shafts to appropriate depth is literally the difference between accessing reserves and leaving them in the ground. The renewed investment we are seeing in the sector is encouraging, and shaft development is central to that story.

Consider the platinum sector: Zimplats is advancing development on its Phase 4 expansion, and Tharisa has committed $131.3 million toward Phase 1 of the Karo Platinum project, with total Phase 1 capital projected at $391 million. These are transformative investments that require sophisticated shaft infrastructure, decline development, and underground materials handling systems. Similarly, gold operations like Freda Rebecca and Dalny Mine are pursuing underground extensions to maintain and grow their reserve base.

Shaft sinking in Zimbabwe presents specific challenges. Our rock mechanics environment varies significantly from the hard, competent rocks of the Great Dyke where ground support is relatively predictable, to the more variable, often faulted ground of the greenstone belt gold operations where geotechnical surprises are more frequent. Water ingress is also a factor in some operations, requiring robust shaft dewatering systems from the design stage.

What is encouraging is that shaft sinking capability is being built locally. We have Zimbabwean mining engineers, shaft sinkers, and construction teams who are developing world-class competency in this discipline. AMMZ strongly advocates for local content requirements in major capital projects to ensure that this expertise is retained and built upon. A shaft sunk today is a reserve accessed for thirty years, the long-term return on investment is enormous, provided the planning, geotechnical characterisation, and execution are done properly.

Tailings management has become a major global ESG issue. Are Zimbabwean mines investing enough in modern tailings engineering and monitoring systems?

Tailings storage facility management has become one of the most scrutinised areas of mining practice globally, and for very good reason. The 2019 Brumadinho disaster in Brazil, where a tailings dam failure killed more than 200 people and released 11.7 million cubic metres of toxic slurry, was a watershed moment for the industry. Then in February 2025, just next door in Zambia, we saw the Sino-Metals Leach tailings collapse on the Kafue River, releasing approximately 50 million litres of acidic, heavy-metal-laden waste and disrupting water supplies for Kitwe's population. These are not distant tragedies, they are case studies that every mine manager in Zimbabwe must study and apply.

in **Zimbabwe's geological context** where the **most significant mineralisation often lies hundreds of metres below surface**, the ability to sink and equip shafts to appropriate depth is literally the difference between **accessing reserves and leaving them in the ground.**

Zimbabwe has regulatory requirements in place. Section 25 of the Mine Safety Regulations requires that every tailings storage facility be constructed under the supervision of a competent person, that a competent person inspect it every three days, and that any foreseeable risk of breach or collapse be reported immediately to the mine manager. These are baseline standards, but they are not sufficient on their own.

The global standard is now the Global Industry Standard on Tailings Management, developed jointly by ICMM, UNEP, and the Principles for Responsible Investment following the post-Brumadinho review. That standard demands a far more rigorous approach: independent tailings review boards, consequence classification of facilities, real-time piezometric and deformation monitoring, and annual Engineer of Record reviews. Some of our major, internationally listed operations, those subject to pressure from institutional investors and international lenders, are moving toward this standard. But the majority of smaller operations are not, and that represents a material risk.

The investment case for modern tailings management is straightforward. The cost of instrumentation, vibrating wire piezometers, settlement monitoring, and automated data telemetry is modest relative to the cost of a catastrophic failure, which includes remediation, legal liability, reputational damage, and, in the worst case, loss of the operation entirely. AMMZ advocates strongly for the adoption of the Global Standard by all Zimbabwean operations, and we believe that the updated Mines and Minerals Act, when it is finally enacted, should mandate this. ESG compliance is no longer optional for any mining business seeking social licence to operate, international finance or market access.

Geotechnical instability remains a major operational risk in both underground and open-pit mining. What are the key geotechnical risks mine managers should prioritise today?

Fall-of-ground is, year after year, our leading cause of underground fatalities in Zimbabwe and in the first two months of 2024, it accounted for 15 out of 33 deaths. This tells us that despite decades of

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Engineer Mapakame with members of the Association of Mine Managers of Zimbabwe (AMMZ) at a recent technical visit at Bikita Minerals

awareness, geotechnical risk management in our mines is still not where it needs to be. That should be deeply troubling to every mine manager in this country.

