THE MINING YEARBOOK

2022

miningmx
higher grade

ROCK BOTTOM

Why SA mining can't risk more Mantashe blunders

Gwede Mantashe

NTSIMBINTLE –
A TRUE EMPOWERMENT
SUCCESS STORY
Ntsimbintle
Holdings
NTSIMBINTLE HOLDINGS IS ONE OF SOUTH AFRICA'S MOST SUCCESSFUL EMPOWERED MINING COMPANIES. THROUGH ITS ASSETS, IT IS ONE OF SOUTH AFRICA'S LARGEST MANGANESE PRODUCERS AND AMONG THE TOP THREE SOUTH AFRICAN EXPORTERS.
info@ntsimbintle.co.za
www.ntsimbintle.co.za
EMPOWERMENT
WITH A DIFFERENCE
Since its inception in 2003, Ntsimbintle has been committed to ensuring that all South Africans derive sustainable benefit from the country's mineral wealth.
Ntsimbintle understands the important role that mining can play in the development, growth and transformation of local communities. Its host communities are, therefore, the first to benefit from the value it creates through mining via the John Taolo Gaetsewe Developmental Trust.

MINERALS COUNCIL
SOUTH AFRICA

Mining matters

to our country and our people

#MakingMiningMatter

In 2021, the mining industry:

Contributed
R480.9
billion
to GDP

Employed
458,954
people

Paid employees
R154
billion

Contributed
R27
billion
to PAYE on behalf of employees

Paid corporate tax of
R78
billion

Paid
R15.4
billion
in value added taxes

Paid
R27.9
billion
in royalties

www.mineralscouncil.org.za

CONTENTS


6
Africa must stake its claim for share of $160bn a year in green metals investment


12
Does esg contain the seeds of its own destruction?


22
Rock bottom: Why minerals exploration plan is bound to fail

THE MINING YEARBOOK 2022

miningmx
higher grade

EDITORIAL

Editor:
David Mckay

Writers:
Liesl Peyper
Charlotte Mathews
Brendan Ryan
Ed Stoddard
Miriam Isa
David Mckay

Pictures:
Gallo Images

Design & Layout:
Colleen Wilson

Sub Editing:
Yvonne Fontyn

Printing:
CTP Printers Cape Town

Miningmx (Pty) Ltd
Address
P.O Box 3194
Rivonia
2128
South Africa

Email:
david@miningmx.com
info@miningmx.com

The Mining Yearbook
is owned by
Miningmx (Pty)Ltd

An online version of
The Mining Yearbook 2022
will be published on
www.miningmx.com

www.miningmx.com

AFRICA MUST STAKE ITS CLAIM FOR SHARE OF $160BN A YEAR IN GREEN METALS INVESTMENT

BY DAVID MCKAY

UNLESS there's a doubling in capital expenditure by mining companies, the world has virtually no chance of limiting global warming to 1.5ºC as targeted in the Paris Agreement. That's the key finding in a June report by Bank of America (BoA), which says mining sector spending on the development of metals production should be $160bn a year instead of the $99.5bn historic average (see graph).

"Based on the current resource endowment and market balances, we don't expect the 1.5ºC global warming target to be achieved by 2050: 1.7 to 1.8ºC looks likely. One solution to resolving shortages and constraints, as ever, lies in investment," BoA says.

What's required is not the discovery of one or two key ingredients, but a host of metals drawn from every corner of the periodic table. BoA describes them as "metals important for future technologies" — substances critical to making batteries for electric vehicles (EVs) and motors to drive solar and wind power generation.

The search by the world's largest mining companies is already on for copper and cobalt. Lithium and nickel are also widely recognised as being in demand. But there are less-recognised minerals that play an

equally important role in decarbonising technology, such as manganese, or the more obscure ones such as gallium that, worryingly for the West, is controlled by China.

In addition to resource scarcity, China's dominance in the EV supply chain is a concern, especially to the US. In the case of lithium, used in the lithium-ion battery, China controls more than half of its processing and refining capacity. China also has three-quarters of the lithium-ion battery mega-factories in the world, according to the International Energy Agency. Given that auto manufacturers have set down ambitious growth targets for EVs — the world's largest car manufacturer, Toyota, says it aims to sell 3.5 million EVs a year by 2030 — the West is at risk of falling short. It is currently far behind in the processing stakes: only 1% of global lithium is mined and processed within its borders, says the US Geological Survey. As for raw production of the mineral, about 80% is mined in Australia, Chile and China.

"Geographic concentrations create supply and logistics risks," says market research company Fast Markets. While it expects these risks to lessen from 2025, Fast Markets says they will "continue to have an outsized impact on the market" owing to the continued prevalence of Covid variants, conflicts and resource nationalism.

So there's massive pressure on mining companies to step up to the plate. The trouble is they have internal conflicts of their own. Investors are reticent about allowing unchecked spending on the type of growth that wrecked the sector for four years between 2012 and 2016. And as pointed out in this publication, permitting of new projects is a major headache: it's time-consuming and expensive, and increasingly results in disappointment.

QUANTUM LEAP

Another way of looking at the metals supply crisis is just what the mining industry needs to produce in order to meet climate change goals. In order to hit the trajectory required for 2050 net-zero emissions, copper production needs to be 9.98 million tons a year by 2030, a compound average growth rate of 14%, says BoA. In nickel, however, the compound annual growth rate (CAGR) in required production is 40% (growth from the 94,983t produced in 2020 to 2.84Mt by 2030). It's a similar picture for lithium (CAGR +38%), platinum (+78%) and cobalt (+28%).

The scarcity of new metals production has also resulted in price inflation. In 2021, lithium gained 280%, making the manufacture of batteries and motors increasingly expensive.

Rising primary material costs will inevitably be passed on to automotive manufacturers such as Tesla, and quite possibly to consumers, potentially hurting EV demand.

Quite often in such scenarios, the scientists are sent back to the lab to find less expensive technology. In summary, bold assumptions about metals supply in today's battery may be unseated in the future, making long-term planning for mining companies tricky, volatile, and financially hazardous.

For Neal Froneman, CEO of Sibanye-Stillwater, the likelihood is industry will become catholic in its choices, particularly in respect of mobility. "Battery EVs have their role, and especially in Europe and in cities, and internal combustion engines and fuel cells [using hydrogen technology] have their roles," he says. "We are in the fortunate position where we don't have to promote one [metal] at the expense of the other as they all have space in the mobility sector."

George Bennett CEO, Rainbow Rare Earths

YOUNG TURKS

To be clear, though, mining companies are hardly beleaguered, especially those with specialist intellectual capital, or junior miners that had the foresight to recognise where the market was heading. According to PwC in its annual 'Mine' report, published in June, the market capitalisations of the top five lithium, graphite and rare earth producers grew 56%, 101% and 154%

We want to position Africa to penetrate the EV minerals and battery value chain. There is tremendous opportunity, a historical opportunity.

respectively last year. By comparison, the market capitalisation of the world's top 40 companies grew only 7%.

Robin Birchall, CEO of Toronto-listed Giyani Metals, is bullish on his firm's ability to participate in the new wave of resource discovery and development that BoA believes is necessary. "We've certainly seen much better capital markets and availability of capital," he said in an interview. He estimates there are 27 different potential providers of capital for his company including private equity, or firms that frontload capital in return for metals offtake, others that take a royalty stream, or those that provide straight-up equity as well as 'vanilla' debt providers. "There's a lot of interest right now," he says.

How metals are used in **green technology**

The diversity of metals required to produce wind turbines, batteries for electric vehicles and solar plants is viewed as a major challenge in terms of supplying the resources for decarbonisation. In many cases, the resources required are highly specialised. Rare earths are not especially rare, but the technology required to extract them is specialised, which is a technological and capital barrier to development.

According to Bank of America (BoA), tin is a case in point. The tin market tends to "fly below the radar" owing to the fact it's a small market of about 300,000t/year in production. But its application to solar plant manufacture is critical: solar modules are joined to panels connected through a ribbon that usually consists of a copper core covered in a layer of tin solder, says BoA. It is also the solder in electronic appliances globally, which underpins its main demand.

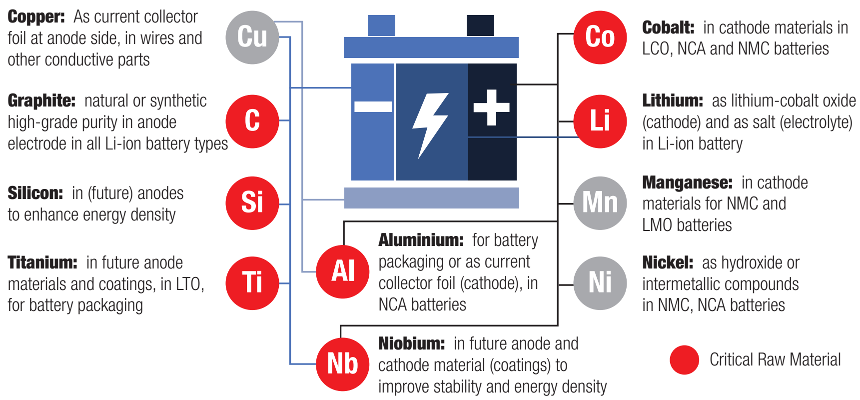
According to Alphamin, which produces tin from the Bisie mine in northern Democratic Republic of Congo, tin is everywhere in electronics and green energy but "nowhere to be seen".

The cost of tin in electronics is negligible and therefore unlikely to face meaningful substitution with other metals. But the pipeline of new supply is worryingly thin. According to Alphamin, the global tin project pipeline is very low grade "and years away from development". Bisie itself took nearly 10 years to develop from when the firm locked in its anchor investors, and now supplies about 4% of the world's tin market.

Four countries supply 85% of tin concentrate globally, led by China, said Alphamin in a recent presentation. But the country's mines are maturing and face stricter environmental laws, which threaten to curtail production. Similarly, Indonesian onshore production is declining while Myanmar high-grade surface material is nearly exhausted, with the country forced to rely on production from lower-grade underground mines.

Raw materials used in batteries

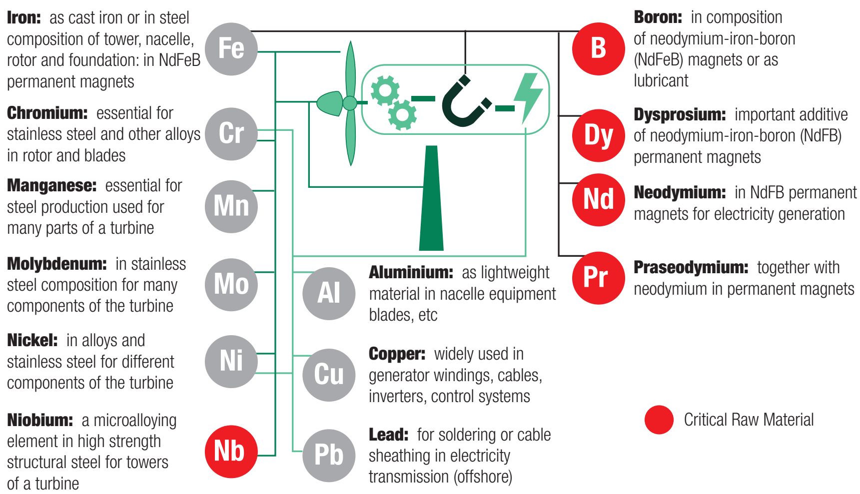
There is more to EV batteries than nickel, cobalt and lithium



SOURCE: European Commission, Critical materials for strategic technologies and sectors in the EU - a foresight study, 2020. BofA GLOBAL RESEARCH

Raw materials in wind turbines

Wind turbines also require steel



SOURCE: European Commission, Critical materials for strategic technologies and sectors in the EU - a foresight study, 2020. BofA GLOBAL RESEARCH

Building a Sustainable Future

From board diversity to biodiversity, climate risk to community relations, Barrick's commitment to managing sustainability effectively and responsibly has long been entrenched in its DNA and Barrick approaches it with the same diligence it applies to understanding its orebodies and accounts.

BARRICK

www.barrick.com | NYSE : GOLD • TSX : ABX

Barrick Gold Corporation's 18-country portfolio holds 14 gold mines, including six of the world's Tier One operations as well as three strategic copper producers, all with long-term business plans based on declared resources.

Robin Birchall CEO, Giyani Metals

Giyani Metals is in Botswana, where its principal project is K-Hill. Established on a previously mined orebody, Birchall wants it to produce manganese. It's not a 'rare' metal, with 20Mt/year in global supply, mostly to the steel industry where it's used as a hardening agent. But 0.5% of production is now supplied to lithium-ion battery producers. What's interesting about Giyani is it's producing a special grade of manganese known as high-purity electrolytic manganese metal.

According to PwC, this type of product focus is typical of the 'new' miners, encouraged into production to supply 'precursor materials'. "Precursor materials are the more refined inputs into energy transition technologies, such as lithium hydroxide rather than spodumene concentrate, or cobalt sulphate rather than cobalt concentrate," says PwC in 'Mine'. In the last three years, $5bn has been invested in lithium hydroxide projects in Western Australia alone.

It's no surprise Australia has become the epicentre of new investment in lithium as the country — along with Chile, Argentina and China — has the most global resources. Zimbabwe has emerged as a new source of lithium while other new entrants abound in places like the former Commonwealth of Independent States countries, made up of post-Soviet nations. According to McKinsey & Company, the proliferation of resource options means there are enough new lithium reserves to meet battery growth, which will account for 90% of all lithium produced in five years' time.

"Despite expectations that lithium demand will rise from approximately 500,000 tons of lithium carbonate equivalent in 2021 to some three million tons in 2030, we believe that the lithium industry will be able to provide enough product to supply the burgeoning lithium-ion battery industry," McKinsey says. Conventional lithium supply is forecast to increase 300% between 2021 and 2030 through the development of new processing technologies, such as direct lithium extraction and direct lithium to product. These technologies "can be driving forces behind the industry's ability to respond more swiftly to soaring demand", it says.

Africa has competitive advantages in this regard, according to Vanessa Ushie, a director at the African Development Bank. Research commissioned by the bank found it is three times cheaper to establish a battery precursor plant in the Democratic Republic of Congo than it is in the US, China or Europe. What's needed, however, is for policy reforms and unprecedented regional cooperation that creates the right investment conditions. Ushie suggests that Africa become a free trade area. "We want to position Africa to penetrate the EV minerals and battery value chain," Ushie said in a presentation to the Mining Indaba conference in Cape Town this year. "There is tremendous opportunity, a historical opportunity."

I feel that for the green electric vehicle, and this green economy they [OEMs] are going to want provenance because we know the Chinese rare earth elements are very damaging.

Based on the current resource endowment and market balances, we don't expect the 1.5ºC global warming target to be achieved by 2050: 1.7 to 1.8oC looks likely.

PAYING FOR PROVENANCE

Demetrios Papathanasiou, global director of energy and extractives at the World Bank, believes Africa is ideally positioned in terms of green energy supply. As the continent has not developed the infrastructure linked to fossil fuels, it's a natural place to develop greener battery metals production.

"The important point is that Africa vis-a-vis other places in the world has not yet developed the infrastructure which is massively linked to fossil fuel. The opportunity that Africa has is to move directly into cleaner and more efficient ways of using energy. Batteries are a key part of that," he said at the Africa Indaba. "Africa has wonderful renewable resources and has some of the best solar in the world."

For many original equipment manufacturers (OEMs) of battery metals, provenance is an increasingly important value. Social conscience is a key consumption driver, but a supply chain that can't sufficiently prove its green credentials is an uncompetitive one. This is where Africa and the rest of the world have a potential advantage, says George Bennett.

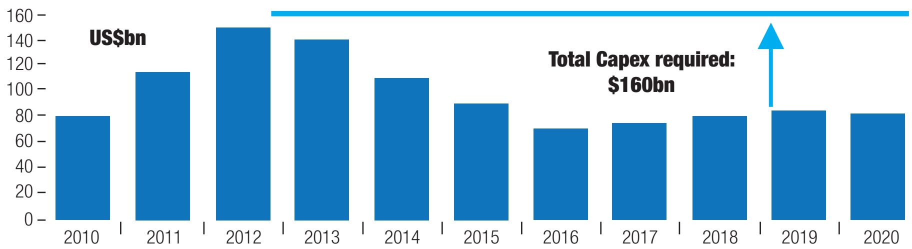
Bennett is CEO of Rainbow Rare Earths, a London-listed firm that is building a brownfields mine in Phalaborwa in South Africa's Limpopo province. Rare earths — specifically neodymium and praseodymium — supply the wind-powered energy industry and are are critical to the manufacture of long-life magnets that drive the wind turbines. Says Bennett: "I feel that for the green electric vehicle, and this green economy they [OEMs] are going to want provenance because we know the Chinese rare earth elements are very damaging. They've destroyed the environment".

A consequence of this is that once in production, Rainbow Rare Earth's precursor minerals will fetch a premium. That helps the business case, especially when it comes to arranging the finance. Bennett says the lead time for developing Phalaborwa, and most likely the company's second project in Burundi, has shortened relative to historic financing and development of mining projects.

"From cradle to grave is anywhere between 12 and 20 years," says Bennett of a mine's normal life cycle. "I am going to be looking to financing and starting construction in 2024. I only secured the project in January 2021, so it's incredibly fast-tracked to bring new supply of neodymium and praseodymium supply on to the market. It's extremely fast track."

Global Metals and Mining Capex

Global capex has averaged around $99.5bn pa in the past decade, but it should be $160bn to prevent raw material constraints



SOURCE: SAP, BofA Global Research

As with Giyani's Birchall, Bennett doesn't think finance will be a problem. Birchall is equally relaxed about some of the other pressures raised by the industry such as the prospect that inflation, resource scarcity and geopolitical stressors will unseat OEM production plans. The EV drive is here to stay, he says.

