

# A REGIONAL VIEW OF AFRICA'S CRITICAL MINERAL OPPORTUNITIES

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MIASA President Sokwani W Chilembo on the path forward for mining in Africa

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Transforming the SADC mining sector through innovation, collaboration, and a commitment to Africa's sustainable future.

# MESSAGE FROM THE PRESIDENT OF MIASA

**SOKWANI W  
CHILEMBO**

*B.Eng(Mech)*

*President of the Mining Industry  
Association of Southern Africa &  
CEO at Zambia Chamber of Mines*



**A**t the turn of the century, Africa's economic state was fragile and, at best, looked to yield underwhelming growth, based mainly on agricultural transformation.

Twenty-five years later, Africa has a bright future as opportunities in the sunset of the hydrocarbon era manifest both on and offshore.

There is an opportunity to leverage this good fortune to propel Africa's economy to levels where it can take full advantage of its mineral endowment and ride the wave of the Northern hemisphere's green energy transformation.

South African success in the platinum group metals (PGM) space – to be among the global leaders in autocatalytic converter manufacture – provides a clear example of what the Africa Mining Vision aims to replicate across nations and regions.

The challenges are myriad on the path to getting there.

The first challenge is getting the world to understand the value of lifting Africans out of energy poverty in a way that includes creating intra-continental markets for green energy and mobility that are separate from those in the global North.

If energy poverty continues to pervade this continent which hosts the world's second-largest carbon sink the reality is that accelerated deforestation will drive even more extreme weather events worldwide. The fight for a just transition mechanism and price for phased and balanced carbon sequestration and mitigation must continue to realise mutually sustainable benefit.

The second and most difficult obstacle is attracting sufficient exploration and mining investment for Africa to realise its potential as a major supplier of minerals crucial for the green transformation.

The lack of homogeneity in market understanding, fiscal policies, legal frameworks and trade regimes across countries, regional blocks and the African Continental Free

Trade Area generates significant risk, deterring investment. This inconsistency presents the primary barrier to entry for potential investors.

Getting this right is crucial for widespread competitiveness. It's the key to crafting a promising future for Africa. This future depends on attracting substantial capital inflows and driving growth. These factors will fuel job creation and human development at significant levels. Such progress is essential to keep pace with and harness the explosion in Africa's youth demographic. Ultimately, it will brighten prospects through increased exports and expanding intra-continental trade.

The inaugural edition of the MIASA magazine represents Mining Industry Association of Southern Africa's contribution to the effort to inform the world of the need for progress on both these fronts.

There is an easily achievable opportunity to improve the mining sector in our region. This can be done by stabilising and harmonising policies on mining, investment and climate across SADC countries. To accomplish this, we should reinvigorate the SADC's founding treaty on mining and reconstitute its associated ministers' forum and supporting structures. Achieving this is a key immediate goal for MIASA.

With the maelstrom of bias, misinformation, and limited understanding that we all face daily in the digital social media era this magazine and other MIASA channels aim to be credible and balanced media for those interested in being at the forefront of this transformation. We urge thought leaders, technical and other innovators in the mining and extractive investment and commercial spaces on the continent not to be shy.

**Consider this your platform for getting the necessary viewpoints, messages of transformation and product information out to the world with traceable credibility.**

In closing, I must commend the magnificent work that Mr Vusi Mabena, supported by team members drawn from staff of the member chambers of mines have done. This has set the bar appropriately high for what we hope is to become a feature in the regional and continental extractives sector in the years and decades ahead.

# QUESTIONS & ANSWERS

WINDHOEK

Namibia Chamber of Mines President Zebra Kasete answers to questions from The Namibian newspaper



Question	Answer
<p><b>Q</b> How would you evaluate the overall performance of the mining industry over the past year?</p>	<p>The mining sector remains the bedrock of the Namibian economy. In 2023, the industry grew by 18.9%, increasing its overall contribution to GDP from 11.9% in 2022 to 14.4% in 2023. This strong growth was attributed to higher annual production in uranium, diamonds, and gold.</p> <p>The expanding industry also contributed to direct employment creation, which grew by 12.6%, from 16,147 jobs in 2022 to 18,189 in 2023. The sector's contribution to Government revenue increased significantly by 55.9%, from N\$4.401bn in 2022 to N\$6.861bn in 2023. This revenue consists of royalties, export levies, and corporate income taxes.</p> <p>The increase was primarily driven by higher corporate income taxes, which rose from N\$1.998bn in 2022 to N\$3.967bn in 2023, reflecting the higher profits recorded by some mining companies. Notably, this was due to the exceptional financial performance of B2Gold Namibia in 2023.</p> <p>Looking at 2024, we see a positive growth trajectory continuing for the mining sector. According to the Namibia Statistics Agency, mining achieved a growth rate of 6.6% in the first quarter of 2024, driven by an increase in diamond and gold production.</p>
<p><b>Q</b> What have been the major achievements and milestones for the mining sector recently?</p>	<p>Safety is our number one concern, and we're proud to announce that there were zero fatalities in the entire industry sector in 2023. For a third consecutive year, Chamber members recorded a flawless safety record. The single fatalities recorded in 2021 and 2022 were linked to non-Chamber member operations.</p> <p>This zero-fatality record was a result of the combined efforts of the Chamber's Health &amp; Safety Committee and the Chief Inspector of Mines, who helped improve safety standards at the non-member operations.</p> <p>One of the major highlights in the sector is the phenomenal growth achieved since COVID-19. Mining has been driving the positive growth of the Namibian economy, posting growth rates of 8.7%, 24%, and 18.9% in 2021, 2022, and 2023, respectively.</p> <p>Other recent achievements include substantial investments by existing mines, such as the construction of Debmarine Namibia's state-of-the-art N\$7bn</p>



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Benguela Gem vessel, commissioned in 2022. We've also seen the restart of the Langer Heinrich mine and significant capital expenditure by B2Gold, Navachab, Rössing and Husab to optimise and prolong their mining operations. Moreover, two prominent uranium projects were awarded mining licenses at the end of 2023, and we're soon to witness the development of Namibia's third gold mine.



## How have global market trends and commodity prices impacted the performance of the mining industry?

Despite annual increases in diamond production, declining prices are negatively impacting the industry. In 2022, the diamond sub-sector grew by 45.1%, compared to a lower growth rate of 10.9% in 2023. We've seen an annual and quarterly increase in diamond production in the first quarter of 2024. However, diamond sales (exports) dropped by 53.3% in the first quarter of 2023 due to lower prices. As a result of declining sales, we can expect lower levels of production.

The price of natural diamonds faces mounting pressure from lab-grown diamonds, which can be produced at a third of the cost of natural diamonds. Diamond prices are also negatively impacted by reduced consumer spending and lower demand in key global markets.