In underground operations, the primary geotechnical risks are stope hangingwall stability, pillar failure, and development tunnel support adequacy. As mines go deeper, the in-situ stress environment changes, rock mass behaviour becomes more complex, and the consequences of a support failure are more severe. The use of empirical design methods Q-system, RMR, and stability charts is well established, but these tools must be applied by competent geotechnical engineers who understand site-specific conditions, not simply applied as templates. Every major underground operation should have a dedicated geotechnical engineer as part of its technical team, with a formal ground control management plan reviewed and updated regularly.

For open-pit operations, the critical risks are pit slope stability and highwall management. Zimbabwe's open-pit operations, ranging from large diamond and platinum open pits to smaller gold pits, face challenges from jointing, faulting, weathering, and groundwater. A slope failure in an open pit can displace ore, destroy infrastructure, and harm employees. The use of slope stability radar and prism monitoring for early warning is now standard practice at world-class open-pit operations and should be considered essential here.

In the ASM sector, geotechnical risk is the dominant killer. Artisanal miners routinely work in structurally compromised ground, recovering pillars from old workings without any assessment of residual stability. The 2023 Battlefields disaster and similar collapses across Midlands and Mashonaland East are direct consequences of uncontrolled depillaring in historically mined ground. AMMZ believes that geotechnical training must be embedded in any formalisation programme for ASM operators, it is literally life-saving knowledge.

The global mining industry is rapidly digitising. How prepared is Zimbabwe's mining sector for technologies such as automation, real-time monitoring, and AI-driven mining systems?

The global mining industry is in the early stages of a technological revolution, and Zimbabwe cannot afford to be a passive observer. Digitalisation, covering everything from real-time equipment monitoring and fleet management systems to automated drilling, AI-driven grade prediction, and remote operations centres, is transforming productivity, safety, and environmental performance at leading operations worldwide.

Zimbabwe's preparedness is, again, a story of two extremes. Our larger, internationally backed operations are at the forefront of technology adoption in the African context. Zimplats and Unki operate sophisticated fleet management and dispatch systems, real-time atmospheric monitoring is being implemented at the face and both operations are exploring the use of data analytics to optimise mine planning and predict equipment failures before they occur, and predictive maintenance that reduces both downtime and safety incidents caused by equipment malfunction.

However, there are structural barriers to technology adoption that must be acknowledged. Power supply remains inconsistent, and digital systems require reliable, stable electricity. Connectivity both the telecommunications infrastructure for real-time data transmission from underground to surface and the internet bandwidth for cloud-based analytics is insufficient in many mining districts. And critically, the human capital to operate, maintain, and interpret these systems is scarce. We are producing mining engineers at universities, but the curriculum must rapidly evolve to produce engineers who are as comfortable with data science and automation as they are with blasting and excavation.

AMMZ's position is that technology adoption is not optional, it is a competitive necessity. From July 2025, the Ministry of Mines mandated survey-grade GPS coordinates for all claim pegging, replacing the imprecise handheld devices that caused boundary disputes and title conflicts. That is a small but meaningful step toward a digital cadastre. We now need the same progressive thinking applied to operational technology across the sector.

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Productivity remains one of the sector's biggest challenges. What practical steps can mining companies take to improve productivity without compromising safety?

Productivity and safety are often presented as being in tension, but in our experience the highest-safety operations are almost invariably the most productive. When you have robust systems, disciplined planning, properly maintained equipment, and a motivated workforce that is not fatigued or working in fear, you get both safe and productive mining. The mines that cut corners on safety are often the same mines with poor blast performance, high equipment downtime, and low ore recovery.The practical levers for productivity improvement in Zimbabwe's context are well understood.

First, planning rigour: a mine that plans its development, stoping, and services on a rolling three-month, one-month, and weekly basis and measures actual performance against plan daily will consistently outperform a mine that plans month to month. This sounds basic, but the discipline of planning-to-performance tracking is still underdeveloped at many operations.