"You might have in aggregate fewer vehicles [as a result of shortages], but manufacturers are not going back," Birchall says. "When an investment is made by a large industrial concern, like a car company, it's a minimum of a 10-year cycle." The commercial disaster of becoming a niche supplier of ICEs in a world of growing EV popularity is a fear pushing all automakers to at least the partial adoption of battery technology.

DOES ESG CONTAIN THE SEEDS OF ITS OWN DESTRUCTION?

BY ED STODDARD

TALK about a pickle. Mining companies worldwide are in a new scramble, and it is one aimed at green metals or 'critical minerals'. These include copper, cobalt, nickel and lithium, and they are indeed critical to unlocking new energy sources to replace the fossil fuels linked to climate change.

The trend is being fuelled by growing concerns over environmental, social and governance (ESG) factors, which have become almost wired into the DNA of corporate capitalism in the 21st century. Mining boardrooms have embraced this wide agenda, not least because of the sector's legacy issues and also with an eye to a rapidly evolving regulatory environment.

But here's the rub: a perception has emerged that this same ESG agenda is hampering the mining sector's ability to get critical minerals projects off the ground.

"ESG is driving an increasing demand at the same time as it is constraining supply. That's exactly what's happening," Rohitesh Dhawan, CEO of the London-based International Council on Mining and Metals (ICMM), said in an interview.

There are a number of recent high-profile green metals projects that have been scuppered by ESG issues. In January 2022, the Serbian government, in response to public pressure stemming from environmental concerns, pulled the plug on a $2.4bn lithium project being pursued by Rio Tinto, which had already spent $450m on the boondoggle.

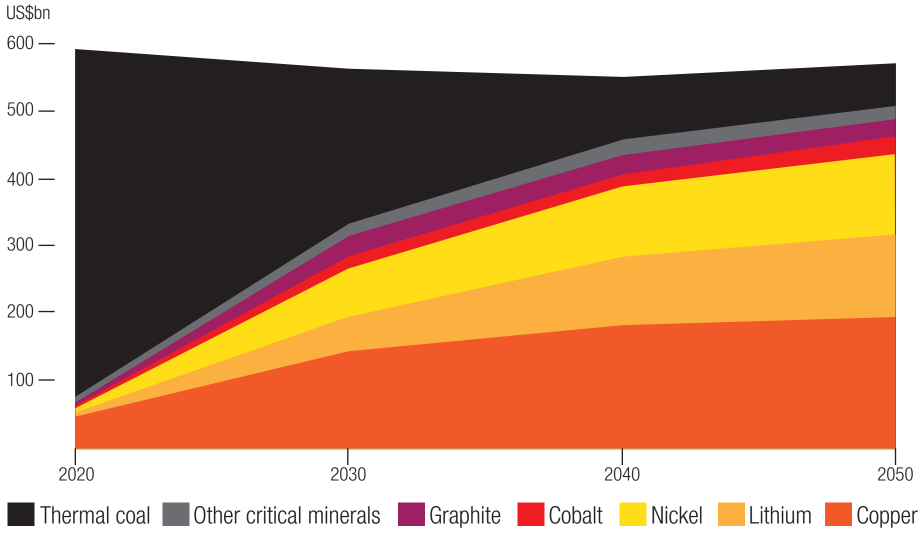
Also this year, Chile's new leftist government rejected the environmental permit application for the extension of Anglo American's Los Bronces copper mine amid a public outcry over its proximity to a glacier.

Meanwhile, gold projects - which often include copper potential - are getting snagged up. AngloGold Ashanti's gold/copper Quebradona project in Colombia, for example, has been delayed by up to two years by the country's environmental regulator.

"The world will be short of these green metals and therefore the transition into battery metals will be unaffordable, which — and I wouldn't say it's our view — means the penetration rates that the world expects from battery-powered vehicles is going to be much lower and the internal combustion engine is going to be here much longer," Neal Froneman, the CEO of diversified miner Sibanye-Stillwater, which has branched into green metals, said in an interview.

Anglo American's Los Bronces mine

Global market value for coal vs. energy transition minerals



NOTE: Other *critical minerals* include rare earth elements, silicon and manganese. Estimates are of global annual market value for coal vs. critical minerals demand from energy transition end use only. Estimates do not include other industrial applications. SOURCE: Adapted from International Energy Agency

The stakes are high as demand for such minerals is set to explode.

“The shift to net zero will require more mining, not less. The rapid scaling of the low-emission energy systems of the future — solar and wind power, electric vehicles (EVs) and grid-scale batteries — will be highly material-intensive. The production of a solar farm requires three times more mineral resources than a similar-sized coal plant, and constructing a wind farm needs 13 times as much as a comparable gas-fired plant,” accountancy firm PwC said in June in its annual report on the world’s top 40 mining companies.

“Demand for critical minerals is expected to grow significantly over the next three decades. The International Energy Agency estimates that the annual demand for critical minerals from clean energy technologies will surpass $400bn by 2050, which is equivalent to the annual revenues of the current coal market. This might seem like a long way off, but miners are already struggling to keep up with the demand for critical minerals.”

FALLING SHORT

“We can put some hard numbers on it,” says ICMM’s Dhawan. “For four commodities which are the most constrained — copper, platinum, nickel and lithium — for those we think that you can only get to 40% of the emissions reductions we need to meet the Paris goals by 2030, because the rest is constrained by a lack of availability of metals.”

Dhawan is referring to broadly agreed international targets to cut the carbon emissions that the vast majority of scientists have linked to rapid climate change and extreme weather events.

That’s a sobering forecast which, as Sibanye-Stillwater’s Froneman says, could keep the internal combustion engine on the road for much longer than anticipated.

But it’s not all doom and gloom.

“This demand-supply gap isn’t going to delay action, but it is going to spur innovation. It is going to get new technologies quicker to market to extract metals and minerals in more efficient ways and in newer ways than we have done before,” Dhawan says.

As an example, he notes the rise of “regeneration mining”, which has its roots in the remining of tailings dams for gold on the Witwatersrand. This is a Rio Tinto initiative that has wide applications across the industry.

Rio has partnered with Resolve, a Washington-based non-profit organisation, to launch Regeneration, a startup aimed at extracting critical minerals from waste dumps and tailings.

Dhawan says this is “a new kind of business model and technology solution that will see us mining mine waste to extract metals and minerals because that waste pile already exists. In the past we did not have the technology or the will or the business models to access these assets.”

For four commodities which are the most constrained — copper, platinum, nickel and lithium — we think that you can only get to 40% of the emissions reductions to meet the Paris goals by 2030.

HUMAN RIGHTS

The rights of communities around the world who live in proximity to transition minerals will also come sharply into focus.

“As the pace and scale of the energy transition accelerates, and demand for minerals likewise increases, scrutiny of these mining projects is likely to intensify, including from their earliest exploration phases. A responsible, human rights-centred approach to transition mineral extraction, built on the foundation of community consultation and consent, can create value and mitigate risk for investors and communities alike. Communities ... increasingly demand this of the corporations seeking entrance to their land,” the Business and Human Rights Resource Centre said in a recent report.

In the US, where such minerals are regarded as having strategic as well as commercial value, the report pointedly notes that most of the “untapped transition minerals in the country — 97% of nickel, 89% of copper, 79% of lithium and 68% of cobalt — are within 55 kilometres of Indigenous American reservations”.

Phil Bloomer, executive director at the Business and Human Rights Resource Centre, says a long history of dispossession has left many indigenous people worldwide in close proximity to the resources now needed for the energy transition. “Since colonial times indigenous peoples have ... been shoved into lands that were seen [to be] without value, and suddenly those critical minerals that are in the sub-soil are now extremely precious to us.”

South Africa’s former homelands, or Bantustans, relics of rural poverty most black South Africans were forced to call home under apartheid, are a case in point. They straddle much of the country’s platinum belt and remain flashpoints of social unrest, a state of affairs that is often rooted in failures to consult broadly with communities. Such ructions can and have had material impacts on production.

Rohitesh Dhawan
CEO, ICCM

ICMM’s Dhawan notes that mining companies are quickly reducing their CO^2 emissions, helping to ease some of the environmental concerns around the mining industry.

‘NATURE-POSITIVE’: STAYING AHEAD OF THE CURVE

Another scramble that is going on is mining companies launching their own ESG initiatives, partly in a bid to stay ahead of the regulatory curve, and partly to meet growing investor demands.

Teck Resources, one of Canada’s leading mining companies, with copper and nickel assets, earlier this year announced a goal to become “a nature-positive company including through conserving or rehabilitating at least three hectares for every one hectare” affected by its mining activities.

“For Teck, working to become nature-positive means that by 2030, our conservation, protection and restoration of land and biodiversity will exceed the disturbance caused by our mining activities from a 2020 baseline,” it says.

Its ESG commitments include a $10m Indigenous Stewardship Fund to support such communities in the regions in which it operates.

Sibanye-Stillwater, in partnership with the Endangered Wildlife Trust (EWT), a South African conservation NGO, has undertaken what it says is a global first to measure its total biodiversity footprint at all of its direct operations.

This is aimed at arriving “at a state of net zero environmental deterioration and/or a net gain” when mines are being closed and the landscape rehabilitated.

What this effectively means is an undertaking to return the mined area into the natural state that obtained when operations began.

“Footprinting allows companies to track and manage improvements against an established baseline to act responsibly for their impacts. Restoring an inherited trashed wetland to a functional state, for example, could be seen as a net gain,” says Gabi Teren, a programme manager at EWT.

Mining companies are being proactive as regulations worldwide tighten just as this new minerals rush is gaining pace. From nature-positive to net zero emissions targets

Since colonial times, indigenous peoples have been shoved into lands that were seen [to be] without value, and suddenly those critical minerals that are in the sub-soil are now extremely precious to us.

from specific baselines, an entirely new vocabulary has emerged — a boon to consultants, among others. But it does herald a cleaner and greener mining industry.

Still, the bottom line is that for countries and the global economy to reach various emissions targets, critical minerals need to be mined and produced at a faster pace in the face of new and increasing hurdles.

Mining projects are long term and boardrooms will be increasingly wary about making final investment decisions in the wake of Rio Tinto’s Serbian fiasco, which cost the company $450m.

This is an expensive lesson, but critics might note that it is one Rio and other mining companies can learn from.

The Business and Human Rights Resource Centre, in its report which covers the issue, points out that rural communities in the vicinity of the lithium project believe Rio provided little information and what it did provide was seen as confusing and even inaccurate.

Fairly or unfairly, this was the perception and it fuelled public discontent with the project. Consulting widely with communities and other stakeholders — armed with data on the existing state of the target environment — can make all the difference in the early phases of a project.

Meanwhile, the race is on to cut the carbon emissions that are warming the planet, and that is going to require a massive pipeline of critical minerals projects. One irony may well be that the mining industry reaches its own emission reduction targets long before the world meets those established in Paris — not least because green metals will be in short supply.

The Khanyisa solar plant

will enhance South Deep's sustainability and contribute to Gold Fields' long-term commitment to Net Zero.

> *Khanyisa means **'Light Up'** in Setswana and the name was chosen by the people of South Deep.*

South Deep currently consumes around 494GWh of electricity per year, which represents 10% of the mine's annual costs and 93% of carbon emissions.

QUICK FACTS

Once commissioned in Q3 2022, the Khanyisa solar plant will generate **50MW of electricity or 103GWh/year**.

This will have major environmental and financial benefits - significantly reducing the mine's carbon footprint by around **110,000 tonnes of CO_2/year** and reducing our reliance on South Africa's erratic national grid. And dramatically lowering energy costs, saving around **R123 million**, or **24%** of electricity costs/year.

The construction of the plant is creating **240 project jobs** and will create **12 permanent jobs**.

The plant will cover an area of **105ha**, roughly 200 soccer fields. And if placed end to end, the panels would cover a distance of 64km – all the way from Johannesburg to South Deep.

For more details on the Khanyisa plant: https://www.goldfields-southdeep.co.za/resources/the-south-deep-solar-plant
For details on Gold Fields' ESG performance: www.goldfields.com

GOLD FIELDS

Safety · Integrity · Respect · Responsibility · Innovation · Collaborative Delivery

#ThisIsGoldFields

KEEPING MINERS HONEST IS TOUGHER THAN IT SEEMS

Industry bodies and some governments co-opt the term 'just transition' to argue for a slow and prolonged shift to clean energy, says Tracey Davies, founder of the non-profit shareholder activist organisation Just Share.

BY LIESL PEYPER

Tracey Davies Founder, Just Share

ENVIRONMENTAL, social and governance concerns (ESG) has become a handy slogan in company boardrooms and marketing departments. Critics say corporates pay mere lip service to ESG and deceive shareholders and the broader public about their green credentials – a practice called greenwashing.

Tracey Davies, founder of the non-profit shareholder activist group Just Share, says amid all the hype about ESG, it boils down to responsible business practices. "Greenwashing can be as nuanced and complex as ESG itself. The fact that a company is guilty of greenwashing doesn't necessarily mean it is doing nothing right – it could just be overstating its efforts and progress."

Just Share was the brainchild of Davies and team members of the corporate accountability team at the Centre for Environmental Rights, a group of activist lawyers who work with communities and civil society to help promote a healthy environment.

"The rationale for its founding was the recognition that corporate South Africa faces far too little scrutiny from civil society, and that it is not held accountable for many of the negative impacts it imposes on the most vulnerable members of our society," she says.

"Business is not removed from the society in which it operates: it requires a stable, democratic basis on which to thrive, and part of achieving that stable environment should be operating in a responsible manner that does not exacerbate existing injustices."

GREENWASHING OR IGNORANCE?

When a company's adherence to and progress with ESG are measured, it has to be able to demonstrate that things are changing for the better in the real world, not just on the pages of its sustainability report, Davies says.

"The fact that the avalanche of sustainability talk from corporates does not come close to being matched by any changes in the real world is an easy way to establish the extent of greenwashing."

Just Share was one of the most vocal critics when Anglo American unbundled its coal assets and sold them in 2021 to the then newly founded Thungela Resources. According to Davies, Anglo made a strategic decision to sell off its coal assets after it had identified the poor long-term outlook for the mineral. "Anglo passed off a multitude of environmental liabilities and climate and financial risks to Thungela."

There is a "greenwashing aspect" to this unbundling, she says: "Anglo marketed this transaction as a responsible practice and a contribution to the just transition, when it's quite clearly the opposite action of what they claimed."

We are seeing glimmers of hope, but it is a very difficult battle to fight.

(UN)JUST TRANSITION

In the weeks leading up to the 2021 COP26 climate talks in Glasgow, South Africa updated its targets to lower carbon emissions. Despite this more ambitious target, President Cyril Ramaphosa and mines and energy minister Gwede Mantashe frequently emphasised on public platforms that South Africa and other counterparts should be given the space to develop and grow, even if it means exploring for fossil fuels; any transition away from coal must happen in a realistic and sustainable way.

Davies says the concept of a 'just transition' originated in the labour movement and aspires to "decent work for all, social inclusion and the eradication of poverty".

"The industry bodies and elements of government with vested interests in the continuation of the fossil fuel economy have co-opted the term to argue that the fact that we are so reliant on fossil fuels means that our transition must be extremely slow and prolonged.

"What these interests fail to recognise is that the just transition is fundamentally concerned with reimagining our economy and society. It's about building systems that stimulate new jobs, improve energy access and food security, decreasing inequality and preventing harmful environmental impacts."

According to Davies, the benefits of fossil fuel-based industrialisation in South Africa have always been disproportionately enjoyed by a privileged few, while the harms have accrued to the underprivileged many.

"Historically, South Africa has failed to convert fossil fuel-based development into a decent quality of life and provision of basic needs for the vast majority of our society, and there is no reason to suppose that doing more of the same will produce a different result. Breaking the historical link between fossil fuels and development is key to tackling increasing inequality and to combating dangerous climate change."

To continue with a fossil fuel-based economy would lock Africa into a new kind of unsustainable development pathway: "A pathway which will entrench existing social and environmental injustices and keep the continent at a strategic disadvantage when the Global North has transitioned to a low-carbon economy."

GREEN SHOOTS

While Davies believes mining companies have, with the onset of ESG, become better at "talking the talk regardless of walking the walk", there are companies that take ESG seriously.

"Anglo American Platinum [Amplats], for example. The company demonstrates a real willingness to understand the systemic ESG risks it faces and a willingness and commitment to manage and mitigate these risks."

Amplats also provides a rare example of a company that is honest about the difficulties it faces in this regard – and where it is falling short, Davies says.

"The only way to know whether a mining company is serious about ESG is to establish whether the claims and commitments it is making are translating into real-world differences."

Making a tangible difference starts with setting measurable, meaningful short-, medium-, and long-term targets and then reporting transparently about how it intends to achieve its targets.

Historically, South Africa has failed to convert fossil fuel-based development into a decent quality of life and provision of basic needs for the vast majority of our society, and there is no reason to suppose that doing more of the same will produce a different result.

"We will know that the sector is really serious about adhering to ESG principles and actively reducing its carbon emissions when we see evidence of change on the ground."

A STATE OF FLUX

Davies points out that the relationship between industry and ESG issues is fluid. "The recent resurgence in the coal price has seen coal mining companies start to jettison even the pretence that they are concerned about climate change and climate action. They recognise clearly that, when their product is delivering massive returns to shareholders, there is less likely to be much scrutiny of their ESG performance."

The responsibility also rests with the financial sector, in particular institutional investors and large asset managers, which are often not willing to sacrifice returns in turn for doing good.

In the meantime, Just Share will continue to do detailed research to support its advocacy campaigns, and to scrutinise the reporting and targets of companies to establish the extent to which words meet actions.

"There is no doubt that we will see an increase in shareholder-filed resolutions at local companies [by both Just Share and other responsible, activist investors]," says Davies.