While our diamond operations may be facing depressed prices, the industry is particularly optimistic about other commodities we mine. Earlier this year, the uranium price breached the \$100/lb mark for the first time since the Fukushima incident and has stabilised at around US\$85/lb. This is extremely positive for our current uranium mines, Rössing and Husab, and the Langer Heinrich mine, which has been brought back into production this year.

Moreover, the timing of the improved uranium market optimally positions Bannerman and Deep Yellow to progress financing activities for their respective projects. Both companies have raised capital for early works construction and are currently lining up potential investors.

The uranium price is being driven by improving market dynamics, in which an increasing number of countries have recognised nuclear as a sustainable, clean and safe baseload source of power. Additionally, due to prolonged periods of low investment into uranium projects and suspension of major uranium mines during the depressed price period, the excess supply has gradually been removed from the market. Given the positive uranium market dynamics, the restricted supply is contributing to an increasing price amid the growing demand.

The prices of other primary commodities mined in Namibia have also performed extremely well this year. The average price of gold for 2023 (up until June) has increased by 13%. As a safe-haven asset, the gold price continues to be buoyed by macroeconomic uncertainties and the ongoing wars in Ukraine and the Gaza Strip.

The prices of most base and critical metals have also fared well this year, with the average prices of copper and tin increasing by 7% and 13%, respectively, while lead and zinc have remained relatively flat.

The positive commodity prices are also supported by a weak exchange rate, meaning that there is more revenue flowing to Namibian mining operations, thereby circulating in the local economy in Namibian dollar terms.



AN OPEN-CAST BUCKET CHAIN EXCAVATOR IN A MINING FIELD (FREEPIK)

**Q** What challenges has the mining industry faced this year, and how have they been addressed?

The drought has caused water supply shortages, particularly affecting mines in central areas and at the coast. The Chamber and affected mining operations are engaging with NamWater and the Ministry of Water, Agriculture and Environment to address these immediate shortages. The Chamber and the industry are looking forward to the construction of a second desalination plant, which was recently announced by the Minister.

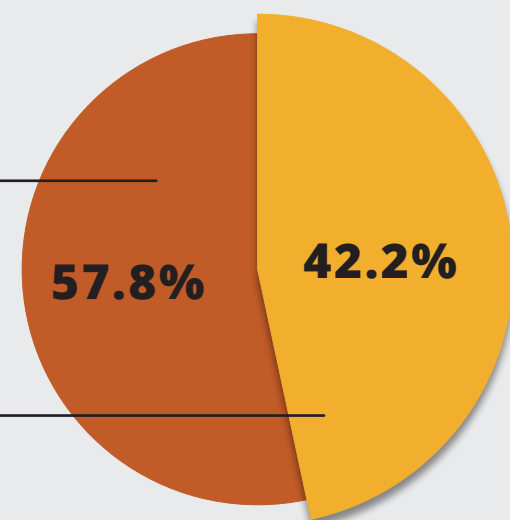
Inflationary pressures driven by geopolitical tensions and sanctions resulting from conflicts in Ukraine and Gaza, as well as exchange rate fluctuations and volatility in mineral commodity markets, have posed challenges for the industry.

The finalisation of the draft Minerals Bill and the Ministry’s proposal to introduce government free shareholding in Namibian mines are major concerns. The Chamber is actively engaging with the Ministry of Mines and Energy (MME) to advocate for the finalisation of the Minerals Bill. Technical discussions are also under way between the Ministry of Finance, the Ministry of Mines and the Chamber to mitigate risks associated with the government free-carry policy proposal.

**GOVERNMENT REVENUE FROM NAMIBIAN MINING SECTOR 2023**

**Corporate income taxes:**  
N\$3.967 billion

**Royalties and export levies:**  
N\$2.894 billion



**Total contribution N\$6.861 billion**

**Q** How is the industry addressing environmental and sustainability concerns?

Namibia’s regulatory framework relating to how environmental impact is managed and mitigated is crafted to ensure that most environmental concerns and issues around sustainability are actively addressed by mining operations.

For example, in order for mining or exploration licences to be issued, the project proponent first needs to receive an Environmental Clearance Certificate that is issued by the Environmental Commissioner. The application for an Environmental Clearance Certificate must be accompanied by a fully-fledged, independently produced Environmental Impact Assessment (EIA) that outlines stakeholder concerns, monitoring activities, the degree of environmental impact of the proposed activity or commercial operations, and how this will be managed. The Environmental Commissioner then issues the Environmental Clearance Certificate or they decline the application, based on a thorough assessment of the EIA.

One area that is lacking in terms of our regulatory framework is that there is currently no legislation in place to govern mine closure.

In 2010, the Chamber crafted its own Mine Closure Framework to guide its members on how to plan for mine closure, which has been adopted as a guiding framework since. In addition, the mining industry took this a step further by producing its very own Best Practices Guide. The Guide was developed by the Chamber of Mines in collaboration with the Namibian Chamber of Environment, MME and key industry players, and details how to manage each phase of the

mining lifecycle, how to approach mine closure planning, among various other elements of best practice in the Namibian mining context.

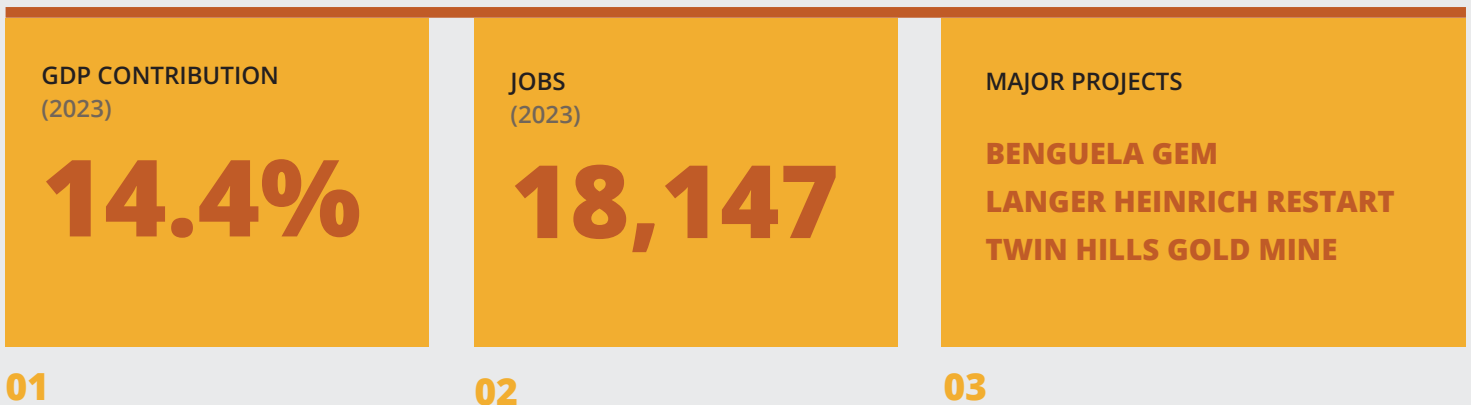
MME has also revised the Chamber's mine closure framework as a national document. The intention is for this Mine Closure Framework to be legislated under the new Minerals Bill as a set of regulations.