Second, equipment maintenance. In Zimbabwe, where access to spare parts is complicated by foreign currency constraints and import logistics, equipment downtime is a pervasive productivity killer. The response cannot simply be 'order more parts' operations need to build local maintenance capability, maintain strategic buffer stocks of critical consumables, and adopt predictive maintenance approaches to intervene before failure. Mutapa Gold Resources' gold operations, which contribute approximately 10% of national gold deliveries to the Fidelity Gold Refinery, have demonstrated that disciplined maintenance scheduling in a resource-constrained environment is achievable.

Third, workforce development. A mining operation is ultimately a human enterprise. Training programmes that develop multi-skilled operators who can safely operate a drill rig, conduct basic equipment inspection, and understand the ground behaviour around them reduce dependence on narrow specialisation and improve flexibility. Safety training and technical training should be integrated, not siloed.

Fourth, energy management. Power costs and supply disruptions are significant productivity and cost challenges across the sector. Mining companies that have invested in solar and alternative energy solutions, and several Zimbabwean operations have done so, are achieving meaningful reductions in energy cost and dramatic improvements in operational continuity. This is a capital investment that pays back in both productivity and sustainability terms.

Looking ahead, what will define a modern, competitive, and sustainable Zimbabwean mine over the next decade?

The Zimbabwe mining sector has the raw material ingredients for a genuinely transformational decade. We hold Africa's largest lithium reserves, with the Bikita and Kamativi regions attracting over $1 billion in predominantly Chinese investment. We have a world-class platinum group metals endowment along the Great Dyke. Our gold geology is diverse and, with modern exploration tools, still revealing new resources. The critical minerals story lithium, nickel, manganese positions Zimbabwe at the centre of the global energy transition supply chain.

But geology alone is not destiny. A modern, competitive, and sustainable Zimbabwean mine over the next decade will be defined by four pillars.

The first is safety as a non-negotiable foundation. A mine that kills its workers is not sustainable financially, legally, or morally. The industry must move from a compliance-driven safety culture to a values-driven one, where every mine manager, supervisor, and worker understands that zero harm is not a slogan but a daily operational commitment. This requires investment in training, systems, and leadership.

The second pillar is technology and data intelligence. The mine of the future in Zimbabwe will operate connected, digitally instrumented environments where ventilation, ground support, equipment condition, and environmental parameters are monitored in real time, where AI tools assist planners in optimising stope sequencing and grade control, and where remote monitoring reduces human exposure to high-risk areas. The government's Base Minerals Export Control Order of January 2023, which restricts the export of raw critical minerals like lithium and nickel, is creating an imperative for in-country value addition, and that processing sophistication requires digital operational maturity.

The third pillar is ESG credibility. Zimbabwe's mines are increasingly seeking capital from international lenders and equity markets. Those capital providers banks, private equity, institutional investors are applying rigorous ESG screening. A mine that cannot demonstrate responsible tailings management, transparent community engagement, and a credible environmental rehabilitation plan will find access to capital constrained. ESG is not a Western imposition it is a market reality, and operations that lead on ESG will access cheaper capital and attract better partnerships.

The fourth pillar is a modernised, enabling policy and regulatory environment. The new Mines and Minerals Act, when enacted, must provide legal certainty for long-term investment, a fiscal regime that is competitive without being predatory, and a regulatory framework that promotes both safety and growth. The special capital gains tax on transfer of mining titles, introduced in 2024, has created concern in the investment community the industry needs policy predictability above all else. AMMZ's role in this future is to be the convening body that brings together the technical, safety, and leadership expertise of Zimbabwe's mine managers to drive this agenda collectively. We facilitate knowledge-sharing through technical visits such as our recent engagement with Muriel Mine, where dump retreatment innovation quadrupled gold production and we engage government, academia, and industry on the standards and practices that will define world-class Zimbabwean mining. The talent exists in this country. The resources exist. What is required now is the collective will, the investment, and the disciplined execution to unlock them.

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