She believes there will also be growing levels of opposition to the re-election of directors at companies that are failing to demonstrate sufficient commitment and progress, and, mirroring the rest of the world, increasing levels of litigation to drive the urgent system-wide change needed to achieve any of the sustainable development goals – the very goals all mining companies claim to be committed to achieving.

"As we can see at a global level, it is very difficult to shift the focus of the financial sector away from its myopic, short-term profit obsession, but if it genuinely and proactively embraces responsible business practices – whatever the acronym by which we decide to describe them – it has real power to drive positive change that can spread to every sphere of our country.

"We are seeing glimmers of hope, but it is a very difficult battle to fight."

BROADER APPROACH NEEDED TO MAKE MINING SAFER FOR WOMEN

BY CHARLOTTE MATHEWS

ALMOST all women in the mining sector, anywhere in the world, will have a bad story to tell. At its worst it might be about rape and assault. Or it could simply be being casually referred to as 'girls' or 'bitches' by men, who may also expect that any woman in a meeting will make the tea.

In the last two decades that women have been entering the industry in greater numbers, they rarely complained, or felt they had a right to complain, about this treatment. But the issue has recently attracted considerably more attention with the release of surveys conducted by BHP and Rio Tinto among their staff, and a broader enquiry by the Western Australia parliament.

In August last year, BHP said it had fired at least 48 workers in the past two years for sexual assault and harassment. Earlier this year, Rio Tinto released the results of a survey of 10,000 of its employees on workplace culture. It found that 21 of women at its sites had reported actual or attempted rape or sexual assault over the past five years, and more than a quarter of women had experienced sexual harassment.

The report also found that racism and bullying were widespread in both South Africa and Australia.

The parliamentary report into sexual harassment in the Western Australian mining industry (which is largely 'fly-in-fly-out by nature) found it was prevalent. One woman quoted in the report said: "I have been to about half a dozen sites, and I can truthfully state that I have been sexually harassed at every single one of them."

Sinead Kaufman CEO, Rio Tinto Minerals

Rohitesh Dhawan, president and CEO of the International Council on Mining and Metals (ICMM), says other than the reports commissioned by BHP, Rio Tinto and the Western Australian parliament, there was little global data on the prevalence of sexual violence, bullying and discrimination in mining. It was probably greatest in countries where the level of gender-based violence (GBV) was high.

Nevashnee Naicker, head of corporate communication at Anglo American, says underreporting of these incidents was probably linked to several factors, including fear of dismissal, economic dependency on the perpetrator, as well as social norms around what constitutes harassment and violence, linked with religious and other norms around marriage.

Rio Tinto CEO, Minerals, Sinead Kaufman says the group's own report highlighted some universal truths. "When there is a minority in a team, or in leadership, the workplace feels different. If we don't have representation in the workplace, it changes the conversation in the teams. As long as women remain a minority in leadership, it is difficult to create an inclusive workplace."

POLICIES AND PRINCIPLE

Dhawan says all large mining companies have policies in place to prevent harassment and assault, yet problems persist.

"A few things need attention. Firstly, there needs to be cultural change in the industry on issues relating to psychological harm, i.e. bullying and harassment. ICMM recently updated its principles on diversity, equity and inclusion, including additional actions to eliminate all forms of harassment and unfair discrimination from our workplaces, proactive steps to achieve gender equality and the unencumbered participation of all peoples, and elevating psychological safety to the same level as physical health and safety.

"Secondly, looking at the worst scenarios like rape, which is continuing to occur, here the industry is taking further steps to ensure women are protected. That includes taking stronger measures if sexual assault has happened. Mining companies must ensure such an incident is handled by trained professionals, and that the consequences are severe, it is not brushed under the rug.

"Thirdly, there must be policies at every mining company and mining site to ensure meaningful participation of all minorities. No one should be prejudiced because of race, sex, religion, or any other factor."

With 26 member companies, representing one-third of the global mining industry, ICMM members must lead by example and encourage non-members to change their behaviours in this area, Dhawan says.

Naicker says Anglo American has a 'Living with Dignity' framework, aimed at preventing and responding to violence (in particular, violence against women and children) in the various spheres of employees' lives, at home or at work. It recently updated its policy on bullying, harassment and victimisation and in March it established a GBV Office, the Living with Dignity Hub, as an independent office with the necessary resources to provide ongoing and committed support to employees.

Glencore Alloys established a 'Women in Mining Alloys' committee in September 2021 to identify key issues to ensure the group is an employer of choice for women, including challenges women face in the workplace, career development and transformation. In 2022 the focus areas are safety, security and the physical environment; skills development and mentorship; personal protective equipment (PPE); GBV; gender diversity and unconscious bias; and wellness.

ADAPTING THE WORKPLACE

Large mining groups have taken basic measures to ensure women's physical safety, including separate change rooms, better illumination and sometimes a 'buddy' system to make sure colleagues look out for each other. Other measures that will help to attract and retain women are ensuring PPE is appropriate for women and that working hours accommodate women's family responsibilities.

Kaufman says many of Rio Tinto's mine sites are old, with facilities that were built in a different era; for example, there are no women's change rooms or bathrooms. This infrastructure is being rebuilt for mining of the future.

One of the group's sites, where work has been ongoing for many years, is Richards Bay Minerals (RBM) in KwaZulu-Natal. "There the challenges are a combination of racial discrimination, a cultural power dynamic and male/female dynamic," Kaufman says. "You have to start small and work at those expectations in the business over a long period of time. RBM has already done work on the facilities, and it has an advocacy programme to ensure women enter the workforce and progress into leadership positions, improving diversity every day. They are also addressing education.

"They face great challenges, and we see the same in other conservative societies, in ensuring there is a clear general understanding of what respect means in the workplace. We can't change the world but we can ensure we have the correct mindsets in this organisation."

CHANGING CULTURE

There are many examples of everyday sexism, and in many places both men and women have accepted this behaviour as the norm, Kaufman says. People should be made aware of what discrimination and micro-aggression look like.

As long as women remain a minority in leadership, it is difficult to create an inclusive workplace.

"One of our priorities is to create a culture where people call out when something disrespectful is said," she says. "We are doing awareness training, starting with all senior leaders, to raise awareness to ensure an inclusive engagement with people is our minimum expectation, for all different settings and cultures."

Naicker says culture change does take time, but it is the basis of systemic behavioural change. "Solutions lie in both prevention — awareness, education and working to support victims and bystanders to report incidents, but also providing the mechanisms to help perpetrators address and overcome their behaviour — and in strengthening response services, which means having very clear policies, escalation and disciplinary processes which underpin a clear zero-tolerance message."

Kaufman says change requires senior male leaders and other men to stand up and be allies. This problem cannot be solved by women on their own, as mining is still a largely male-dominated industry. Men have to ensure cultures in organisations are changed, not seeing women as inferior and taking extra steps to ensure that workplaces acknowledge and support women's child-caring responsibilities.

At Rio Tinto, reporting systems are being re-established to ensure 'victim-first' reporting so that staff who are reporting issues of harassment or discrimination feel valued, not questioned, Kaufman says. Since the survey was published, the group is seeing a big increase in the number of people coming forward to report offences.

A key factor is to raise awareness, both for the victim and the perpetrator. When a staff member reports discrimination, the perpetrator is engaged at the outset to ensure they understand the impact they are having. Often people are not aware of the effects of their behaviour.

"Mostly, it requires explaining to the individual concerned, find the underlying reasons and get them to change, but some people are not receptive or the incident is too serious for such measures. We are very committed to ensuring reporting is taken seriously and cases treated," Kaufman says.

TEN YEARS AFTER MARIKANA, SOCIAL PRESSURES ARE BUILDING DANGEROUSLY

BY DAVID MCKAY

A REPORT produced by South Africa's auditor-general, Tsakani Maluleke, in June painted a bleak picture of local government performance. Only 16% of the country's 257 municipalities were given a clean bill of health. Among the dysfunctional is Rustenburg, an industrial hub in the world's largest platinum group metals (PGM) industry.

According to the report, only 36% of the municipality's approximately 550,000 residents have pipe water delivered to their dwelling; residents with flush toilets connected to sewage totals 53%. As alarming is the municipality's 26% unemployment rate, which rises to 35% of its youth.

Given that it's 10 years in August since the Marikana atrocity, in which 37 protestors were shot dead by police at Lonmin's mine, the auditor-general's report raises some uncomfortable questions, especially as the Rustenburg data is repeated numerous times throughout the country. One question is whether the perpetuation of unacceptable living conditions is sowing the seeds for more social unrest.

Neal Froneman, CEO of Sibanye-Stillwater, which bought Lonmin in 2019 as it teetered on the brink of bankruptcy, says the relationship between communities and his company has improved since 2012. Compliance is better and the investment mining companies are making in communities is more joined up in its implementation, as well as larger. Back then, Lonmin was found to have built only a handful of the 5,500 employee houses it had committed to six years earlier in its social and labour report (SLP). Today, SLP compliance, as required in the Mining Charter, is but a portion of the commitment mining companies make to communities. In the case of Sibanye-Stillwater, the company pays 1.5% of dividend flow to community projects.

Anglo American Platinum (Amplats), another major player in the Rustenburg region, is revising its employee share ownership scheme. As part of its proposed purchase of shares in Royal Bafokeng Platinum, Northam Platinum has promised to invest in a fleet of renewable energy projects. In September, Impala Platinum (Implats) installed solar at its employee single quarters. But the sense is that without government stepping up to the plate, their efforts are a drop in the ocean.

"There is a huge improvement in the recognition by companies that you have to share value," says Froneman. "That's the good part. The bad part is … the country has gone backwards very significantly. In my view, we're sitting on a time bomb of social unrest and after the riots of last year [triggered in KwaZulu-Natal and Gauteng provinces following the imprisonment of former president Jacob Zuma], they're just a sign of what's coming."

Natascha Viljoen, CEO of Amplats, acknowledges it is "impossible" for the company to single-handedly address the shortcomings in chronic service under-delivery, even in the country's industrialised regions. "In Sekhukhune Valley, where we have our Mototolo mine, we employ about 3,000 people and about 1,500 contractors," says Viljoen. "If we look at the demographics, we are talking about 250,000 youth unemployed in that same area; it is huge. It is impossible for us to solve that entire thing. But what we are acutely aware of is that we have a role to play in sustainable livelihoods."

For a mining company, a consequence of government dysfunction is that social upliftment expenditures begin to look like wasted investment. "You become less competitive when government doesn't play its role," says Froneman. "It comes more onerous to operate in this environment and that's where it goes pear-shaped."

Shareholders begin to think there are better and "less risky" places to invest. There's also the risk of market cyclicality. Deciding to invest 1.5% of dividend flow in social upliftment programmes, while it has the imprimatur of shareholders, remains a cost that becomes the harder to bear during commodity downturns. "We all pay taxes and taxes should go into municipalities; it should be going into infrastructure. We are now paying twice," says Froneman. Sibanye-Stillwater has paid R2bn in PGM-related SLPs alone since about 2019. At its gold mines, west of Johannesburg and in the Free State, some R11.3bn has been spent on SLPs.

SPEAKING OUT

Froneman has attracted negative commentary among his peers for speaking too stridently about government failings, especially in respect of the social pressures that are building in mining communities. He is unrepentant, for instance, about having said earlier this year the country was beginning to resemble a failed state, a controversial view supported by Implats CEO Nico Muller. Froneman's comments were indirectly criticised by the former Anglo American CEO, Mark Cutifani. "It's not helpful," he said in May.

"It's time to call out the failings," says Froneman. "We run public companies and the government is a public organisation. We actually have the right to speak out about it. I will remain outspoken in the national interest."

Viljoen says she shares Anglo American's 'quiet diplomacy' approach but insists her company's conversations with government in private are vigorous. "Does the fact that we say how bad it is [social conditions around the mines] improve it, or is it about what we do?" she says. "The fact we are publicly diplomatic does not mean we are privately diplomatic."

One of SA's other outspoken CEOs is Errol Smart, CEO of Orion Minerals, who inspired headlines in 2020 for calling out "mafia-type behaviour" among people organising themselves around a narrow group of economic interests seeking to extract contracts from mines. This 'procurement mafia' is only barely linked to nearby mining communities, if at all, but it is a symptom of broader government dysfunction and poses a major risk for mining firms.

Said the Minerals Council, of which Smart is an executive: "Very often, they [members of the procurement mafia] are equipped with weapons. While some protests appear to stem from a lack of municipal service delivery, there is worrying evidence of a culture of corrupt 'tenderpreneurs' having been allowed to disrupt legitimate operations, and who are seeking to subvert legitimate procurement practices."

Keith Scott, CEO of Fraser Alexander, one of South Africa's largest mining contractor firms, specialising in tailings management and plant build, says stopping a mine is as easy as blockading the road that supplies it. For business interests aiming to extract favours from mining companies, this is often the modus operandi. "We've had many instances of road blockading, communities pulling our trucks off the road, taking our drivers hostage, taking keys away, making demands," he says.

We're sitting on a time bomb of social unrest and after the riots of last year, they're just a sign of what's coming.

I just think that's going to become the norm, this idea that you're supplementing and supporting local government. What we're doing to a smaller extent is taking up ownership of some of those issues in those communities.

Scott is more qualified than most to speak of how events like this have become a national phenomenon as Fraser Alexander, as a contracting company, operates on 60 to 70 sites around the country. "What we've seen over the last couple of years is the localised business mafia: taxi organisations that operate like mafia. We're seeing more kind-of organised mafiosi-type cartel activity. Very seldom are these community people."

Alarmingly, mining companies can't rely on the South African Police Service. A number of mining firms where protests occur say police were either unable to help, or were reluctant. "When we phone the police, they literally say they don't want to get involved, so it's a very hard situation to manage." One of the most recent striking examples of police haplessness was on June 6 amid an attack on employees at Sibanye-Stillwater's suspended Cooke facilities, west of Johannesburg.

According to Daily Maverick, electrical cables had been cut by illegal miners, who had then planned to access the mine. The police were called in to assist after shooting broke out, but they stood by — perhaps understandably — owing to the heavy arms the illegal miners bore, described as "military-style" weapons. "There were about 150 armed assailants — it was planned and they had stashed supplies," the Daily Maverick quoted an eye witness as saying.

Amid these enormous pressures on communities, the vast majority of which are not criminal but in very many cases are desperate, it's become a non-negotiable for mining companies to step in and take over the work of government. Even for a contracting company like Fraser Alexander, which despite maintaining long-standing contracts with established clients, is still 'in and out' of a particular site, it makes sense to take on a degree of community-related investment, if only to establish the company's partnership credentials with miners.

"I just think that's going to become the norm, this idea that you're supplementing and supporting local government. What we're doing to a smaller extent is taking up ownership of some of those issues in those communities."

Says Froneman: "Up until a few years back, we just stuck to our position that it's government's responsibility to provide services. But all you're doing is to have major friction with your local communities. What's become incumbent upon us is actually to step up and look at providing water, power,

Keith Scott CEO, Fraser Alexander

and — where we can — infrastructure such as roads, internet connectivity and so on."

The fact the ANC is heading for its elective conference in November means the political attention of government is distracted. This doesn't bode well for the short-term fortunes of South African citizens. Froneman calls it 'silly season': "We already have a weak government, very unstable, and we are now going to see a lot more of this, which will feature in community protests and all these sorts of things. It is very concerning."

ROCK BOTTOM

WHY MINERALS EXPLORATION PLAN IS BOUND TO FAIL

BY LIESL PEYPER

THE exploration strategy South Africa's Department of Mineral Resources and Energy (DMRE) published in April sets a bold target of attracting 5% of the world's global exploration spend. But the industry says the department's good intentions are not supported by a realistic plan of action. And that's to put it mildly.

On April 14, the DMRE published South Africa's much-anticipated exploration strategy in the Government Gazette. Industry and investors hoped the document would signal a turnabout in the country's dwindling exploration spend (see graph: Budgeted exploration spend). In tandem with the strategy document the DMRE also published an exploration implementation plan.

Whereas the contents of the implementation plan resembled points that had been negotiated with industry, the exploration strategy appeared to be the solo work of DMRE officials.

"Hours of workshopping and negotiating with the DMRE ... and what arrived on paper is not what we had expected," says Errol Smart, head of the Minerals Council's exploration and junior mining desk.

Since the publication of the two documents, mines and energy minister Gwede Mantashe has said that the exploration strategy is a draft and hinted that changes could follow after consultations with industry. But Paul Miller, a mining expert and owner of the consultancy AmaranthCX, has his doubts.

"The question is: what is the status of this document? It was gazetted, but not for public comment. At no point has it gone out for consultation, like with any green or white paper – something a normal policy process would require. The ministry has claimed widespread consultation with the industry, but that's a lie."

Several obvious stakeholders, such as geological and geophysical experts, were not asked to give input. "This is completely off the books from a normal policy development or regulatory or legal development process," Miller says.

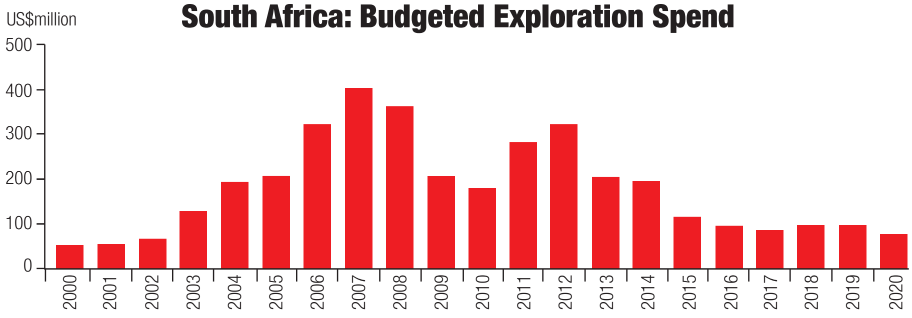
Jonathan Veeran, a mining lawyer at Webber Wentzel, says the exploration strategy is a policy document. "This is the DMRE saying 'this is where we want things to go', within the regulatory framework that already exists."