Namibia's mining sector also has an important role to play in the supply of critical minerals as well as in green energy such as green hydrogen, to support the world's growing energy transition objectives. This has been illustrated in the signing of a memorandum of understanding (MOU) between Namibia and the EU titled [Partnership on Sustainable Raw Materials Value Chains and Renewable Hydrogen](#) on 8 November 2022.

The Chamber has been instrumental in the implementation of this MOU by facilitating connections between various local licence holders and potential EU investors. The emphasis is particularly in the area of processing technology, and research and development to support the extraction of these minerals to a value-added form.

In the area of green hydrogen, the Chamber is represented and actively engaged on various working groups to identify linkages between the production of this green energy and the mining sector. One such example is the use of green hydrogen to replace diesel in haul trucks and heavy equipment machinery, which would help mining operations to minimise their carbon footprints.

## NAMIBIA'S MINING AT A GLANCE



**Q** What initiatives are in place to improve the safety and health of workers in the mining sector?

The Chamber of Mines has its own Health & Safety Committee which has been operational for well over 10 years. This committee consists of the health and safety managers and practitioners from mining operations, who have been instrumental in ensuring that the industry adopts best practices and creates a safe working culture and environment for mine employees.

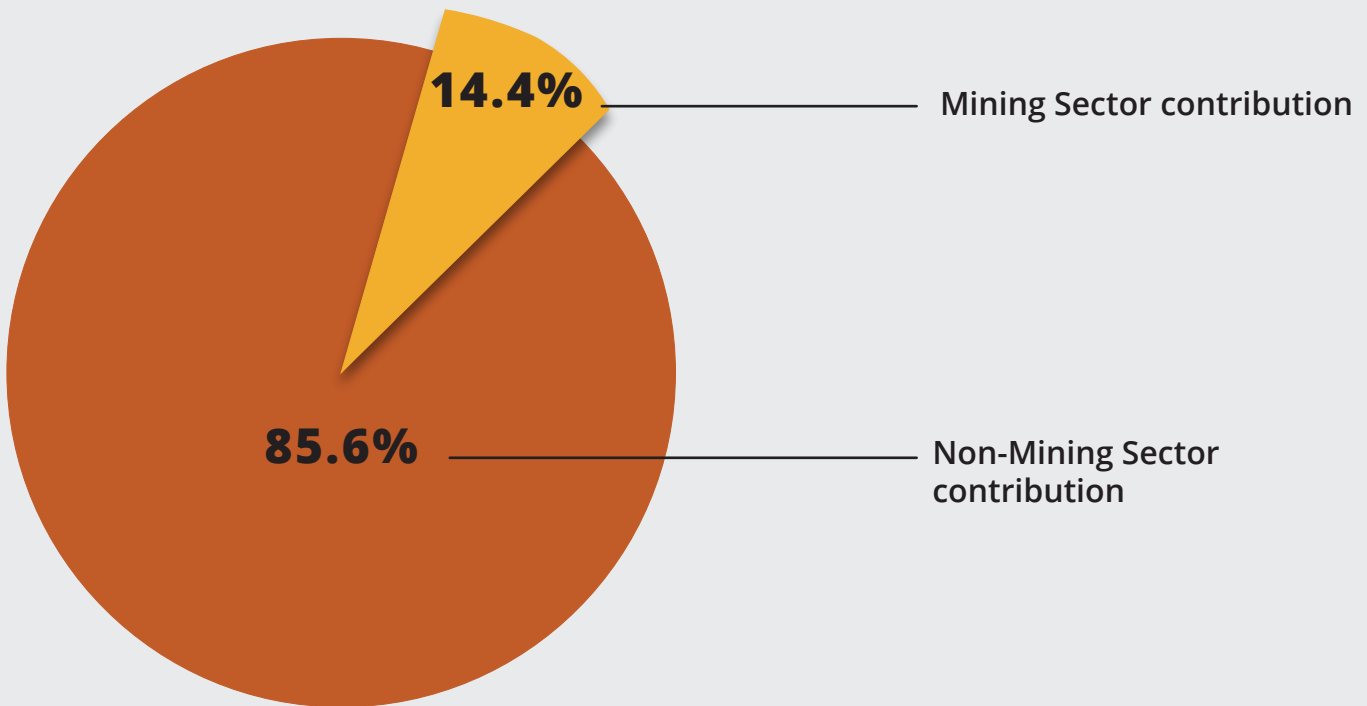
The committee's effectiveness lies in its peer review mechanism, in which it shares with other Chamber members the details of any safety incidents when they occur, as well as key findings. This allows peer operations to address any shortcomings and adopt learnings to circumvent similar incidents from occurring.

The committee also captures the detailed annual safety statistics of Chamber members and the number of fatalities registered by the entire industry. This is to improve the accountability and transparency of the sector in terms of its overall safety performance, and additionally informs the sector where there may be safety shortcomings and what collective action is needed from mining operations to address these.

Lastly, the safety committee is currently undertaking a Health and Safety Regulations review, in collaboration with the Chief Inspector of Mines from the Ministry of Mines and Energy. The purpose of this review is to replace the

outdated Health & Safety Ordinance No. 20 of 1968. Upon finalisation of this process, the Health & Safety Regulations will be legislated under the new Minerals Bill.

## NAMIBIA'S GDP COMPOSITION 2023



CHAMBER OF MINES OF NAMIBIA (2024)



### How is the Chamber of Mines supporting local content and procurement within the industry?

The mining industry makes significant contributions to local procurement, actively engaging and supporting businesses operating in the mining supply chain. Chamber members typically allocate 60-70% of their total procurement expenditure to local suppliers. Additionally, local procurement accounts for 40-50% of the total revenue generated by the industry, representing a substantial portion of the funds circulating in the Namibian economy. This contributes significant revenue to the government – through royalties, corporate income taxes, export levies, dividends, and wages.

However, the industry recognises that there is room for improvement.

The Chamber believes there are further opportunities for Namibians to participate in the mining supply chain and it has spearheaded the creation of a database cataloguing all goods and services consumed in the mining sector. The initiative aims to provide local entrepreneurs with the information to identify business opportunities in the supply chain. Currently undergoing refinement, the database is expected to be launched later this year.

The Chamber's role in supporting local content is diverse, but the main focus has been advocating for the implementation and regulation of the Mining Charter. We were one of the first industries to compile such an industry charter, specifically crafted to achieve local content objectives.

The Mining Charter includes the pillars of Local Ownership, Human Resources & Skills Development, Procurement & Enterprise Development and Communities & Infrastructure.

Unfortunately, this Mining Charter, which is intended to be implemented under Namibia's Empowerment Bill (NEEEF/B), has not been progressed in recent years. We are still waiting for the long outstanding pronouncements on NEEEF/B with regards to when the government intends to implement this legislation.