AN UNREALISTIC, UNFUNDED TARGET

The preamble to the exploration strategy is an ambitious target of capturing 5% of the world's global exploration spend worth about $900m, an objective Mantashe has articulated at several mining conventions. It's a tall order though: South Africa last laid claim to this share of exploration spending in 2003. In fact, mineral exploration in South Africa has been dwindling for years

Gwede Mantashe Mines and energy minister

South Africa: Budgeted Exploration Spend



SOURCE: S&P Intelligence

and was estimated to be as little as 0,75% of global spend in 2021 (see graph on SA share of exploration spend vs Mantashe targets).

The ambitious target has an equally ambitious deadline: the strategy aims to attract this share of global exploration expenditure by 2025, but Miller believes the strategy and its bold deadline are dead in the water. "By the department's own reckoning, this percentage means investment of R14bn [about $900m]. This is a radical target, requiring a radical plan. Where are the radical investments required to reach that?"

EMPOWERMENT BACK ON THE BOOKS

Much to the surprise of industry and notwithstanding Mantashe's promises that exploration firms would be released from empowerment obligations, a 51% black ownership provision made its way back into the exploration strategy. According to the document, the DMRE will, after identifying worthy projects, only render financial and technical support if the exploration company has at least 51% black ownership.

Veeran says it's nonsensical to have an empowerment partner at exploration stage. "At exploration level you don't make any money. There's no benefit created for the empowerment partner [at exploration stage]."

Moreover, exploration is a high-risk venture, and venture capitalists don't want to part with equity given the uncertain outcomes. "Ordinarily, if you buy a house and someone says: 'yes, you own the house but someone else has a casting share' you'll take a different view. This same simplistic principle could be attributed to [exploration] companies. They put in the money and should be free to manage it. They want less interference," Veeran says.

The ministry has claimed widespread consultation with the industry, but that's a lie.

Mining executives have long complained that regional DMRE offices still insist on proof of 51% black ownership for exploration applications, notwithstanding the fact that empowerment is no longer a requisite in the Mining Charter.

"One of my big gripes is that the minister has repeatedly said in terms of the charter you don't require 51% BEE to get an exploration licence. Yet, the regional offices still apply it. Surely, it's in the minister's power to tell his regional directorate not to do it. It creates market uncertainty," says a mining executive.

ENTER THE COUNCIL FOR GEOSCIENCE

In the strategy, the DMRE also assigns a much more prominent role to its Council for Geoscience (CGS) in the to-be-established public private partnerships. This body will be "fundamental in assessing the potential of projects that will be funded".

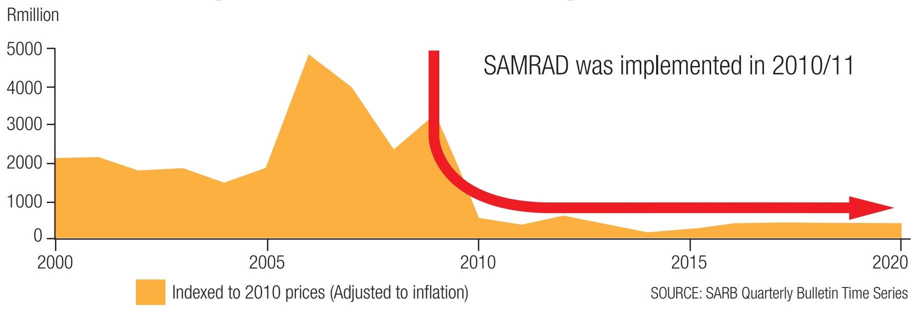
Much to the relief of industry, the strategy document stops short of saying the CGS will take a stake in the ventures where it has conducted exploration work. The council's CEO, Mosa Mabuza, suggested this as a possibility at the 2021 Junior Mining Indaba, provoking a shudder among the audience.

The council has since put these aspirations to rest. Says Mabuza: "When the CGS was founded in 1993, it was expressly prohibited from undertaking exploration. Legislation was subsequently amended, and the council was permitted to do some level of exploration participation and activities. But first and foremost, we are a science council. I want to be clear we're not an exploration company. If we do invoke and deploy this provision [participating in exploration], we can hopefully deliver some successes. We've got so much potential, but the level of exploration activity is inconsistent with the quality of geology we have."

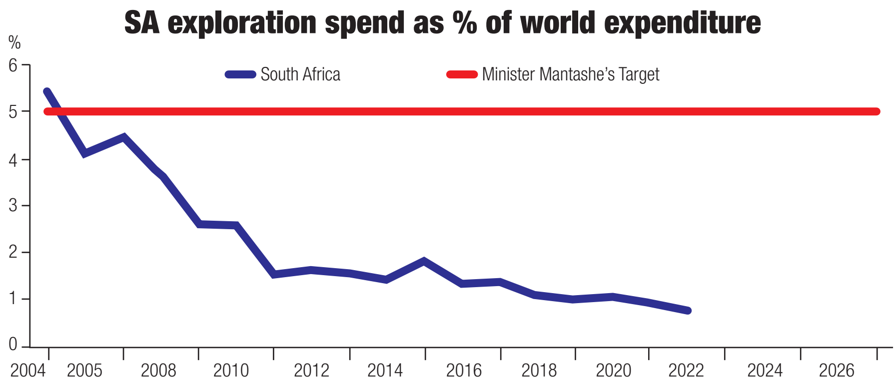
Miller points out that the CGS will need a significant budget increase from its current annual $550m and there will have to be a significant rise in annual mineral and evaluation expenditure to be able to play a significant role in exploration. "Only half of the CGS's current budget is spent on projects," he says.

Some industry players are sceptical of the CGS's significance in exploration. Says one exploration company: "If we had a transparent and efficient mining and exploration title system, industry could have saved itself. It would get offshore financing; it would

Gross fixed capital formation: mineral exploration and evaluation



SOURCE: SARB Quarterly Bulletin Time Series



SOURCE: S&P Capital IQ


Roger Baxter CEO, Minerals Council SA

bring in foreign direct investment and we would have exploration. The CGS is useful, but not defining.

"What we do need is a mining cadastre that will tell you exactly everything that is known about a specific site, who owns it, who has rights to it and who did work on it in the past. That's what we need."

THE GLARINGLY ABSENT CADASTRE

Unsurprisingly, the strategy document also did not mention any steps to establish a new mining cadastre to replace the dysfunctional and untransparent Samrad (South African Mineral Resources Administrative System). "The big issue with Samrad is that it's untransparent. Applicants for licences cannot tell from Samrad if a property thought to contain mineral deposits has already been claimed," a geologist says.

"We need a cadastral system that is transparent," says Veeran. "If I didn't get my right, I need to see who got it and why their application was better than mine. [There seems to be an attitude of] 'we have the resources, so we'll dictate what happens and who gets the right. We're the only people who can make the right decision.' That's a fallacy."

The CGS's Mabuza is hopeful that the country will have a new cadastre "sooner rather than later". "Our minister is painfully aware of the challenge the delay is causing. It greatly affects our ability to achieve our dream. He has taken it upon himself to do all he can to make sure the system is up and running. I think he's tired of making announcements."

IT SHOULDN'T BE UP TO THE MINISTER

While the exploration strategy says the DMRE and CGS will together identify and assess projects with potential, the exploration implementation plan amplifies the role of the mining minister in the granting of exploration permits, a major concern for industry.

Roger Baxter, CEO of the Minerals Council, raised this during his address at the Junior Mining Indaba conference in Johannesburg in June.

In the plan, the DMRE says it wants to do away with the principle of 'first come first served' when exploration licences are granted. This principle is explicitly stated in the Minerals and Petroleum Resources Development Act. In the exploration plan, the DMRE however laments the "unintended consequences" this principle has had, claiming it has promoted "mediocrity in the implementation of exploration activities". The department proposes it be replaced with a meritocratic system that considers "national development imperatives".

According to Baxter, this suggests an elevated level of ministerial discretion, which could mean exploration rights will be granted on the basis of subjective criteria by the DMRE, as opposed to a legal requirement.

Webber Wentzel's Veeran says although there will always be ministerial discretion in legislation and policies, such powers cannot be unfettered. "It doesn't mean there's carte blanche. You can't just leave it up to a minister to decide arbitrarily who gets an exploration right. [The qualifying criteria] must be clear and upfront from the start."

If the first-come-first-served principle is to be replaced with a meritocratic system, the DMRE will have to change the Act, says


Mosa Mabuza CEO, Council for Geoscience


We've already pushed
the button...
...building our
Green Metals
portfolio.

We don't have time. Our minerals are being depleted. We're already 10, 15 years behind and we have to play catch-up, but we can't do it when the industry is in this state.

Miller. "You can't implement this change without a change to the law."

According to Miller, the DMRE ignored the first-come-first-served principle for years, and granted rights to people who had no merit. "Now they want to fix their own mess by introducing some kind of meritocratic discretion. We've always had this principle in the Act, but they ignored it and now they want to reintroduce it. It's entirely misdirected. It's like fixing a broken ankle by amputating the whole leg."

NO EXPLORATION, NO FUTURE

Amid the policy inertia and shortcomings in the new exploration strategy and plan, South Africa's mining output has been shrinking. One of the biggest contributing factors is the dismal rate of discovery of new deposits (see graph: Gross fixed capital formation). Mining has been the biggest contributor to a R200bn tax windfall, and the country has vast amounts of minerals beneath the soil — a fact the DMRE boasts about in its strategy document.

"But you cannot use mining as a catalyst for growing your economy if you don't do greenfields exploration," says Veeran. "We seem to have an attitude in South Africa that we're the only jurisdiction with gazillions of dollars' worth of minerals."

He also worries that, apart from contradicting policies that fuel uncertainty among potential investors, SA is also not planning to take advantage of the battery minerals revolution. This includes vanadium, cobalt and lithium, which are in high demand.

"Apart from the platinum group metals, government is not creating an environment that will drive exploration for these minerals. We need to continually have an exploration cycle. What's going to happen when all the ores we have are mined? We'll become one big gold mining dump."

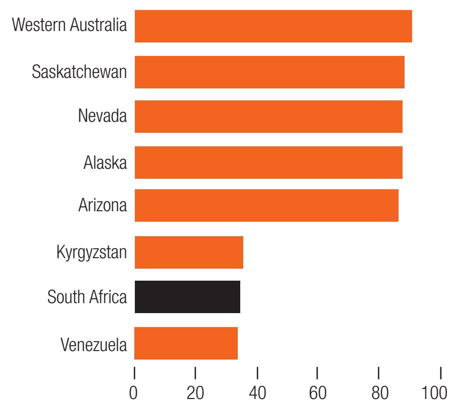
It's simple: when mining companies don't do greenfield operations, there aren't new minerals lined up to be mined. It can take 20 years or longer and vast amounts of venture capital to reach production stage. Many mines in South Africa are heading towards the end of their lifespan, and new mines need to be discovered and developed if the industry is to continue.

James Lorimer, the DA spokesperson on mining, found the DMRE's exploration strategy to be a far cry from the game-changing policy it was supposed to be. "It was supposed to signal a turnabout in the fortunes of the industry. Instead, it is a mishmash of everything government has been claiming it's doing for the last several years."

Taken as a whole, DMRE's hijacking of the exploration implementation plan workshopped with the industry, and then the confusing policy assumptions in the exploration strategy, represent the kind of message that's been putting investors off South African minerals investment for years. It accounts for the seemingly inexorable slide down the rankings of the Fraser Institute, a research company that annually gauges the attractiveness of the world's mining regions to investors. A glance at the institute's latest policy and investment attractiveness index shows SA languishing near the foot of the table, not far from Zimbabwe and flanked by the failing economies of Venezuela and Kyrgyzstan (see Fraser Institute graph).

The clock is ticking. "We don't have time," says Smart. "Our minerals are being depleted. We're already 10, 15 years behind and we have to play catch-up, but we can't do it when the industry is in this state."

Investment Attractiveness Index



SOURCE: Fraserinstitute.org

James Lorimer Shadow mines minister, DA

Only a miracle can keep the **next generation** of mining engineers in long-term jobs

BAR a couple of notable exceptions — such as the Rainbow Rare Earths project at Phalaborwa and the Renergen helium and gas project in the Free State province — South Africa's junior mining and exploration industry is in dire straits.

Just how dire was laid out in blunt terms at this year's Junior Indaba conference by two of the South African mining sector's most straight-talking participants: financial services and mining consultant Paul Miller and mining lawyer Hulme Scholes.

There was none of the corporate speak typically used by mining executives on public podiums: these guys went for the jugular. But their messages of imminent disaster seemed to go largely unheeded by the audience, most of whom in subsequent polls reflected the general diehard optimism of the mining sector.

According to Miller, the current crop of South African mining graduates will be unemployed by 2040 because the country will have very few operating mines remaining by then unless exploration "takes off radically and dramatically" this year and next.

Miller told delegates that the South African exploration industry "has never been at a lower ebb. It takes on average 15 to 20 years to take a new Tier 1 mineral deposit from discovery to production.

"There is a slow, inevitable march for the SA industry, where exploration spending has dried up, mines are gradually closing, new mine discoveries have not been made, and the pipeline is empty.

"So, will there be any mines operating in 18 years? Let's count them. You will run out of mines before you run out of fingers to count them on."

Miller added: "The Fraser Institute survey shows South Africa at the bottom, competing for last place with Venezuela and Zimbabwe. But the Minerals Council does not like the Fraser Institute survey, so let's take the Standard & Poor's Capital IQ numbers, which show that in 2004 — the year of the original Mining Charter and the Minerals and Petroleum Resources Development Act — South Africa attracted 5.42% of global exploration, but last year it attracted 0.76%."

Miller challenged the audience with his closing comment that "... the best test of my theory is to ask any senior South African mining executive where their adult offspring work. If you can find one in a hundred where their own children have entered the South African mining industry I will be surprised."

Scholes — the firebrand lawyer who pursued a legal action over several years to have the revised 2018 Mining Charter scrapped in its entirety — laid the blame for the current mess squarely at the feet of the ANC.

He described the ANC as a "corrupt and self-serving political party" adding that "the ANC with its grip on the strings that run the government is the problem — nothing else."

He commented: "The first Mining Charter worked because it was negotiated and agreed. The officials at the time, such as Sandile Nogxina [director-general of the Department of Mineral Resources 1998-2011] and Jacinto Rocha [deputy director, mining regulation DMRE, 1994-2010] made administrative decisions in implementing the legislation. The problem is that the decision-making by the government then became political and not administrative. We have to move away from that.

"Getting rid of the ANC is not the answer. Cleaning up the ANC is the answer. Get rid of corrupt officials and South Africa will thrive and mining will thrive. Stop this stupidity. We need President Cyril Ramaphosa to remain in power for another term to see this through."

— Brendan Ryan

AFRICA'S GOVERNMENTS ARE POWERLESS TO CONTROL ILLEGAL MINING

Illegal mining is a huge and growing problem across much of Africa but it seems to be particularly prevalent in South Africa, where it is getting rapidly larger and more organised in scale, writes **BRENDAN RYAN.**

ACCORDING to Orion Minerals CEO Errol Smart, who is also the Minerals Council South Africa's executive for the promotion of junior mining, "illegal mining here is not junior mining, it is mega-scale corruption and crime".

What started out involving isolated groups of 'zama-zamas' ('people who keep on trying') working on small operations on alluvial diamond diggings and old, shallow gold mines on the Witwatersrand some 10 years ago, has evolved into large-scale mining operations. These involve gangs of illegally operating miners working underground in various deep-level Free State gold mines for months at a time.

Just how bad the situation is was underscored in April, when the extent of an illegal mechanised mining operation on Thungela Resources' Khwezela Colliery Kromdraai site near eMalahleni in Mpumalanga was exposed publicly. It only came to light after a serious toxic water spill from the site, for which Thungela was initially blamed, but the company then revealed it had been caused by a major illegal mining operation on ground which Thungela was rehabilitating after it had been mined.

Clive Johnson CEO, B2Gold

According to reports, Thungela has been to court multiple times and won interdicts to stop the illegal miners from operating, but the South African Police Service has not enforced these court orders and the mining has continued.

This is nothing new: the Minerals Council sounded a warning back in 2016 that illegal mining was getting out of control. Then president of the Council Mike Teke commented that the body was "cooperating and working with the Department of Mineral Resources and the South Africa Police Service".

Minerals Council security coordinator Neil Metzer said at the time the issue of illegal mining had been taken up "at the highest level of the country's security structures".

At that time, Petra Diamonds' major tailings recovery operation at Kimberley had been invaded by more than 1,000 illegal miners and, despite both Petra and previous owner De Beers having obtained court orders to stop this illegal activity over several years, nothing had been done (see sidebar story).

Despite the Mineral Council's pleas, it is clear there is little being done to meaningfully combat illegal mining. The reason, according to Democratic Alliance shadow minister for mineral resources James Lorimer, is corruption, plain and simple.

Lorimer told the Junior Indaba conference, held in Johannesburg in early June, that he had visited the eMalahleni illegal coal mining site. "This has been completely ignored for the past six months. Nothing is being done about it and it's quite clear there's a lot of crookery going on.

"The police are doing nothing — they are probably being paid off. The municipality is doing nothing — they are certainly being paid off. The Department of Mineral Resources and Energy has an office 9.2km away and they are doing nothing."

It is not just South Africa that is battling this problem; it is rampant throughout the major mining jurisdictions south of the Sahara.

Clive Johnson, CEO of Canadian gold mining company B2Gold, which produces the majority of its million ounces of gold from the Fekola mine in Mali, told the Cape Town Mining Indaba: "The kind of things we are seeing in Mali right now in artisanal mining to the north of where we are is devastating to the local river and the potential rehabilitation of agricultural areas.

"We call on African governments to choose their partners carefully. Choose the partners that are not going to make short-term promises that they may not keep."

Johnson was referring to mining companies "from countries which do not have the same regulatory requirements that we have. Sometimes they seem to be able to do things — such as back artisanal miners to do tremendous environmental damage using very unhealthy mining practices."

Mainstreaming illegal mining

Johnson's complaint is sure to be backed up by Gemfields CEO Sean Gilbertson given the group's experience at its Montepuez ruby mine in Mozambique, which has been badly affected by illegal mining.

The police are doing nothing — they are probably being paid off. The municipality is doing nothing — they are certainly being paid off.

Much of these operations, according to Gilbertson, is being carried out by "illegal syndicates" that bring in "vulnerable and impoverished people from faraway towns in neighbouring provinces and countries" to do the mining.

Gilbertson comments that "any multinational or listed company which allowed people to work in the conditions that are prevalent in artisanal mining would be lambasted for health and safety risks and environmental damage".

Why has illegal mining gotten so out of hand?

The answer lies in corruption, as highlighted by Lorimer, but also in the lack of political will by governments to tackle the problem, as illegal mining provides a living — albeit dangerous and illegal — to millions of impoverished citizens.

Illegal miners also receive support from institutions like the United Nations and international humanitarian non-government organisations (NGOs), which have protested against efforts to control illegal mining that might affect the human rights of the miners. For a company that is listed on a developed world stock exchange, this can be extremely problematic.

According to the Minerals Council, some 20% of the world's gold production comes from artisanal mining, which has "become integral to the economies of many mining countries in the developing world".

The Council also points out that artisanal mining is "plagued with exploitation of children and women. In Africa it is estimated that about half of artisanal miners are women and 10% are children."

That's an issue that gets huge attention from NGOs, but the underlying crucial issue — the elephant in the room, if you like, that few are willing to come to terms with — is the financial loss being caused by the illegal miners.

This kind of mining is essentially theft from the mining companies that hold mining rights over the ground being invaded. It is also theft from the host nation in lost taxes, royalties and foreign exchange earnings from the export of the commodities, which are invariably moved out of the country illegally.

Gilbertson told the 2022 Mining Indaba that "the mineral resources get sterilised because, where the pits have been dug, some 40% to 50% of the resource gets left behind but it is now too dangerous to access or it is no longer economically viable to mine because 50% to 60% of the value has disappeared.

"The resource is also squandered. Africa has lost billions of dollars from its natural resources from the evaporation of gemstones from the continent being mined by artisanal or illegal miners, and they are sold for a fraction of the true international value ... like 10c on the dollar."

Last year, Gilbertson said Miningmx that the extent of the illegal ruby trade was difficult to assess, but it was huge. He said Gemfields had sold about $620m worth of rubies since it started operations in Mozambique, but he estimated another $600m worth had left the country illegally. Between 60% and 70% of this had come from the Montepuez licence area. This estimate is based on "what we have seen turning up in the overseas markets".

THE ILLEGAL ARTISANAL MINING MARKET IS A WELL-MANAGED FIVE-TIER SYSTEM

1st Tier

The underground workers, mostly illegal immigrants, do the physical mining. Many have worked in the mines previously. They use chemical substances to primitively refine the product.

2nd Tier

The buyers on the surface around the mines also organise the first-tier illegal miners, and support them with food, protection and equipment.

3rd Tier

The regional bulk buyers, in most cases, have permits issued in terms of the Precious Metals Act 37 of 2005 to trade in precious metals.

4th Tier

The national and sometimes international distributors use front companies or legitimate exporters.

5th Tier

The top international receivers and distributors usually work through international refineries and intermediary companies.

SOURCE: Minerals Council SA

POLICY MISSTEPS

Suggestions over what should be done to control the situation tend to shy away from legal crackdowns and lean towards schemes aimed at bringing artisanal mining into the formal mining sector in one way or another.

According to commodity trading and logistics firm Trafigura's head of corporate responsibility, James Nicholson, governments, civil society and large-scale miners should come together to understand the reality on the ground for artisanal miners. "It has always been part of the metals supply chain. Our interventions can be straightforward and simple: capacity building, optimising logistics and giving them a social licence [to operate]."

But that's easier said than done: South Africa's Department of Mineral Resources & Energy last year published a draft artisanal and small-scale mining policy that has been rejected out of hand by mining legal expert Hulme Scholes, who declared it to be unrealistic and unworkable.

This is like allowing drug dealers to continue selling drugs if they obtain pharmaceutical qualifications and pay tax on their earnings – it just won't happen.

"The policy is a fantasy," says Scholes. "With a stroke of the legislature's pen, it intends to magically create vast valuable open-cast areas where artisanal miners can profitably mine, as previously mined areas are excluded to prevent artisanal miners from attracting environmental liabilities.

"It also assumes that platoons of zamazamas will miraculously stop their illegal activities overnight, undertake formal training, use PPE [personal protective equipment] and pay taxes and royalties. This is like allowing drug dealers to continue selling drugs if they obtain pharmaceutical qualifications and pay tax on their earnings – it just won't happen."

There are two probable outcomes of the policy, one of which is already apparent, says Scholes. The first is that it will become the responsibility of mining companies to conduct training and equipping of artisanal miners operating on their properties, at huge cost. The second outcome, which is already present in communities, is an expectation that there will be services provision for whoever is on company property.

"This short-sighted creation of expectations will cause even more problems for mining companies, which are already battling to manage communities who look to mining companies to satisfy basic needs that a failed state should have provided in the first instance," Scholes says.

"Gwede Mantashe [the mines and energy minister] and his DMRE must put South Africa before the ANC and bin the policy. Start by intervening decisively to stop criminality in the mining sector and only when the all-too-frequent tragic incidents no longer occur, can the notion of promoting smaller-scale mining be pursued."

PETRA, A DIAMOND MINER HIT TWICE BY THE ILLEGAL MINING SCOURGE

BY BRENDAN RYAN

LONDON-listed Petra Diamonds provides a good example of what can happen to a mining company when it gets hit by widespread illegal mining on its properties and has to deal with uncooperative governments and radical human rights non-governmental organisations.

The negative experience must have played a part in Petra's decisions to sell out of South African subsidiary Ekapa Diamonds and greatly reduce its shareholding in the Williamson mine to drop its "risk exposure" to Tanzania.

In 2015, Petra and partner Ekapa Mining created the Kimberley Ekapa Mining (KEM) joint venture to recover diamonds from the surface dump retreatment operations around Kimberley that were previously owned by De Beers.

There followed an immediate exponential rise in the number of miners operating illegally on parts of the 6,000-hectare licence area. The miners continued to operate unhampered despite carrying out bouts of arson and widespread theft of KEM's equipment and also despite the fact that De Beers had repeatedly laid charges against them with the police over the previous two years.

Petra sold out to partner Ekapa in 2018, by which time KEM had negotiated a solution with the miners — brokered by the Department of Mineral Resources & Energy (DMRE). This involved surrendering 600ha of its ground to them provided they stayed off the rest of the company's lease area.

That did not work and by August 2019 it was revealed that KEM was still spending around R3m/month on security to keep illegally operating miners off its property following further incidents, including arson on some of KEM's haul vehicles.

At the Williamson Mine in Tanzania, Petra was sued in London by Leigh Day, a UK-based law firm, on behalf of 71 anonymous claimants "in relation to alleged breaches of human rights associated with third-party security operations at the Williamson mine".

According to a Petra statement, issued in May 2021, the incidents did not involve its own staff but instead third parties — the company's security provider, Zenith Security, and the Tanzanian Police Force.

The Petra statement added that: "While Petra is not directly involved in operations at the mine and had no direct involvement in the events, it believes that the agreed settlement balances the interests of its stakeholders with those of the local community and avoids contesting protracted and expensive litigation where, even if Petra prevailed, it is unlikely that its own legal costs would have been recoverable."

The settlement — reached on a 'no admission of liability' basis — was for £4.3m to be paid out to Leigh Day's clients, including a contribution to their legal expenses as well as "significant funds" that Petra has committed to invest in programmes to provide long-term sustainable support to the communities living around the mine.

Richard Duffy CEO, Petra Diamonds

Community projects to be looked at include "a feasibility study into a formalised artisanal mining project at the mine".

At the time, Petra was also involved in a long-running dispute with the Tanzanian government over its operations that was resolved in December 2021, with Petra agreeing to drop its stake in the Williamson mine from 75% to 63% while the Tanzanian government upped its stake from 25% to 37% at no cost.

Petra also agreed to a number of financial payments and measures that appeared punitive and heavily in favour of the Tanzanian government, although this assessment is denied by CEO Richard Duffy.

But Petra followed that deal up by selling half its remaining stake in Williamson Diamonds to Tanzanian mining services contractor Caspian, which dropped Petra's indirect stake in the mine to 31.5%.

Go figure. According to Duffy, the moves were made to reduce Petra's risk exposure in Tanzania while retaining some exposure to the upside of operations at Williamson, which controls a huge — if marginal — diamond resource.

Assuming the framework agreement with the Tanzanian government has now settled all the political and regulatory issues then that risk consists of the marginal nature of the mine as well as the problems posed by future illegal mining, which seem unlikely to go away.

OFF THE RAILS:

IS TRANSNET LOSING THE BATTLE AGAINST CRIME, CORRUPTION AND INCOMPETENCE?

Transnet is failing at a time when South Africa badly needs it to flourish. Billions in rand are being left on the table owing to unfulfilled take or pay coal contracts. Yet Transnet says it's responding, writes **CHARLOTTE MATHEWS**

THE raw data emerging from Transnet exposes how frayed the lifeline to global markets has become for the country's bulk minerals exporters. At the time of writing, Transnet was yet to publish its annual numbers, but reports from coal miners suggest its business unit, Transnet Freight Rail (TFR) will have to shoot the lights out between July and December if it's to sustain last year's 66.9 million tons/year (Mt/y) in coal volumes.

Even at that lofty target, the coal line is underperforming. Export coal volumes totalled 72Mt in 2020, which is a massive undershoot of the line's 80Mt/y capacity although that number has rarely been reached. What's especially galling for the coal miners is that billions of rand in revenue - and tax take, for that matter - is being left on the table given the extraordinary gains in prices.

It has forced miners such as South32, which produces manganese, and the coal miners to truck their minerals - the latter reported to have sent an annualised 6Mt by road in May. Trucking is more expensive for mining firms than rail, but it's economic at the current prices of some minerals and is definitely better than a capital build-up that would result from stockpiling.

The Minerals Council South Africa has calculated that the industry's opportunity cost in 2021 was R35bn, based on measuring delivered tonnages against target. The number grows to R50bn in the same year based on delivered tonnages against installed rail capacity.

"The bulk mining industry is deeply concerned about the difficulties of railing their products to harbours and meeting contracted sales," says the council's head of communications, Allan Seccombe. "Key for the industry is for Transnet to return to targeted deliveries, and then sustainably realise installed capacity, before we can start talking about expansion."

In a June 3 report, RMB Morgan Stanley estimated that at spot prices, the South African government would earn R140bn in income, taxes and royalties from mining in 2023. This is 8% of the National Treasury's budgeted revenue. Three coal miners - Exxaro Resources, Glencore and Thungela Resources - will pay about R58bn of this in taxes and royalties in South Africa on their coal earnings at spot prices. Using a purely

linear relationship, another R15bn could be generated from these companies if Transnet could return rail volumes to 80Mt/year, the bank said.

BINDING CONSTRAINTS

In an interview, TFR CEO Sizakele Mzimela, who was appointed in April 2020, said the division faced three binding constraints that were hampering operational performance and which management was taking steps to address. The first is crime and vandalism of rail infrastructure. While not a new problem, it has now reached unprecedented proportions.

"We are spending a lot of money to try and reduce the impact of these incidents but the type of theft and vandalism we are experiencing indicates we are responding to syndicates," she said. TFR needs assistance from outside parties to address the issue sustainably. Mzimela said it was essential to ensure that when criminals tampering with the network are caught, their convictions move ahead faster and sentences are harsher. At this stage, the conviction rate is only 10%, so it is not a deterrent.

She says this issue is receiving attention from government and there are encouraging signs of progress, although the results are not in the public eye.

The second major constraint is a shortage of operational locomotives - a consequence of the endemic corruption perpetrated during the administration of former president Jacob Zuma. TFR suspended a contract in 2012 in which 1,064 locos for freight trains from China North Rail, China South Rail, General Electric and Bombardier were irregularly procured. The effect is not only that the full 1,064 locos have not been received, but also that the original equipment manufacturer is no longer supplying spare parts for those items already delivered – or for the 100 locos it supplied in previous years.

According to Mzimela, that means many locomotives are having to be parked because they lack spare parts, which has a significant negative effect, particularly on the coal line. In late June, Transnet CEO Portia Derby said in an interview that Transnet would shortly issue a tender to procure new locomotives to help improve logistics for the mining sector.

Sizakele Mzimela CEO, Transnet Freight Rail

The third binding constraint is Transnet's ageing infrastructure, reflecting underinvestment over the past decade. Work to address this is under way, facilitated by recent changes to the procurement regulations that enable Transnet to obtain key materials. But while these issues are being addressed, TFR cannot fulfil its 'take or pay' obligation in its long-term contracts with coal miners, and is negotiating amendments to those contracts.

CONTRACTS

In April, Thungela and Exxaro reported that Transnet had invoked force majeure on its contract with them because of difficulties obtaining spares for the locomotives and vandalism (mainly cable theft) on the coal rail line. Exxaro said it did not believe these were force majeure events.

In terms of its contracts with bulk minerals exporters, TFR allocates capacity on its rail corridors to each customer which they must pay for even if they do not fully utilise it. TFR commits to railing a volume that it believes is within the capacity of the system.

Mzimela says the long-term contracts, especially in coal, also specify that if TFR is unable to fulfil its contractual obligations for particular reasons that persist for longer than six months, it triggers either termination of the contract or the requirement to enter into discussions about an addendum that acknowledges the difficulties that either party faces.

In its long-term contracts with coal producers, TFR is facing the situation that its minimum capacity on the rail line to the Richards Bay Coal Terminal has fallen to 60Mt/year as a result of the crime and shortage of locomotives, which is why it has invoked force majeure, says Mzimela.

Another important fundamental factor necessitating renegotiation of the contracts is the permanent change in the sites from which coal is exported, according to TFR's managing executive for the Northern Corridor, Ali Motala. It is now taking longer for TFR to collect coal from its customers, which reduces its throughput capacity. More crucially, some of the new sourcing areas are on an infrastructure network that has a maximum capability of 20t per axle, compared with 26t per axle on the dedicated network, which means TFR can only load 75% of the wagon capacity. "It is not a single item that needs to be remedied, but a suite of circumstances existing at the same time that has resulted in TFR's reduced system capability," says Motala.

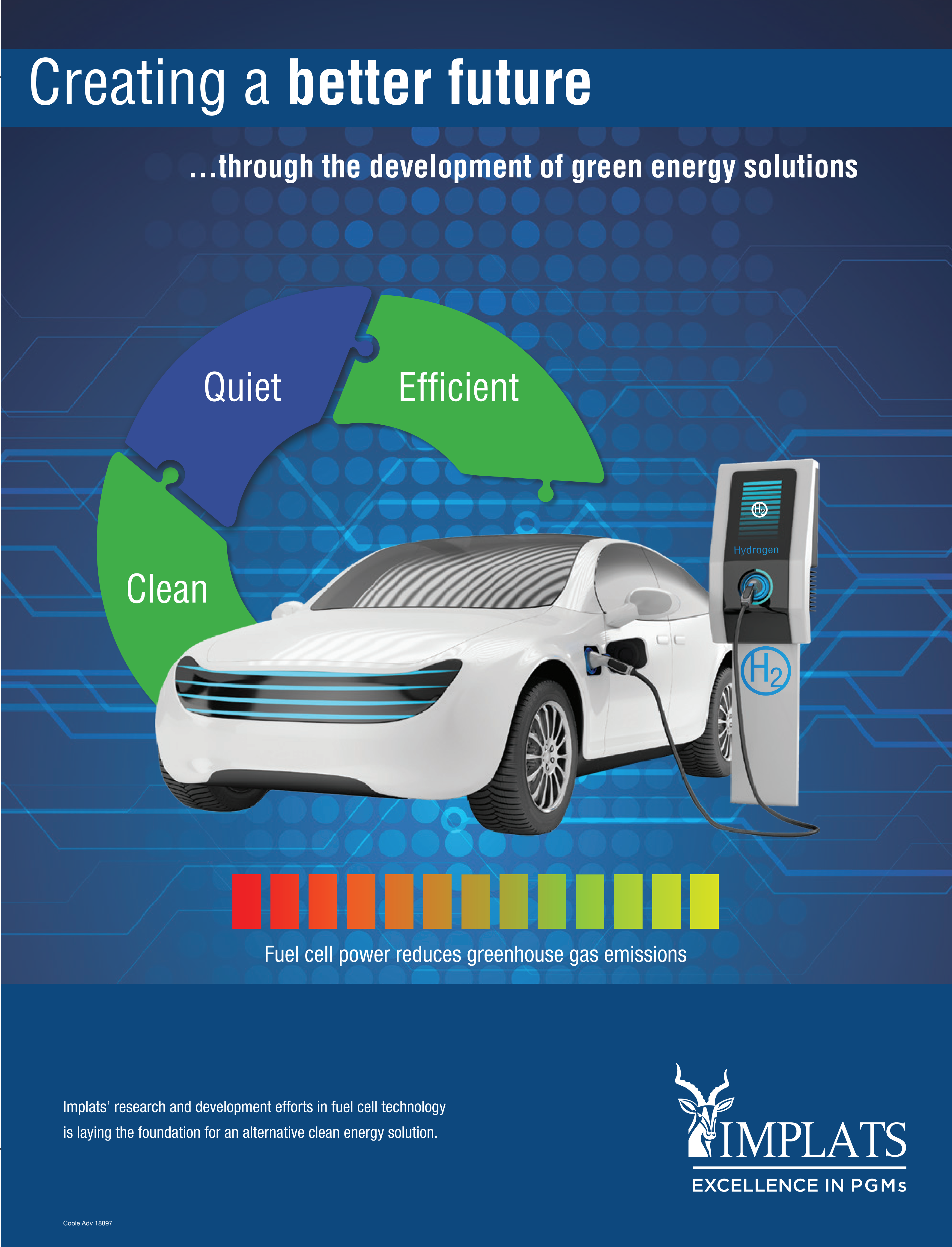
TFR is working with its coal export partners to address various issues, including security and consolidating loading areas to improve cycle time. "These discussions are about a correct rebasing of where we are at this point, which will help all of us to understand this situation and help to improve the system to previous levels," says Mzimela.