**Q** What are the industry's projections for growth and development in the coming years?

Given the positive outlook for most mineral commodities, the Chamber is optimistic about the growth potential of the industry.

**Uranium:**

The outlook for Namibia's uranium sub-sector is promising. In the short-term, this is being driven by the restart of the Langer Heinrich operations, which recently made its first shipment of uranium oxide. We are also looking forward to the development of Bannerman's Etango-8 project and Reptile Uranium's Tumas project once capital and financing has been finalised.

As the uranium market improves, we expect our current uranium mines, Rössing and Husab, to increase production. Once the new mines have reached nameplate capacity, in addition to current production from existing operations, we expect the contribution of uranium to GDP to increase from its average of 2% to 4-6%, thereby raising its importance and relevance to the Namibian economy. Not to mention other prominent uranium exploration projects such as Valencia's Norasa, and Orano's Trekkopje mine, which is currently assessing restart options.

**Gold:**

We are looking forward to the development of Namibia's third gold mine, the Twin Hills mine, once the transaction between the current owners, Osino Resources, and the prospective buyers, Yintai Gold, has been finalised. When the new mine reaches nameplate capacity, combined with the current levels of production from our existing gold mines, we expect Namibia to reach an annual output of 10,000 tonnes of gold bullion.

This would elevate Namibia as a significant producer and supplier of gold in the global market. In addition, there are other exploration projects worth mentioning, such as the WIA gold project.

**Critical Minerals:**

Namibia's critical mineral potential holds opportunity for growth in the mining sector. Namibia has known resources of lithium, tantalum, copper, cobalt, tin, rare earths and graphite. Particularly noteworthy are the various ongoing lithium projects.



MINING DEVELOPMENT QUARRY IN NAMIBIA (ADOBE)



Andrada mining has made significant progress at its Uis Tin mine operation to produce lithium and tantalum as a byproduct in addition to its current tin production. Last year, Andrada commissioned a bulk test sampling facility to determine the optimal processes of lithium extraction. Given that Namibia has lower grades of lithium, the processing of this mineral is very costly and is the main challenge at present for lithium projects to become commercially viable. However, we remain optimistic given the extensive ongoing research and development on these projects.

With regards to copper, there are promising restarts and exploration projects which we expect to form part of current and future growth. Notably, this includes the recent restart of the old Kombat mine operations by Trigon Metals and the resumption of the Tschudi mine operations by Consolidated Copper Corporation.

Northern Graphite is currently assessing restart operations of the Okanjande graphite mine. They have made progress with the completion of the Pre-economic Feasibility Assessment, which includes advancements in the new plant design, intended to be constructed on the mining site. Previously, the ore housing the graphite was transported to the Okorusu plant for processing, which was not sustainable in the long run.

### Rare Earths:

Namibia has significant deposits of rare earths. However, the metallurgical complexities of these deposits pose processing and extraction challenges to produce the rare earth elements. Despite the challenges, there is extensive collaboration between rare earth players to invest in research and development on the relevant processing and extraction technologies, with the goal of establishing a midstream processing facility.

## Q How is the Chamber of Mines collaborating with the government and other stakeholders to enhance the industry's performance?

This is an ongoing process of the Chamber of Mines, and an integral part of our daily activities.

As an advocacy body for the mining industry, one of our key mandates is to engage with the government and other stakeholders to ensure that they are well informed on Namibia's mining sector and its importance to the Namibian economy. This enables decision and policy makers to craft informed policies and regulatory frameworks for the sector. Some examples include our recent engagements on the Minerals Bill, Health & Safety Regulations, Mining Charter, Mine Closure Framework, the proposed Government Free-Carry and various tax matters.

Given the very important role of Parliamentarians in the national law making process, the Chamber recently started engaging with the Parliamentary Standing Committee on Natural Resources to apprise them of important developments in the mining sector, the Chamber's contribution to the Namibian economy and on key policy and legislative matters affecting the industry that are currently under deliberation or have been proposed. This will assist members of Parliament – particularly members of the committee – to meaningfully influence the government decisions and national debates by contributing informed positions on matters affecting the industry.

The advocacy role of the Chamber and its constructive relationship with the Namibian government have been vital to ensure positive outcomes for the sector.

# WHAT THE NUMBERS REALLY SAY ABOUT MINING IN SOUTH AFRICA

**HUGO PIENAAR**

*Chief Economist*

*Minerals Council  
South Africa*



As we move to the nitty-gritty policy deliberation phase of the Government of National Unity (GNU), it is an opportune time to displace perceptions about mining in South Africa being a sunset industry, with important data-driven caveats. The frequently cited narrative is that mining production has been in decline, the sector's GDP contribution has shrunk, and the industry has shed jobs over several decades.

## Production & Employment

On production, both the recent performance and the long-term trend for total mining output support the story of an industry in decline. Between 1994 and 2023, measured in inflation adjusted (real) terms, mining production declined by an average of 0.4% per annum. However, this poor outcome is overwhelmingly the result of a deep, structural decline in the gold mining industry. Since 1994, gold production has shrunk by an average of 5.8% per year. Put differently, South Africa went from producing 580 tonnes of gold in 1994 to less than 97 tonnes in 2023.

But a more nuanced view of the domestic mining industry should strip the collapse in gold output from the overall mining production number. Indeed Statistics South Africa

releases the total mining production figure with – and without – gold.

Once gold is removed from the overall figure, we find that non-gold mining production in fact expanded by an annual average of 1.3% since 1994. This reveals a much better mining sector performance, although it is still only half the 2.6% average growth in non-mining GDP (at basic prices) since 1994.

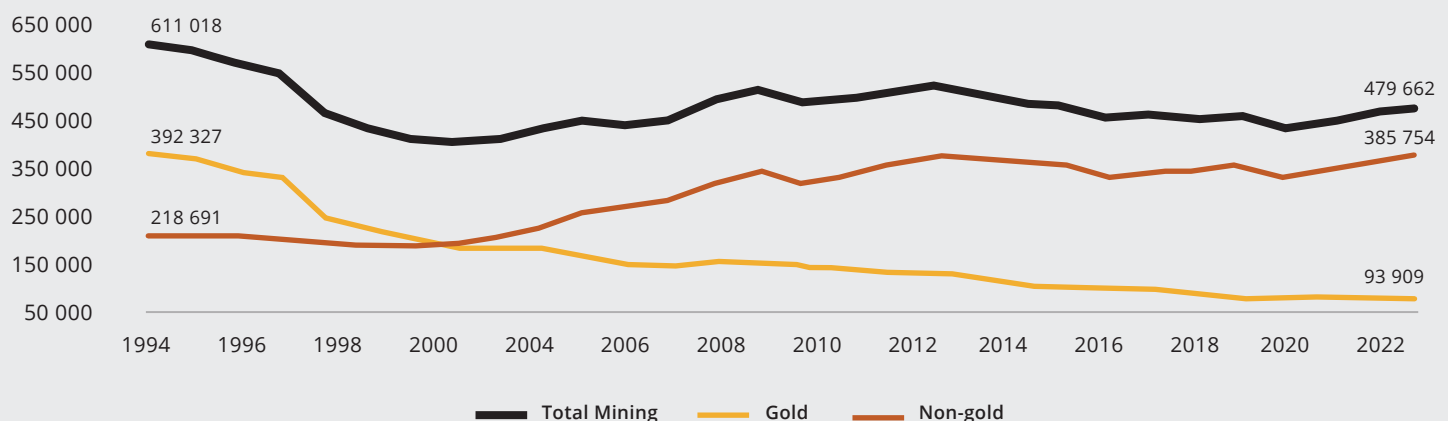
Delving further into the data, it is instructive to look at the growth in non-gold mining output before and after the global financial crisis (GFC) in 2008. After posting decent output growth that averaged 2.8% between 1994 and 2007, non-gold mining output growth slumped meaningfully to zero in the 2008–2023 period.

This compares to non-mining GDP growth of 1.4% over the same period.

The global and domestic crises of the last 15 years have had an outsized impact on mining, which explains the underperformance. These include but are not limited to the following:

- The GFC-induced decline in global GDP during 2009
- The Marikana massacre in August 2012
- The prolonged strike in the platinum group metals (PGM) sector during 2014
- Multiple years of load-shedding/curtailment, culminating in record power outages during 2022 and 2023
- Transnet's operational problems, which continue to curtail bulk commodity exports, (especially coal and iron ore)

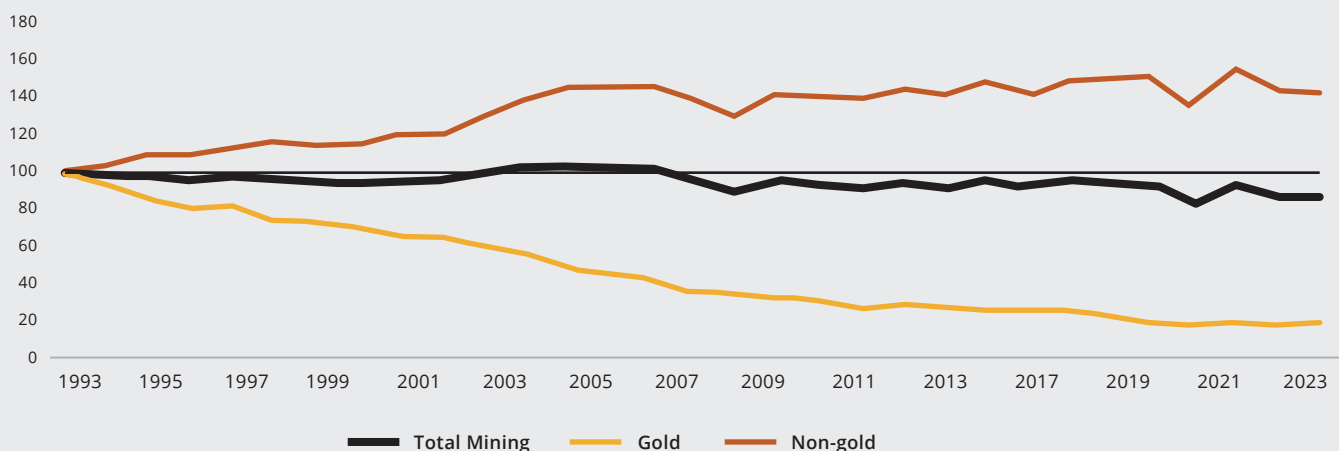
## EMPLOYMENT IN MINING SINCE 1994



SOURCE: DEPARTMENT OF MINERAL RESOURCES & ENERGY (DMRE)

Despite these significant headwinds, some mining sub-sectors achieved stellar growth since 2008, even outpacing the performance in the non-mining sectors. Chrome has been the star performer, with output increasing by an annual average of 6.4% since 2008. On average, production of manganese increased by 3.9% per annum during the same period.

#### MINING PRODUCTION TRENDS SINCE 1994



SOURCE: STATS SA, MINERALS COUNCIL

Employment in the mining sector mirrors the production trends. Overall industry employment declined from 611,000 in 1994 to around 480,000 during 2023. Once again, the impact of the gold sector is particularly stark. Gold employment plunged from 392,000 in 1994 to less than 94,000 last year. In the non-gold mining sector, employment increased from 219,000 to 386,000 during the corresponding period. Although the job gains in the non-gold sector were unable to compensate for the haemorrhaging in gold, these figures again highlight a more nuanced picture of the mining sector than the general downbeat perception.

When examining mining's contribution to GDP, it's important to use nominal figures. These reflect both changes in prices across different sectors of the economy and the actual production volumes. Using this approach, mining's share of GDP increased from an average of just under 5% between 1994 and 2007 to slightly over 6% from 2008 onwards.



**Despite these significant headwinds, some mining sub-sectors achieved stellar growth since 2008, even outpacing the performance in the non-mining sectors.**

#### Transformation & Safety

A discussion on mining would be incomplete without a reference to safety, the industry's number-one priority. Its safety record has improved dramatically over the years, with record-low fatalities in 2022. The overall snapshot

provided here speaks to a South African mining industry that has undergone a dramatic transformation away from gold being dominant to a much more diversified sector.

Today, South Africa is the world's leading producer of platinum and chrome. We also produce a range of other minerals, including coal, iron ore, manganese, and copper. Mining is much safer than before, and senior management in the industry is notably more diverse along race and gender lines than at the dawn of democracy.

#### Infrastructure & Logistics

Coming back to mining economics, the numbers suggest that with a more conducive policy and general operating environment, mining has the potential to thrive. The absence of mining load-curtailment since April is a crucial first step towards unlocking the sector's potential. This must be sustained, with the next step a razor-sharp focus on expanding electricity transmission infrastructure. A fully functional cadastre system, hopefully from the second half of 2025, will go some way to ignite anaemic mining exploration, creating a pipeline of future production.

Another crucial pillar for mining to reach its full potential is for the seventh administration to continue to work closely with Transnet, both to implement its turnaround plan to lift total export tonnages to 170 million tonnes in 2024/25 (from less than 152 million in 2023/24), and to support the deep reforms in the logistics sector.

This includes realistic "rules-of-the-game" to facilitate private sector participation. The new administration should also build on these initiatives and expand the focus to include, for example, prioritising municipal water infrastructure. If the GNU can show success on these fronts, far from being a laggard, mining has the potential to be an important contributor to higher levels of real GDP growth.