"We do take responsibility for many of these issues and are taking various steps to address the shortage of locomotives, improve security and rehabilitate the infrastructure. But that is not enough unless our customers come to the party and are more open in identifying consolidation points to enable us to turn our trains around as quickly as possible."

She says TFR is not renegotiating take or pay clauses, but rebasing to a new starting point from which to grow back towards previous targets. "Rebasing is about where you start the race – not about giving less. We all want to attain far greater capacity. This requires us all to put in an effort to get to the finishing line."

GREATER PRIVATE-SECTOR PARTICIPATION

Seccombe says Minerals Council members are advocating private-sector participation in the railways carrying their products as well



Creating a better future
...through the development of green energy solutions
Quiet
Efficient
Clean
Hydrogen
H_2
Fuel cell power reduces greenhouse gas emissions
Implats' research and development efforts in fuel cell technology
is laying the foundation for an alternative clean energy solution.
IMPLATS
EXCELLENCE IN PGMs
Coole Adv 18897

as in the harbours. Transnet has previously announced its intention of granting concessions to private-sector companies on certain container routes. Transnet leadership has previously ruled out concessions on the dedicated iron ore or coal lines, which are its most profitable.

However, the concessions on offer on the container lines are only for up to two years – far too short a period, some companies argue, to justify the level of upfront investment necessary to get those routes operational. Mzimela acknowledges the argument but adds that the two years was only a first phase of granting third-party access: "We need time to test and refine the model before we commit to longer periods. It is only through implementation that we think we will be able to refine the model to meet South Africa's needs."

Rail owners elsewhere in the world who have granted third-party access have only done so for short periods, in some cases a year or less, she says. Operators would not be obliged to invest substantial capital upfront, as the evolution of South Africa's rail sector is likely to be similar to that of the airline industry, with the emergence of companies that will lease out locomotives to parties that are interested in operating the lines.

Mzimela says she's hopeful a White Paper on National Rail Policy, published in March, will provide a level of comfort for those who want to participate in the rail sector in the long term. The White Paper is intended to facilitate private-sector investment in the network.

The other reason for avoiding long-term contracts is that TFR wants to ensure there is transformation in ownership. If it grants long-term contracts to the companies that

We potentially need to get someone inside Transnet to actually give us the truth and actually give us some attribution as to what these volume losses [are] and how they are coming.

Nombasa Tsengwa CEO, Exxaro Resources

are capable today of running those lines, it locks out emerging black businesses that will be able to run those lines in the future.

Despite the objections to the length of concessions, TFR's request for expressions of interest has produced a surprisingly strong response. While TFR expected five or so companies to express an interest, some 19 companies sent in signed submissions. "There is noise, and there is serious interest," says Motala.

REVERSING THE MIGRATION FROM RAIL TO ROAD

Mzimela says the White Paper's thrust towards bringing in other operators on the rail line may help to reverse the migration of freight from rail to road. The White Paper proposes that investment in rail will come from an infrastructure fund, so that Transnet does not have to use its own funds for maintenance.

"I believe this will help to level the playing field. Where we have had more challenges in moving from road to rail is between Gauteng and Durban, for example. TFR cannot compete with ageing infrastructure and vandalism against roads that are well maintained by government. We need to provide the same level of reliability."

Motala says TFR carries just under 14% of the value of South Africa's gross domestic product. This compares favourably with one of the global market leaders, DB Netz of Germany, which carries 19%. TFR would never attain a 50% market share in freight traffic, particularly as the trend in freight is towards smaller consignments and manufactured goods rather than bulk commodities. "We are confident that, despite all the challenges, we are continuing to migrate from road to rail, where it makes sense," Motala says.

From an industry perspective, the launch of a White Paper at this juncture - essentially a discussion document about a well-defined problem - is unnecessary prevarication by government. "It seems absolutely crazy that we are waiting on a White Paper on possibly starting a conversation about - maybe - allowing more locomotives on the rail," says Patrick Mann, an analyst for Bank of America Merrill Lynch.

Speaking during question time at an Exxaro presentation in June, Mann asked why there was not more urgency in addressing the issue. Nombasa Tsengwa, CEO of Exxaro, said TFR was beginning to respond to her firm's outspokenness almost two years ago about railing difficulties but that it didn't help now to criticise government.

"The process is inevitable," said Tsengwa of government's White Paper. "The question is what we can do as an industry to make sure we are relieving the pressure, recognising the fact we know the skills base at TFR is not always optimal."

That's not enough for some. "We can sit at these forums and talk and be somewhat comforted, but unfortunately the numbers are the numbers and they are still declining," says David Fraser, chairman of asset manager Peregrine Capital. "They are getting worse despite this talk."

"Quite frankly, I do think the industry needs to step up. We potentially need to get someone inside Transnet to actually give us the truth and actually give us some attribution as to what these volume losses [are] and how they are coming."

POSITIVE PROGRESS

Mzimela says TFR is working to secure more locomotives through the tender recently announced by Derby, and is continuing to work with government to intervene to unlock the blockage on spare parts for its fleet. "In the short term, we have taken steps to understand what kind of locomotives and technology are most appropriate for our heavy-haul lines and we have installed the necessary technology to improve export coal movements."

KUMBA'S NEW BOSS IS PREPARED TO PLAY THE WAITING GAME

BY DAVID MCKAY

Nompumelelo Zikalala CEO, Kumba Iron Ore

NOMPUMELELO Zikalala acknowledges it's not possible to have all aspects of Kumba Iron Ore under her sway after only (at the time of writing) five months as CEO of the Anglo American business. Though, she hastens to add: "I'm on top of the critical aspects."

Among the most critical is the area where Kumba's business is perhaps most different to Zikalala's previous employ. As MD of De Beers' Consolidated Mines, selling product to customers was having the little jewels-in-waiting whisked away by helicopter for their delectation at a sight meeting in Botswana.

Delivering iron ore is entirely different: from mine to vessel it's heavy, dirty, and requires robust chain supply management for it to work well. In only two months, Kumba shifts in weight to customers the entire annual production of De Beers. Its mines, Sishen and 100km away Kolomela, both in the Northern Cape, are 860km from the loading facilities at Saldanha port, situated in the Western Cape province.

What's more, the risk in freight is the greater at Kumba. It's not just that the third-party intervention is riskier, it's the fact that the third party is Transnet, among the most dysfunctional of South Africa's state-owned companies. According to Chief Justice Raymond Zondo in the second part of his state capture report, Transnet was ground zero during the kleptocratic administration of former president Jacob Zuma.

The neglect is most evident in the performance of Transnet's coal line. According to coal mining firms, South Africa is losing billions of rand in revenue as a result of below-capacity exports on the line amid sky-high pricing for the fuel. Kumba's iron ore channel, however, performs better — but it's not perfect either, says Zikalala.

"If you look at last year, our availabilities were sitting at just under 90% relative to what the coal and chrome producers saw," she says in an interview. "But we always say that, even with our line sitting with higher availabilities, it's still not 100%.

"So we are still continuing to work with Transnet and if I am open and honest, we've got an open relationship at Transnet where we are able to collaborate."

Quite how Transnet will structure itself to operate with its customers in the future is uncertain. The thinking is that some level of public-private partnership (PPP) ought to be agreed, but Zikalala is reticent to say how, exactly. "We can't wait to engage around PPPs. We've said this to Portia [Derby, CEO of Transnet].

"We've asked for better clarity around what it is that Transnet is thinking about. We've got our own ideas as well, but in the spirit of collaboration we want to work with Transnet. We do think that PPP is the way to go, but it's a question of what that should look like," says Zikalala.

Kumba's approach is not to force Transnet's hand, especially in terms of how PPP could be implemented, but at the same time it makes sense to look at how other mining centres around the world manage their freight and logistics. "We've considered what others have outside South Africa. The likes of Australia," she says.

"That's what we'd like to engage on, but we've been clear with Transnet. We'd like to hear from them because Transnet actually started talking about it some time back."

Derby said last year the company was working with private sector investors to develop a chrome and magnetite mega-terminal at Richards Bay in KwaZulu-Natal province and a manganese terminal at Coega in the Eastern Cape. And there are some other promising signs.

Whilst ruling out the entire privatisation of Transnet, South African president Cyril Ramaphosa directed the company to allow private rail operators to manage the country's core network, although initial efforts don't seem correctly structured. A government proposal that companies operate container freight on the basis of two-year concession contracts is too short to support the investment required by the private sector. A White Paper by the Department of Transport published in April that advocates for private sector investment may be a step in the right direction, but there's still no sign of Transnet releasing its monopoly over the lucrative coal and iron ore lines.

We do think that PPP is the way to go, but it's a question of what that should look like.

In terms of government operating the coal and iron ore lines better, however, there has been an advance: in June, Derby said her company intended to procure new locomotives in an effort to ease the pressure on availability, especially for the mining companies. Derby also, somewhat wearily one feels, hit out at mining company criticisms: "What is the point of responding to them every time they go to press ... Because that's about them."

These comments by Derby support, perhaps, Zikalala's 'softly does it' approach with the state-owned firm.

PRESSURE TO PERFORM

In the meantime, Zikalala says the cooperation with Transnet must take in present hazards that crop up when railing about 40 million tons (Mt/y) of iron ore the length of the country. Headaches emerge from surprising origins, it seems. Take for instance the spring rains that encourage locust swarms with the power to stop a freight train dead in its tracks.

Rain is an emotive topic for Kumba. While a perennial problem for open-pit miners of all stripes, operational disruption owing to larger-than-usual rainfall got Kumba off to a poor start this year. As a result, the company broke ranks with other major suppliers by being the only one to revise down its full year production and sale guidance.

Supply disruption was a factor across the iron ore sector globally. Other iron ore suppliers experienced heavy rains, but the lingering effects of Covid-19 and geopolitical distress are also choking up supply chains. This puts delivery of iron ore and the procurement of things like spare parts at risk.

"Weather issues will reduce from the second quarter, but we see no end in sight to the spares availability issue and think that some of these issues might require consensus cuts beyond FY22 [2022 financial year]," said RMB Morgan Stanley of Kumba in a report.

Inflation is another major factor that will figure prominently in Zikalala's first year. According to Goldman Sachs, inflation could reach 30% for mining activities while for refining, where energy consumption is higher yet, inflation could top 35%, it said.

"Cost inflation accelerated in 2021 driven by higher global electricity, fuel, and consumables prices, and pressure is set to continue in 2022 on the back of a continued rally in energy and metal prices, as well as an acceleration in general inflation," said the bank's analyst, Geydar Mamedov.

These factors have the potential to squeeze Kumba's margin. That's especially important given the centrality of Kumba to Anglo's previous performance. It and another Johannesburg-listed subsidiary, the 70%-owned Anglo American Platinum, comprised about 60% of Anglo American's earnings before interest, tax, depreciation and amortisation last year.

Zikalala says the best response is to get the basics right: "We need to make sure that for every ton we put on a train, that goes to port, on the vessel, we've got quality product."

Kumba is also pressing on with targeted cost savings of R1bn this year. 'Cost sprints', as they are called, have been pretty successful since the firm targeted R2.8bn in savings between 2018 and 2022. According to Zikalala, some R4bn has been saved so far.

"For me it's about making sure that we strengthen our ability to control the things that we can essentially control, and planning is a critical part of that," she says.

MARKET GYRATIONS

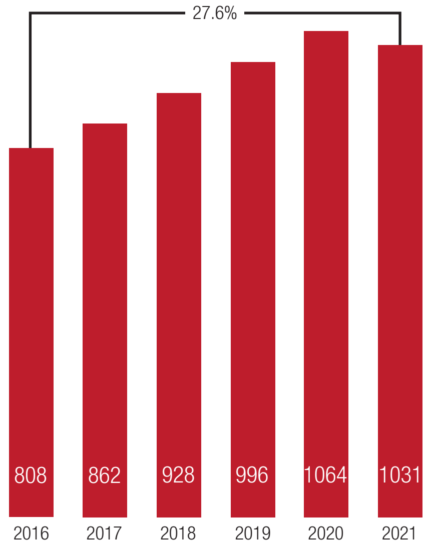
Happily for Kumba, the iron ore price is proving resilient. This is partly a factor of supply disruptions among all the major producers, from Vale to BHP to Rio Tinto. The war in Ukraine — an iron ore exporter estimated by one bank to have exported on average 22Mt between January and February — is creating additional supply uncertainty. Zikalala thinks Ukraine continues to export iron ore despite the war, but market nerves are definitely in evidence.

"We get the sense when some of our suppliers, primarily from a European perspective, call us and ask us about availability of some of our premium products, you get direction on what is essentially happening."

According to Morgan Stanley, in an investment report in May, the supply side "... remains relatively constrained, and we continue to see a full year shrinking seaborne market". The bank thinks supply contraction will total about 15Mt or 1% year-on-year.

The demand side remains promising for Kumba despite expectations of a softening in export pricing owing to China's Covid-19 lockdowns. "Funnily enough, their steel mills are still producing at almost similar levels — so, highest levels — even with Covid lockdowns," says Zikalala. "We would have thought we would see a reduction in that. There have been stronger prices than we thought we were going to see." Since 2016, China's steel crude production has grown 27.6% (see graph).

China Crude Steel Production (Mt)



SOURCE: World Steel Association (WSA)

Morgan Stanley estimated steel demand would continue to be robust in China as lockdowns ease and stimulus efforts become more effective. "Therefore, we believe that our 2H22 base case of $163/t is still a realistic target at this stage," it said. Kumba averaged a realised freight on-board price of $161 per wet metric ton last year — 18% higher than the average Platts index.

The average price premium is a consequence of Kumba's high-grade ore. It's hoping to build on this advantage next year once it has commissioned its ultra-high dense medium separation technology (UHDMS), to be implemented at the Sishen mine. Zikalala dubs it "a game changer".

In essence, UHDMS will enable Kumba to achieve less waste per ton rock mined. "So far, there's 150Mt that would previously have been taken to the waste site because of its lower grade. But by upping the density cut point we'll get 50Mt of good-quality ore out of that material." UHDMS also boosts the proportion of premium ore Kumba can produce whilst enabling Sishen to mine to 2039 as 260Mt of stockpiled waste material can be reprocessed.

"It's wonderful because it ticks quite a few boxes for us," says Zikalala.

"All of a sudden this material that would have gone into waste will actually come through and we'll produce good-quality ore out of it. And when we look at unit costs, it's a ton produced then," she adds.

We need to make sure that for every ton we put on a train, that goes to port, on the vessel, we've got quality product.

Portia Derby CEO, Transnet

Light on emissions. Light on the environment. And fuelled by the lightest element on earth – hydrogen. This is the inspiration behind our nuGen™ Zero Emission Haulage Solution (ZEHS) project, an end-to-end integrated green hydrogen production, fuelling, and haulage system for mine sites. nuGen™ is part of our FutureSmart Mining™ programme and represents what it means to think differently about mining.

Our FutureSmart Mining™ programme is developing and implementing step-change innovations that are transforming the very nature of mining and how our stakeholders experience our business. We are working towards a world where our mines are integrated, automated, carbon neutral, and use far less water.

Scan the QR code to find out how we are decarbonising our business to achieve our 2040 carbon neutrality goals, for a safer, smarter and more sustainable future.

Together, we are shaping a better future.

Energy crisis protests

ESKOM CRISIS IS TAKING SA SOCIETY TO THE BRINK

BY MARIAM ISA

SOUTH African industries, businesses and households are scrambling to generate their own electricity in the face of a widening power shortfall, which is set to persist and probably worsen until the private sector can play a much bigger role in meeting the country's energy needs. It also needs to collaborate with government on an effective strategy to address the crisis.

Eskom will not be able to fix the problems at its coal-fired plants until the power gap is closed and there is enough additional spare generation capacity to give the state-owned power utility the space to take units offline for extended periods of time.

The outlook is rapidly worsening as many of its coal-fired plants are near the end of their operational lifespan and due for retirement in 15 years.

At present Eskom can only reliably provide about 27,000MW of power to SA's faltering economy — not much more than half of its installed generation capacity and well below peak winter demand levels of around 34,000GW. Its electricity production declined 5.3% between 2012 and 2021 due to neglect, mismanagement and corruption.

Over the same period, the energy availability factor at the utility's coal-fired plants has fallen dramatically, hovering just below 60% this year compared with 72% in 2018 and 85% in 2010.

Eskom has been forced to implement rotating power cuts, or load-shedding, since 2008 in order to protect the national grid, and breakdowns have steadily increased due to its inability to catch up on maintenance. A skills shortage, slow procurement process, theft and sabotage have all exacerbated the challenges of fixing the power plants.

By the end of the first week of July, the intensity of load-shedding had surpassed the levels seen in 2021, which were an annual record. At that point the country had already experienced 73 days of power cuts compared with 29 in 2021, and the vulnerability of supply was highlighted after a strike by unions at the end of June forced Eskom to intensify power cuts to six hours a day.