# SOUTH AFRICA'S MINING FUTURE STARTS NOW

JOHANNESBURG

Mining exploration is the catalyst we need for inclusive economic growth in South Africa

**MZILA MTHENJANE**

*Chief Executive Officer*

*Minerals Council  
South Africa*



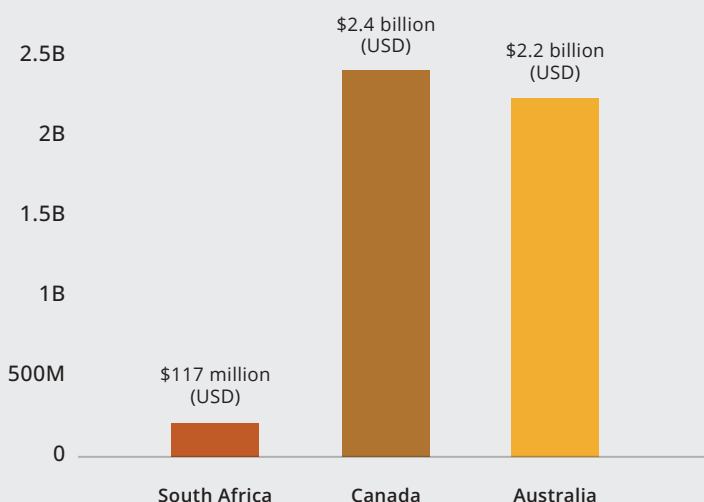
The fundamental requirements of Africa-focused exploration companies when they consider where to spend money during one of the highest-risk stages of the minerals value chain make it clear why South Africa is failing to attract investment.

A panel discussion at the exploration and junior-mining focused Africa Down Under (ADU) conference in early September (Perth, Australia) highlighted South Africa's shortcomings in the competition for investments in drilling for mineral deposits.

## South Africa's Declining Exploration Investments

Since 2020, South Africa has attracted less than 1% of global exploration budgets. In 2023, the country received \$117m (R2bn), far below Canada's \$2.4bn or Australia's \$2.2bn. The DMRE's target to secure 5% of global budgets, last achieved in 2004, remains unmet.

EXPLORATION BUDGETS (2023)



SOUTH AFRICA LAGS BEHIND GLOBAL LEADERS IN EXPLORATION INVESTMENT

This dearth of exploration restricts the long-term sustainability of the South African industry. Mining is by its nature the depletion of a finite resource.

## Economic Risks of Limited Discoveries

Without new deposits or extensions to mineralised zones, South Africa's 130-year mining industry risks losing its economic relevance and its ability to drive industrialisation, investment, and job creation.

Most exploration in South Africa is focused on known deposits, called "brownfields", rather than previously unexplored areas described as "green fields" deposits. If South Africa is to play a significant role in domestic and international demand for critical minerals, a broad term given to minerals and metals needed for a worldwide transition to a low-carbon future and groundbreaking technologies, it is vital that green field exploration is expedited.

Experts at the ADU 2024 conference shared invaluable lessons from mineral exploration across diverse African jurisdictions, offering critical guidelines on what investors look for when evaluating where to put their money at the highest risk stage of the mineral value chain.



**Tax incentives on the funding of exploration work, as well as tax concessions on equipment for exploration would sweeten South Africa for exploration investment.**

Andrew Cunningham, MD and CEO at Walkabout Resources, which has a graphite project in Tanzania, told delegates that just 81 out of 16,000 exploration projects were ever developed into mines.

To balance the risks of sinking a lot of money into exploration activities that carry a miniscule 0.5% chance of a return on investment, exploration companies expect as much certainty as possible in all the other areas of their activities, particularly regarding regulatory certainty.

Geological prospectivity is a fundamental requirement, clear, unambiguous, consistent regulations and

administration, water-tight contracts with host governments, quick approvals of prospecting applications, tax breaks, good infrastructure, and unfettered access to historical drilling data bases are essential for exploration companies to reduce risks and enhance the chance of mineral prospects.

South Africa is a politically secure democracy, with a strong judiciary.

## Barriers to Exploration Success

While South Africa has good transport logistics and communications infrastructure relative to its African peers, it is on the regulatory, administration and timelines to process prospecting applications where the country falls noticeably short, making the lodging of applications a complex and unnecessarily costly process.

Exploration companies are designed to invest as much money as possible into drilling, and limit administration costs. Any additional costs curtail this work, leaving investors wary, and eventually abandoning the investment.

Exploration is a niche field of expertise and speakers at ADU 2024 noted that word-of-mouth meant certain mining jurisdictions were viewed with a jaundiced eye or avoided altogether.

The DMRE, through Minister Gwede Mantashe, was consistent in its message at the conference that South Africa will have a modern online mineral rights management system, called a “cadastre”, from June 2025. This is a critical tool in removing discretionary interventions by regional managers in exploration licensing applications.

It ensures that all processes are managed equally and within the regulatory framework, avoiding overlapping applications on the same tenement, and speeding up the adjudication of applications.

Investors in exploration projects usually have a two to three-year window of interest in a project, so delays in securing licences or regulatory changes quickly erode confidence in a jurisdiction.

Exploration experts agreed it could take eight to 10 years of work to find and build up confidence in a mineral deposit to the point where it could be developed as a mine. Unrealistically long licensing periods are a deterrent.

Tax incentives on the funding of exploration work, as well as tax concessions on equipment for exploration would sweeten South Africa for exploration investment.

While South Africa was regarded at the conference as a “mature” exploration destination by several speakers, the Council for Geoscience stressed its increased focus on prospecting to find, and make public, areas of mineralisation that could interest domestic and offshore prospective investors.

Exploration veterans stressed the need for freely available geological datasets from companies that had previously

explored an area, otherwise newcomers would repeat work and mistakes, rather than applying new thinking and digitally aided interpretations to historical data to find economically viable deposits.

Once a company relinquishes its rights, all its data should revert to a public repository for other companies to build on. South Africa has not had such a database readily and freely available.

Integrating geological maps into the cadastre will boost greenfields exploration. AI-driven geological mapping accelerates drilling decisions and mineralisation insights.

This work is often done in remote areas, so telecommunications infrastructure as well as good quality roads play a vital role in modern exploration activities.

## Steps to Revitalise the Sector

To ensure the long-term survival of the mining industry, several steps are crucial. These include fixing the regulatory environment to encourage exploration, adopting a modern and transparent cadastre, and making geological data freely available or accessible at minimal cost. Additionally, efficient administration of the sector by the regulator, in collaboration with other government departments, is essential.

By taking these steps, South Africa can cement its role as a source of critical minerals, creating downstream industrial opportunities and much-needed jobs.

It is urgent that we co-create a environment conducive to revitalising the exploration and junior mining sector, so that we can drive the growth of the mining industry and the economy of South Africa. We are confident that the industry is poised for a burst of activity that will benefit generations of South Africans.

### KEY REFORMS TO REVITALISE EXPLORATION

01

#### Cadastre Implementation:

Introduce a modern, transparent online cadastre system to manage mineral rights efficiently and eliminate discretionary interventions.

02

#### Tax Incentives:

Provide tax breaks for exploration funding and concessions on equipment to reduce costs and attract investment.

03

#### Geological Data Access:

Make geological data freely available or accessible at minimal cost to enable exploration companies to build on existing work without duplicating efforts.

# TANZANIA POISED TO BECOME VITAL SOURCE OF CRITICAL MINERALS

Tanzania is emerging as a key player in the global supply of critical minerals, positioning itself to meet the growing demand for essential resources like graphite, lithium, cobalt, and rare earth elements that are shaping the future of technology and sustainable energy.

At MINExpo International 2024 in Las Vegas, Tanzania's Deputy Minister for Minerals, Dr Steven Kiruswa, highlighted the crucial role of critical minerals in global supply chains. He emphasised their growing importance in powering advanced technologies and sustainable industries.

Dr Kiruswa noted that these minerals form the backbone of transformative industries, from electric vehicles (EVs) to renewable energy systems. As the world transitions towards greener technologies, demand for resources such as lithium, cobalt, and rare earth elements is surging. These minerals are indispensable for producing batteries, EVs, and sophisticated electronics.

However, global supply of critical minerals is concentrated in just a few countries. China, for example, dominates rare earth production with over 70%, while the Democratic Republic of Congo leads in cobalt supply. This heavy reliance poses significant risks, as disruptions in supply chains can create ripple effects across industries.

Dr Kiruswa argued that control over critical minerals not only facilitates technological advancement but also ensures broader economic stability. Nations that hold

these resources gain leverage in international trade, while import-dependent countries remain vulnerable.

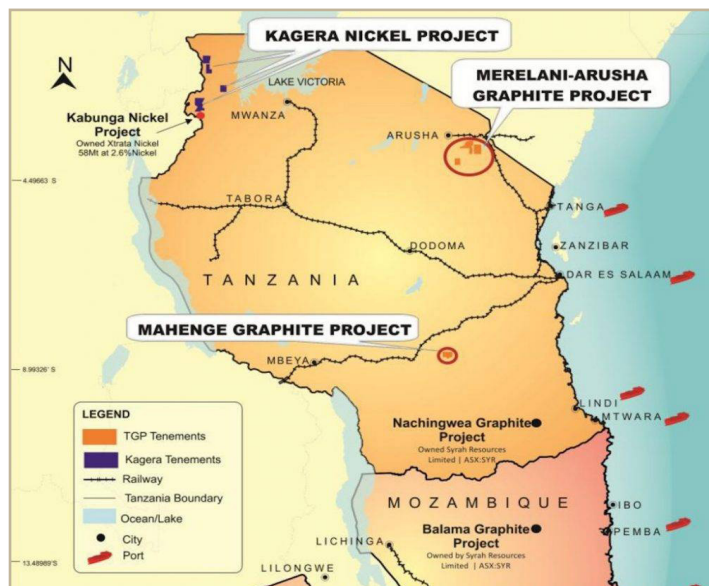
## Tanzania's Growing Role in Critical Minerals

The deputy minister said that Tanzania is poised to become a major player in the global critical minerals sector.

The country is endowed with substantial reserves of graphite, rare earth elements, lithium, nickel, and cobalt. Although still in the early stages of harnessing these resources, several exploration and mining projects are already under way.

The deputy minister highlighted 12 advanced critical mineral projects, including six graphite initiatives, a nickel

## MAJOR PROJECTS SUPPORTING THE GLOBAL GREEN ENERGY TRANSITION



MAP OF TANZANIA SHOWING MAJOR CRITICAL MINERAL LOCATIONS

## TANZANIA'S CRITICAL MINERALS AT A GLANCE

<b>Graphite</b>	Essential for battery production and renewable energy systems.
<b>Rare Earth Elements</b>	Crucial for EV motors, wind turbines and advanced electronics.
<b>Lithium</b>	A cornerstone of lithium-ion batteries powering EVs and energy storage.
<b>Cobalt</b>	Vital for battery technology and energy transition.
<b>Nickel</b>	Used in EV batteries and industrial alloys.
<b>Uranium</b>	Supports global nuclear energy supply chains.

venture, and projects targeting heavy mineral sands, rare earth elements, and uranium. Among these, three graphite mines – Lindi Jumbo, Permanent Minerals, and God Mwangi – are operational.

As global demand accelerates, Tanzania’s contribution to the critical minerals supply chain is expected to expand significantly.

## Investment Opportunities and Beneficiation

Dr Kiruswa underscored Tanzania’s attractive investment opportunities across various stages of mineral development, from exploration to mining and value addition. He encouraged investors to form joint ventures with advanced mining projects needing capital to move forward.

Beneficiation, in particular, presents a significant opportunity for Tanzania to maximise its economic returns. Establishing local processing facilities would allow the country to produce high-value products like battery-grade graphite. This aligns with Tanzania’s goal to position itself as a global hub for green technology manufacturing, including battery production and electronics.

There are equally prospects for investing in research and technology to establish manufacturing industries that use these minerals. Battery production and electronics manufacturing are areas where Tanzania could position itself as a leader in the global technology sector.

### INVESTMENT OPPORTUNITIES

01

#### Joint Ventures:

Essential for battery production and renewable energy systems.

02

#### Value Addition:

Develop beneficiation facilities for high-value products like battery-grade graphite.

03

#### Research and Manufacturing:

Explore opportunities in EV battery and electronics production.

Geological surveys are a key focus, with a high-resolution airborne geophysical survey planned to cover over 50% of the country by 2030. This initiative will reduce exploration risks by providing detailed data on mineral resources.

Infrastructure is another priority. Investments in roads, railways, and ports are being made to streamline the transportation of minerals from mining sites to global markets. Additionally, the national energy grid is being strengthened to meet the mining sector’s growing demands.

To further support the sector, the government has introduced local content regulations requiring mining operations to use locally sourced goods and services. These measures create employment opportunities and foster local business growth.

The government also emphasizes education and workforce development to align with the needs of the mining sector.

## Attracting Investors

Tanzania offers a range of incentives designed to attract investors. These include tax exemptions on imported mining machinery, reduced corporate tax rates for companies listed on the Dar es Salaam Stock Exchange, and VAT deferment on equipment. The government guarantees investment protection, ensuring profits can be repatriated and companies are safeguarded from expropriation.

Dr Kiruswa also announced the near-finalisation of Tanzania’s Critical and Strategic Minerals Strategy. This framework will guide exploration, mining, beneficiation, and supply chain management to ensure sustainable development while maintaining Tanzania’s competitiveness in the global minerals market.

## A Bright Future for Tanzania’s Mining Sector

As the world pivots toward green technology and innovation, Tanzania is set to play a pivotal role in the supply of critical minerals. With ongoing reforms, attractive investment incentives, and a focus on infrastructure and beneficiation, the country is laying the groundwork for a thriving and sustainable mining sector.

Tanzania’s vast resources, combined with its proactive government initiatives, position it as a key partner for investors seeking opportunities in the critical minerals market. As these efforts gain momentum, Tanzania’s mining industry is poised to deliver transformative benefits for the nation and its people.