Industry executives and analysts warn that, without focused solutions agreed between the private sector, Eskom and government, the shortages will persist and even worsen over the next few years, raising the risk of a national blackout.

Installing renewable energy, mainly solar photovoltaic (PV), to cover the existing 4,000-6,000MW shortfall is seen as the only way to plug the gap in the near term and they say the private sector must drive the process as it has the finances, expertise and ability to do so.

But even in a best-case scenario, load-shedding will persist for another two years. An independent study published by Meridian Economics in June warns that in the absence of urgent intervention, power cuts will increase substantially over the next few years, rising fourfold in 2024 and tenfold in 2026.

"We are desperately worried," says Martin Preece, executive vice president of Gold Fields, which owns and operates South Africa's biggest mine, South Deep, in Gauteng.

"From a South Deep perspective, we can navigate this but if you look at the broader context, the fabric of our society is being eroded by this crisis. People are losing jobs because of businesses going bust — there's anger growing and my bigger concern is for the broader economy and the breakdown of social trust.

"What is clear is that if we don't deal with this crisis, it's going to become an emergency."

Harmony Gold CEO Peter Steenkamp concurs: "If you look at the country, it's very much an emergency situation we're in at the moment. It's something we need to fix — the sooner we get the red tape out of the way and actually start building RE [renewable energy] plants and getting more capacity on the grid the better."

South Africa's mining sector, which consumes about 30% of Eskom's electricity, has been at the forefront of building new generation capacity, which will help meet its needs and take some of the pressure off the state-owned utility.

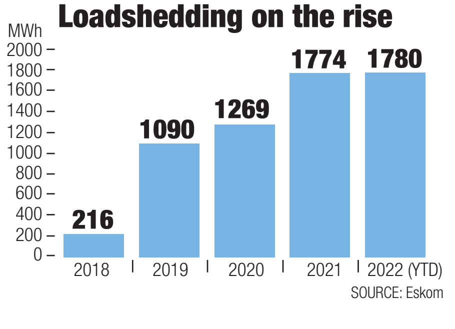
According to Roger Baxter, the CEO of the Minerals Council South Africa, miners have a pipeline of 73 new projects, which could add 5,100MW to the grid, with an investment value of R77bn. Most of them utilise solar power but also hydrogen, wind, battery storage and gas.

As things stand, the projects being built by miners on their own will generate 101MW by the end of this year, rising to 931MW by the end of 2023 and 2,294MW by the end of 2024.

This would reduce the sector's exposure to Eskom by between 20% and 30% and go a long way towards achieving its net-zero carbon emissions target set for 2050, according to the Minerals Council head of communications, Allan Seccombe.

A building boom is taking place to install generation capacity across the private sector, with 1,300MW of solar PV already in place within the residential, commercial and manufacturing sectors, according to the South African Photovoltaic Industry Association. Industry sources have a much higher estimate of 2,000MW, and say around 70% is probably unregistered.

What has taken place is helpful but far from enough to address an energy shortage that is choking economic growth, exacerbating unemployment and stoking social unrest. Estimates vary but analysis suggests that load-shedding at the stages being implemented so far in 2022 are costing the economy between R1bn and R1.5bn a day.



PwC chief economist Lulu Kruger estimates that this year, load-shedding will slash three percentage points off growth in gross domestic product. "The bottom line is that the number is scary. This is because load-shedding is not a once-off break in the value chain, it moves from production to logistics and diverts investment as people buy inverters, generators and solar panels to address their power needs."

The problem is that the private sector cannot address the crisis by building its own generating capacity piecemeal, particularly with regulations that slow down the process of getting approval for projects. At the time of writing this article, there was deep concern that given political constraints, President Cyril Ramaphosa would be unable to galvanise enough consensus in government to take the steps needed to kickstart a rapid rollout of renewables by the private sector.

CUT RED TAPE, REFRAME IRP

Ramaphosa's decision to force Minerals and Energy Minister Gwede Mantashe last year to raise the cap on private generation not requiring a licence to 100MW from 1MW has not proved to be the silver bullet — there is still a pipeline of approvals across different government departments which need to be obtained before the National Electricity Regulator of SA (Nersa) will register the project.

Intense lobbying by industry and business has elicited a positive response from Operation Vulindlela, a joint initiative set up by the Presidency and Treasury to speed structural reforms. This has shortened the approval process, which used to take up to two years, and Nersa said in June that since the cap was lifted, it had approved 216 registration applications.

But much more speed is needed and overlapping measures are being proposed by a number of key role players in the economy. Recommendations from the National Planning Commission (NPC), set up by government in 2010, are likely to be taken the most seriously.

On 6 July, it urged that an "energy emergency" had to be declared to make it possible to override some of the red tape that is hampering new generation capacity being delivered rapidly.

It was possible to bring 10,000MW of new generation capacity in the form of wind and solar power as well as 5,000MW of storage capacity on to the grid within two years if the right steps were taken, it said.

The NPC recommends that the 100MW ceiling for registering projects at Nersa be removed, as an authorisation for grid access from Eskom is all that is needed to regulate the market.

Any Nersa generation process that delayed the implementation of projects should be scrapped and replaced with an online registration procedure while environmental and water use approvals had to be streamlined, it said.

Most controversially of all, the NPC said there should be a temporary exemption from local content requirements for the construction and commissioning of new generation and storage capacity due to come online in the next 36 months.

NPC member Mark Swilling has said the consequences of a business-as-usual approach by government were "too ghastly to contemplate".

Other measures are seen as essential by companies that are about to become big producers as well as consumers of electricity. These include a framework allowing them to easily 'wheel' their excess power across the grid to other customers, and feed-in tariffs to allow Eskom to buy power from existing generators.

Jevon Martin, chairperson of the Energy Intensive Users Group, says although there have been steps in the right direction, there is a "notable absence of a joint vision" for the energy supply industry. "We need to come together as different stakeholders to ask how this is going to play out, what role are we each going to play?"

Martin says although the immediate priority is simply to add capacity to the grid, there is also an urgent need to update government's Integrated Resource Plan (IRP), which assesses the country's future electric needs and plans to meet those needs.

"It needs to be a strictly technical and economic study without political influence - it should not be artificially constrained and manipulated," he says.

The Department of Mineral Resources and Energy has put a tentative deadline of

Cyril Ramaphosa SA president

the end of 2023 for a new IRP.

Energy analyst Chris Yelland says the IRP should be an indicative, not a prescriptive or binding plan, as it has been in the past: "The reality is that, as it stands and is being implemented, the prescriptive IRP is a massive threat to electricity customers, the economy and the country."

The expensive local content requirements for the government's Renewable Energy Independent Power Procurement and so-called Risk Mitigation Independent Power Producer Procurement Programme are likely to further delay those projects or even result in them being cancelled, according to Meridian Economics.

They would have brought a combined 4,435MW on to the grid, but are already running well behind schedule. "While it appears that policymakers are not aware of the impact of their actions, this problem is now directly exacerbating load-shedding, which will of course result in much greater damage to the economy than any benefit

People are losing jobs because of businesses going bust — there's anger growing and my bigger concern is for the broader economy and the breakdown of social trust.

that could possibly be achieved by these uninformed policy measures," Meridian said in its report.

Demand for power always increases in winter, and this year there have been two big additional contributors to energy shortages. An explosion in August 2021 at Medupi, one of Eskom's two new power plants, took one of its six units, generating 720MW of power, out of action and it will not be back online until August 2024.

In addition, one of the two units at Koeberg nuclear power station, providing 920MW of power, has been taken offline for a 155-day outage to refuel and replace three steam generators that will allow the life of the plant to be extended another 20 years beyond July 2024.

However, as the generator replacement has been postponed and the repairs are behind schedule, the unit is due to return to service only in mid-August.

The other unit must go through the same process but given the delays and problems encountered at Koeberg so far, there is a real risk that the plant, in the past one of Eskom's most reliable power sources, will not get its licence renewed in time for the deadline.

Against this grim backdrop, Eskom CEO André de Ruyter has managed to change the mindset of the utility's management and his allies in government, Ramaphosa and Public Enterprises Minister Pravin Gordhan.

On his watch, Eskom has launched a programme whereby companies can lease Eskom-owned land in Mpumalanga province for the development of renewable energy projects that can easily be connected to the grid - selected projects so far will provide about 2,000MW of power.

De Ruyter and his team have also come up with a plan to improve grid access in the Northern Cape, which is too saturated to take on new renewable energy projects despite the province being SA's most resource rich.

He has said that the initial tranches of the R130bn pledged by developed countries to help SA transit from a high-carbon to a low-carbon economy will focus on transmission projects in the Northern Cape and on adding transformer capacity in Mpumalanga, where most of the new development is due to take place.

EUROPE'S COAL GRAB RAISES UNCOMFORTABLE QUESTIONS ABOUT ENERGY TRANSITION

BY DAVID MCKAY

GRAHAM Kerr has no regrets about taking South32 out of thermal coal last year. Despite the meteoric price rise for the fuel following Russia's invasion of Ukraine — which has precipitated an energy security crisis in Europe — Kerr says the die was cast for South32's 91% stake in South African Energy Coal (SAEC) even before formulating the group's targets for carbon emission reduction in October 2021.

"The decision to leave coal was down to its size and the complexity, as well as the historical returns of the business," Kerr said in an interview. Half of SAEC's production is suitable for export production, but the balance is "domestically orientated", he says. "That domestic side is going to grow over time and we certainly didn't believe that as a foreign-owned company we would be in a position to renegotiate some of those historical Eskom contracts which we thought were problematic. A South African business is in a much better position to do that."

That, in the end, is what happened. Eskom agreed to a higher price for coal supplied to its Duvha power station by SAEC. Without it, SAEC's sale to Seriti would have been uneconomic, putting jobs at risk. South32 also agreed to restructure the terms of SAEC's sale. Originally the transaction was set up with a deferred payment mechanism in which South32 and Seriti could participate in revenue if the coal price exceeded an agreed threshold. But by 2021, South32 ditched the revenue share while also agreeing to pump $250m into Seriti and guarantee a $120m loan.

Less than a year later, the coal price in Europe hit an all-time high of $430/ton — about four times higher than long-term average. South32's loan guarantee fell away as the coal price gained ground, but so had South32's revenue participation.

Says Kerr: "No doubt, there is a discussion around the energy coal price and energy security, but the majority of investors we have spoken to do not want to change their position about not wanting exposure to energy coal." He also thinks that over time, energy coal will be financially harder to manage as coal plants are phased out. "So for a publicly owned, diversified company owning energy coal, it becomes more and more problematic."

Not all mining companies see it this way anymore. Kerr's comments were before BHP's decision on June 16 to abandon a trade sale of its New South Wales Energy Coal (NSWEC) business. In this regard, BHP took a leaf out of its rival Glencore's book by deciding to run down its coal production to 2030, against which it took a $700m provision. Clearly, BHP has balanced NSWEC's liabilities against future

The decision to leave coal was down to its size and the complexity, as well as the historical returns of the business

Graham Kerr CEO, South32

revenue and found the numbers support a retention of the business.

Having never suffered ambivalence about its coal assets, Glencore has made hay. Profits from coal are forecast to comprise a third of $29bn in group earnings before interest, tax, depreciation and amortisation (ebitda) in 2021, according to JP Morgan Cazenove. Glencore's marketing business alone earned more in the first six months of its 2022 financial year than previously forecast for the year. Much of this performance is due to coal, and BHP is hoping for similarly rich rewards by staying in coal production.

RETURN OF COAL DEMAND

This is all a far cry from a resolution at last year's 26th annual UN Climate Change conference in which major coal-producing countries agreed to phase the fuel out. Six months later, though, some of the signatories are back in the market seeking to replace Russian gas for their baseload power requirements. Parts of the globe are back in the welcoming arms of the coal industry, if only temporarily.

According to Vuslat Bayoğlu, MD of Menar, a privately held South African exporter, the procurement of thermal coal for European utilities is — quite suddenly —proving to be a far less politically loaded decision

IoT.nxt
bridging the edge

*A subsidiary of **Vodacom Business**

Building the future of mining through digitisation

In light of the current economic climate and recent events surrounding the global political landscape, the mining sector is evolving as an important point of focus. This is as far as how it can be key to remedying the domestic production power of countries around the world.

Never has it been more necessary for the country to have a competitive and sustainable mining industry. Currently, South Africa is ranked fifth in the world in terms of mining contribution to Gross Domestic Product (GDP). To not only maintain but improve this output will only be possible if technology plays a much-needed role in shifting the cost and efficiency spheres of this sector.

Most, if not all, mines presently connect through Wi-Fi and there is a pressing need to move them to Mobile Private Networks. A Mobile Private Network (MPN) is the next generation of connectivity that yields better speeds and strength than Wi-Fi. As Wi-Fi cannot be scaled to run an operation, an MPN is dedicated to your business with dedicated Service Level Agreements (SLAs), security, etc. Many businesses are changing the way they operate through the intelligent allocation of people, automation of processes, technology, and even workspaces.

Vodacom has targeted mining for an integrated, IoT, edge, and analytics solution evidenced in its flagging of a 'next-generation' private network offering. This is for its key mining business segment in Africa and will comprise an encompassing of converged Mobile Private Network as well as Edge Computing systems to name a few.

Our solutions are aimed at assisting mines to be more sustainable in their day-to-day activities. Let's partner with you to help create a high-performance environment that fits your business.

A bit more about Vodacom's Mobile Private Networks

Vodacom MPN is an integrated portable, private, and secure network that provides the same speed and strength of Wi-Fi right at the business owner's fingertips. Alongside Edge Computing, they bear the potential to revolutionise how businesses are run by bringing the network and the Cloud closer to the devices that need it in a mining operation.Mobile Private Networks (MPNs) support business-critical services, with a reliable industrial-grade network that is on-premises and can take businesses further in the following ways.

- HIGH SPEED, LOW LATENCY
- SECURITY
- COST-SAVING PERFORMANCE
- RELIABILITY
- GREATER CHOICE
- SCALABILITY

Scan the QR code to learn more.

http://voda.com/digital-mining

Further together
vodacom business

The need for decarbonisation and for renewables is the answer, no doubt. But the pathway for renewables is the big debate and where the challenge is.

than buying Russian gas. And as Germany tries to secure a long-term alternative to gas, it may result in coal taking its place again among baseload fuels on a long-term basis.

"With Russian gas unavailable, the whole concept will change as Europe needs baseload power either from coal, gas or nuclear energy. There are no alternatives unless storage for renewables comes at a feasible cost, which it isn't right now," Bayoğlu says.

In the meantime, South Africa's long-lost Atlantic coal trade is back on the radar. "It's coming back," says Bayoğlu. "Poland, Germany, France, Italy and Spain — they all want to buy coal from South Africa, and the demand will increase when stocks are exhausted. Russian coal is going to India and China, and Europe is buying from South Africa and Colombia."

Investor sentiment also seems to be evolving in respect of the carbon emissions companies are supposed to curtail. Larry Fink, Blackrock's founder, said in June his company didn't want to become "environmental police" by forcing companies to undertake Scope 3 reduction measures.

These two factors: increased demand for coal and a nuanced approach by investment to emissions control, could affect how quickly decarbonisation is achieved, and how.

"The need for decarbonisation and for renewables is the answer, no doubt. But the pathway for renewables is the big debate and where the challenge is," says Andries Rossouw, Africa Energy, Utilities and Resources leader for PwC. PwC's official message is that it believes thermal coal's days are numbered. But that's to assume the counting is in years.

In the short term, thermal coal is forecast to be the leading source of revenue for the world's largest 40 mining firms this year, it said in its annual publication, 'Mine'.

RISING TIDE

With coal back in vogue, what is the picture for coal demand over the next 10 or 20 years? Derryn Maade, global head of metals and mining markets for consultancy Wood Mackenzie, says global demand will be sharply divided between developed and developing economies. "Right now there's a rebalancing under way amid Russian sanctions in a market that was already under pressure. But this situation won't last forever.

"Pressure from overcapacity will push prices back to marginal cost or even below. This is very much a developed-nations versus developing-nations dynamic. In the developed world, the decline in coal will be in line with decarbonisation, while in the developing world, demand for coal in Asia will continue to grow over the next decade," says Maade.

PwC takes a similar view. "With renewable energy becoming increasingly cost-competitive and with net zero targets set by many countries at Cop26, more thermal coal power plants must be shut down over the next decade," it said.

Societal pressure on coal producers is also unlikely to lessen; in fact, quite the opposite. Despite the enormous profits Glencore is generating from coal, it faces increased scrutiny by shareholder advisory groups which aim to challenge its climate change policy at the next annual general meeting in April 2023. Glencore secured 76% for its climate change plan this year, down from 90% in 2021, and below the 80% threshold that forces the group to consult with shareholders.

Tshokolo Nchocho CEO, IDC

London-based Bluebell Capital Partners renewed demands in June for a review of Glencore's plans. "Glencore is not an investible company for investors who place sustainability at the heart of their investment process," Bluebell said in a letter. "From a valuation perspective, coal activities are depressing the company's valuation." At the time of the letter, Glencore's shares registered an all-time high; nonetheless the pressure from stakeholders is mounting.

Back in South Africa, plans for energy transition are focused on an $8.5bn funding package offered by the US, the European Union and the UK. While it's only a portion of the funds needed, it is proving something of a test case in that $1bn of the funds are to guarantee decommissioning of coal. That's a controversial subject in a country that is reliant on the fuel for jobs. The 'just transition' from coal to renewables is under debate.

"Markets will determine if a business exists five to 10 years from today and if there is not enough adaptation on the part of businesses embracing just transitions, they will die — it's as simple as that," said Tshokolo Nchocho, CEO of the government-owned Industrial Development Corporation (IDC) at the Mining Indaba conference in May.