## Government Strategies for Sector Growth

The Tanzanian government is implementing various reforms to support its critical minerals sector. Legal amendments aim to create a more investor-friendly environment by balancing foreign interests with national priorities.

# THE STATUS OF TANZANIA'S MINING PROJECTS

Tanzania is a strategic player in the global mining sector home to a diverse range of mineral resources

Here's an overview of the status of several prominent mining projects, underscoring the country's strategic importance in the extraction of gold, uranium, rare earth elements, and heavy mineral sands.

## 01 Nyanzaga Gold Project

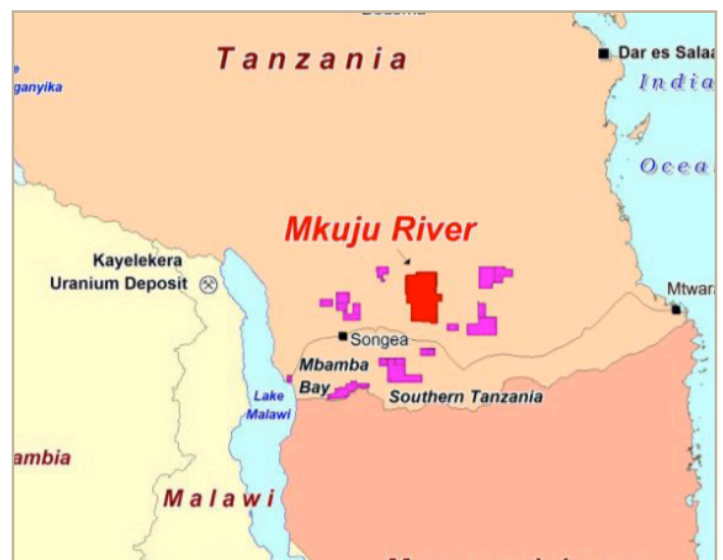


NYANZAGA GOLD PROJECT (PERSEUS MINING)

The Nyanzaga Gold Project, located in the Lake Victoria Goldfield in Sengerema District, Mwanza Region, is approximately 60km southwest of Mwanza city. Covering an area of 23.4km<sup>2</sup>, this flagship initiative holds a special mining licence (SML) granted in 2021. It includes the Nyanzaga and Kilimani deposits, along with other exploration prospects nearby.

Initially explored by OreCorp Limited, the project was acquired by Perseus Mining in April 2024 through a takeover, marking a significant advancement in the region's mining operations. Perseus Mining's involvement is expected to accelerate project development, unlocking potential for substantial gold production. Additionally, the project's integration with the local economy is anticipated to boost employment, infrastructure development, and local investments.

## 02 Mkuju River Uranium Project



THE MKUJU RIVER URANIUM PROJECT (URANIUM NETWORK)

Located in Namtumbo District, Ruvuma Region, approximately 54km from Likuyu Sekamaganga village, the Mkuju River Uranium Project holds an SML, granted in 2013. The project is owned by Mantra Tanzania Limited, a subsidiary of Uranium One Group, which is part of Rosatom.

The Mkuju River Project is one of Tanzania's flagship uranium developments, recognised for its substantial reserves and potential to become a critical uranium production hub in East Africa. Its significance extends beyond national borders, contributing to global nuclear energy supply chains and diversifying Tanzania's mining portfolio.



### 03 Ngualla Rare Earths Project



A SAMPLE OF NEODYMIUM (AZO MATERIALS)

The Ngualla Rare Earths Project, located near Ngwala Village in the Songwe Region at the edge of the East African Rift Valley, is approximately 150 km from the city of Mbeya. It contains one of the world's largest and highest-grade deposits of Neodymium and Praseodymium (NdPr), essential components in high-strength permanent magnets used in electric vehicles, wind turbines, and advanced technologies.

Owned by Peak Rare Earths, with an 84% interest, and the government of Tanzania holding 16%, the project received its SML in April 2023. Ngualla is set to position Tanzania as a significant global supplier of rare earth elements, which are key to global energy transition, aligning with the country's strategy to attract foreign investment and foster technological development

### 04 Heavy Mineral Sands Projects



SAND DEPOSIT

Tanzania is home to four major heavy mineral sands projects: Fungoni, Tajiri, Bagamoyo, and Sudi. The Fungoni and Tajiri projects have obtained mining licences, placing them on track for production. Fungoni, near Dar es Salaam, is a low-capital, high-return venture, while Tajiri, located along Tanzania's northern coastline, is recognised for its rich ilmenite, rutile and zircon reserves.

The Bagamoyo and Sudi projects remain in the exploration phase, with ongoing assessments of resource estimates and economic viability. Strandline Resources, the original developer, sold these projects to Shenghe Resources Holding Co, which is now overseeing their progression. These initiatives are instrumental in expanding Tanzania's mining portfolio and contributing to the global supply of industrial minerals used in construction, aerospace, and other industries.

## Tanzania's Mining Future

Tanzania's mining sector continues to evolve, with these projects exemplifying the country's rich mineral resources and its commitment to developing a diversified and sustainable mining industry. These developments enhance Tanzania's global mining presence while significantly contributing to the local economy through job creation, infrastructure development, and technology transfer.

As these projects progress, Tanzania stands to benefit from increased foreign investment and strengthened economic growth, particularly as global demand for critical minerals continues to rise.

# THE MINING INDUSTRY ASSOCIATION OF SOUTHERN AFRICA (MIASA) REPRESENTS NATIONAL MINING ASSOCIATIONS WITHIN THE SOUTHERN AFRICAN DEVELOPMENT COMMUNITY (SADC)

**E**stablished in 1998, MIASA addresses common interests and challenges in the mining sector across member countries.

Its 11 member associations collaborate under MIASA's umbrella to promote sustainable and responsible mining practices, ensuring that the sector contributes positively to the socioeconomic development of the region.

MIASA is committed to fostering an inclusive, innovative, and prosperous mining industry.

The association emphasises the importance of human rights, environmental stewardship, and community

engagement in mining operations. Through its position statements, MIASA outlines its dedication to building trust between the mining sector and other stakeholders in the SADC region.

By uniting national mining associations, MIASA plays a crucial role in harmonising policies, sharing best practices, and advocating for the mining industry's interests in the region.

Its efforts ensure that mining activities are conducted responsibly, benefiting both the economies and communities of member countries.



COUNTRIES IN THE SOUTHERN AFRICAN DEVELOPMENT COMMUNITY (SADC) REGION

MIASA'S MEMBERSHIP COMPRISES NATIONAL CHAMBERS FROM SEVERAL SADC COUNTRIES:

- 01 Botswana
- 02 Democratic Republic of Congo
- 03 Lesotho
- 04 Madagascar
- 05 Malawi
- 06 Mozambique
- 07 Namibia
- 08 South Africa
- 09 Tanzania
- 10 Zambia
- 11 Zimbabwe