Nchocho is a founding member of the newly established Energy Council of South Africa, a position he shares with Eskom CEO André de Ruyter and Natascha Viljoen, CEO of Anglo American Platinum. Viljoen says South Africa "can't just move away from coal", but thinks that the vast properties and transmission infrastructure Eskom owns in Mpumalanga province — home to the country's coal sector — may provide the basis for a national renewable strategy in which just transition is possible.

The hope is the just transition can be achieved sensibly. For Kerr, the sale of SAEC made it an example of a win-win solution as it made both South32 and Seriti stronger businesses owing to shared infrastructure, resources and capital. "The two businesses individually probably would have struggled to survive but the combination of the two together makes for a stronger business," he says.

EU SUPPORT FOR URANIUM IS EXACTLY WHAT MINERS OF THE FUEL WANT TO HEAR

BY JACO VISSER

URANIUM'S new lease on life, granted by the European Union on July 6, should give fresh legs to already strong prices for the yellow powder metal. The European Parliament, the EU's legislative wing, voted positively to include nuclear energy in the bloc's green-energy taxonomy.

The World Nuclear Association (WNA), representative of, among others, uranium miners, welcomed this development with dollar bills flashing in its members' eyes.

"It has listened to the science and recognised that sustainable investment in nuclear energy will help the European Union reach net-zero by 2050," Sama Bilbao y León, the association's director-general, said after the decision. "Now governments, investors, and industry must act urgently and accelerate the deployment of new nuclear capacity to achieve this goal."

It's not difficult to see why the EU opted to include nuclear energy, fuelled by uranium, in its taxonomy.

In July this year, 56 nuclear reactors, with an installed generation capacity of 61,644MW, were under construction around the world. The construction of eight reactors (of which five are in Russia and Ukraine) have been suspended. Three reactors are being built in EU member states (France and Slovakia), with another five planned,

Tim Gitzel CEO, Cameco

according to WNA data. An additional 16 reactors have been proposed in EU member states.

Following the EU's change of heart regarding the environmental sustainability of nuclear energy, member states may soon double down on nuclear building. Russia's stranglehold on EU member states' natural gas supply may yet be an impetus for the latter to opt for a "cheaper" source of energy in the form of nuclear energy.

Investors are taking note of developments in the uranium market. The number of nuclear reactors being built in the EU fades into comparison when considering China's rollout of new power stations. The world's second-largest economy is in the process of constructing 20 reactors (22,261MW capacity), with an additional 32 planned (35,660MW) and 168 proposed (196,860MW).

The US government said in April it would fund the refurbishment of nuclear power plants that would otherwise be closed soon, at a cost of $6bn. The UK government in the same month released its British Energy Security Strategy – to harsh criticism. The plan did, however, include £120m to establish a Future Nuclear Enabling Fund in May to invest in new planned nuclear power reactors.

Although many reactors are built to replace decommissioned ones, the WNA expects 289 to be built by 2040 to replace 154 closed ones. Clearly, demand for uranium doesn't look too shabby over the next two decades.

The International Energy Association estimates that global electricity generation will increase from 26,762TWh in 2020 to 46,703TWh by 2050. The uranium industry bets that this is only achievable if nuclear energy receives a sizeable allocation of newly installed capacity. As seen from WNA data, China at least is forging ahead with nuclear power generation.

With an outlook for increased nuclear power plant builds, uranium miners' purposeful reduction in supply for several years, geopolitical tension in Russia and Kazakhstan, and the launch of a tradeable physical uranium trust in Canada, the price of yellow cake (as uranium fuel is called) has adjusted upwards over the past two years.

PRODUCER CONSERVATISM

After trading in a band between $20 and $30 for most of the period between 2016 and the first quarter of 2020, spot uranium reached $58.20/lb at the end of March.

Uranium miners are holding out on increasing supply. Speaking at the release on May 5 of first-quarter results by Cameco, the world's second-largest miner of the metal, CEO Tim Gitzel was clear that it will take more than the current supply disruptions caused by the Russo-Ukraine war to increase supply.

It has listened to the science and recognised that sustainable investment in nuclear energy will help the European Union reach net-zero by 2050.

A Kazatomprom employee

"We will also take a balanced and disciplined approach to our supply decisions," Gitzel said. "Even though we have seen considerable pricing pressure resulting from the geopolitical uncertainty, we will not change our production plans."

These deliberate supply constraints have been implemented since 2017, when 63,207t of uranium (or 96% of world demand) were mined, according to WNA data. By 2020, production has declined to 47,731t (74% of world demand). Last year, production increased somewhat to 48,332t as Kazakhstan (the world's largest producer) and Namibia (the second-largest miner of the metal) ramped up production. Russia was responsible for 2,635t, WNA data shows.

Following the outbreak of the Russo-Ukraine war, Russian exports of uranium and refined uranium have not been banned. Kazatomprom, the world's largest miner of the metal and listed on the London Stock Exchange, however warned investors in May that "negative sentiment has increased and legislative initiatives have been proposed by EU and US lawmakers to ban nuclear fuel imports from Russia".

Should the ban be realised, supply-driven price increases might be in the offing.

"The uncertain future availability of Russian fuel and processing services has brought concerns related to security of supply for Western utilities, driving an increase in both spot and term market activity, putting significant upward pressure on natural uranium, conversion and enrichment prices," Kazatomprom said when it released its first-quarter results in May.

According to the company, Kazakhstan is responsible for "more than 45% of global primary supply" of uranium. With a belligerent neighbour, Russia, the company is scrambling to secure deliveries of uranium to customers. "Some of the company's exported products are transported through the Russian Federation and, accordingly, there are risks associated with transit through the territory of Russia, insurance and the delivery of cargo by sea vessels," it warned in May. "Kazatomprom constantly monitors the situation with sanctions against Russia and the potential impact on the transportation of finished products."

In addition to envisaged supply shortages and a net increase in nuclear power plants across the planet, investors can now bet on these dynamics playing out in the long term.

The Sprott Physical Uranium Trust was launched in July last year. It buys and holds physical uranium in the same way as gold exchange-traded notes. The uptake of this trust, with its management expense ratio of 0.96%, has been astonishing to say the least.

The uncertain future availability of Russian fuel and processing services has brought concerns related to security of supply for Western utilities.

In less than a year, the unit trust, which trades in either Canadian or US dollars on the Toronto Stock Exchange, has attracted $2.74bn in investments and holds 25,816t of uranium. The underlying holdings are equal to more than a half of annual global uranium output.

(The US Securities and Exchange Commission denied the trust's application in April to list on American bourses, citing concerns about the physical delivery of radioactive material. The underlying holdings consist of triuranium octoxide, or U^3O^8.)

By the end of June, the Sprott fund had delivered a return of 18.6% in Canadian dollars over the past year, although it fared worse since the beginning of the year, declining 9%.

Interestingly, and probably beneficial to holders of physical uranium, Sprott doesn't forecast supply-side growth for uranium over the next 13 years. The company does, however, estimate moderate demand growth.

This contrasts with Cameco's announcement in May that it will return its McArthur River/Key Lake mining complex to production this year, aiming for 2,268t of uranium in 2022 and ramping it up to 6,805 tons by 2024.

With a new impetus on nuclear power generation and higher demand for uranium, and amid tight supply, the outlook for the yellow metal's price might indeed be rosy.

BRISTOW TARGETS THE LAST OF BARRICK'S LEGACY HEADACHES

BY DAVID MCKAY

Three years after merging his beloved Randgold Resources with Barrick Gold Mark Bristow has vastly improved the Canadian miner's fortunes. Having built in a raft of growth options for the gold miner, including the recently restructured Pakistan prospect, Reko Diq, there's still work to do ironing out the firm's legacy problems before considering retirement, the veteran miner says.

Mark Bristow CEO, Barrick Gold

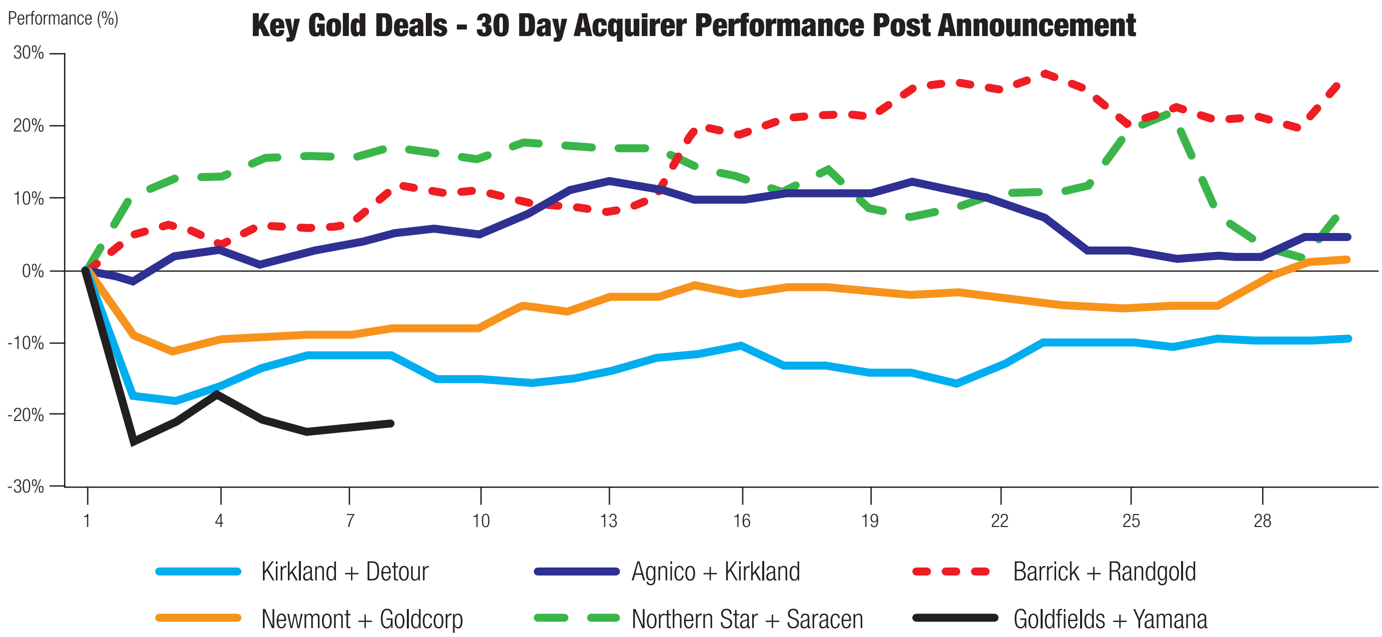
IT was no surprise Mark Bristow, CEO of Barrick Gold, delayed his retirement. After saying shortly after the merger of his Randgold Resources with Barrick that he might give himself a five-year stint atop the world's second-largest gold producer, he quickly changed tack, in typical style.

"My position is still the five years, but I reserve the right to change that in the light of changing circumstances," he said in February 2020. Asked for what those circumstances might be, he replied: "Pull the bits together yourself and you will know where I am going." Wherever Bristow imagined himself taking Barrick, it would most likely be ambitious and barn-storming.

At the time of these comments, he had pulled back from the hostile takeover of rival Newmont Mining in favour of a joint venture, but the courtship with Freeport McMoRan over the Grasberg copper asset in Indonesia was yet to run its course. In the end, there was no transaction, but Bristow thought Barrick ought to have more reach nonetheless.

But as merger and acquisition in the gold sector has become harder to achieve, Bristow has pushed an alternative strategy of aggressive resource replacement and growth


thungela
OUR JOURNEY TO VALUE CREATION HAS JUST BEGUN.
Igniting a new future
Responsibly creating value together for a shared future.
thungela.com



SOURCE: Global Mining Research, Factset

through exploration. He recently unveiled ambitions for Barrick to build mines in South East Asia, Japan and Canada. Bristow also dusted off the $7bn Reko Diq project in Pakistan after rehabilitating Barrick's relationship with the government. That project will "come very quickly now," he says.

"I would also like to build in Asia Pacific; that's where the big elephants are still around. We will focus on Japan and we are working on a partnership with Ma'aden in Saudi Arabia," as well as targets in Guyana and Colombia. "The Central African copperbelt is very interesting to me and we've got a full exploration base there now. It's a lot of energy and I think we will grow this company in those regions."

Had he stuck to his retirement plans, Bristow would be preparing to step down next year. Currently, there's zero sign of that. "I'm very motivated in what I do," says Bristow, commenting from his Mauritius retreat in an interview during June. He's notionally on holiday but acknowledges that the work never truly stops, though there's some time with family. "My job has changed a lot over the last 10 days. You grow stronger management."

Following Bristow's restructure of Barrick's head office — no longer called a head office — there are now 12 executives who report directly to him. Then there's a group of about eight others working at the group's regional level. "So the executive pool I can draw from is materially more than in the past."

Managers are also typically younger than before, another outcome of the group restructure since the Randgold merger — a company Bristow grew in painstaking fashion over 20 years. It had fewer resources and came off a base of almost zero. In fact, Randgold nearly went broke in its very early years. At Barrick, the capability is far, far greater, which accounts for the speed with which Bristow has been able to deal with its legacy issues.

The poster-child of Barrick's mishandled legacy problems was the standoff with the Tanzanian government. The government had shut down the firm's mines and threatened to confiscate the assets following a row over unpaid tax. A 50:50 joint venture company Bristow put in place - along with a helpful $300m one-off settlement in recognition of the tax dispute — reflected

I would like to tidy up the last of the legacy issues before I hand over

the structure and character of joint ventures Randgold concluded at its Loulo-Gounkoto in Mali, as well as at Kibali in the Democratic Republic of Congo. In both cases, the state has direct shares in the assets, which is supported by strong local procurement practices and, where possible, early payment of partner dividends. "Everyone has to benefit from mining," says Bristow. "The industry has been very poor at investing in its people and very poor at sustainability. In a consumptive industry like mining, sustainability is key.

"I would like to tidy up the last of the legacy issues before I hand over," he says, referring to North America, and specifically Hemlo in Canada. "It's what I would call a strategic asset. We are very invested in it," he says. "Pascua Lama is still unaddressed. That's another." Chile's courts ordered the closure of Pascua in 2020, but Bristow has raised the prospect the orebody could host a fresh prospect, with an investment decision due in 2024.

He alludes to "potential" in Chile to "... reposition the project, or share more of it with the government, which wasn't the case in the past. "We have engaged with the courts and are now waiting for the new government to settle in." The relationship between Barrick and the government of

Papua New Guinea, site of the Porgera mine, has improved following the formation of a new joint venture that solved a previous disagreement. But the relationship is delicate: Barrick is "wrestling" with the matter, says Bristow. "In these dynamic countries it's best to go in at the ground floor and earn alongside your partner."

Clearly, Barrick was not in an especially strong place ahead of the Randgold merger — hence the nil premium structure of the transaction, but its position proved to be an opportunity. "Barrick really went off for a while. If they hadn't, there wouldn't have been the logic for the transaction with Randgold," he says.

The merger was the catalyst to a spate of industry consolidation that continues in the current moment. In 2021 alone, 70% of all deals among the world's 40 largest companies were in gold, according to a report by PwC. More are on the way owing to low levels of industry debt and a high gold price.

"We expect gold deals to continue as larger companies look to expand their portfolios and the middle tier looks to consolidate," the auditor said in its June report, 'Mine'. Yet data also shows M&A in the sector is becoming expensive, and less liked by shareholders.

Australian research outfit GMR says investor reaction to gold M&A since the 2019 merger of Barrick Gold and Randgold Resources — which was viewed favourably — has tended to deteriorate. Unlike the nil premium structure of the Barrick-Randgold deal, later M&A has involved premia (see graph). The proposed all-share takeover of Yamana Gold by Gold Fields resulted in a one fifth decline in the value of the South African firm a week after its announcement.

Bristow thinks a spate of merger and acquisition activity is "driven by circumstance" whereas the merger between Barrick and Randgold began with a series of conversations between Bristow and John Thornton, Barrick's chairman, as early as 2016 and were based on a fundamental match-up between a large but dysfunctional company and another with quality management but in need of derisking, especially given where the gold price was at the time. "The 2019 transaction was value-creating because gold was about $1,400/oz. The market was in a bad way in 2018. Everyone was in trouble."

Owing to a lack of exploration investment in the past, gold reserve replacement is increasingly difficult to achieve. "The opportunities are sparse if you want to focus on world-class assets," says Bristow. Cost pressure is also complicating the business case for merger and acquisition in the gold sector, as well as uncertainty over the direction of the gold price which, at a trading band of about $1,800 to $1,900/oz, is cyclically high."

In the view of Joe Foster, a portfolio manager at US-based asset manager Van Eck's gold funds, the gold industry would benefit from more consolidation in the junior sector. Commenting on the firm's gold juniors ETF fund, Foster declares himself disappointed with their recent performance: "If we are to stay invested, stock performance has to improve. We need to see companies do more to attract investors to the sector. They must raise their profile and a sure way to do that, in our view, is through consolidation."

Barrick really went off for a while. If they hadn't, there wouldn't have been the logic for the transaction with Randgold.

Analysts at BMO Capital Markets think this is going to happen. "M&A to gain momentum this year in the small and mid-cap space," it said in a report. "While some companies bemoan a lack of appropriate targets through entrenched management or valuation disconnects, we have seen those companies that have completed transactions create real value, improve asset diversification and attract new potential investors through increased size."

Bristow comments that consolidation is "never a bad thing in our industry" but he also recognises that it's being done in a different scenario to the 'merger of equals' as per Barrick's union with Randgold. Companies have their backs to the wall owing to the inflation, although ultimately this provides another reason to embark on M&A.

"We think that cost inflation for most gold miners could easily be double-digit in 2022," said Michael Janolen, a research analyst for Merrill Lynch, earlier this year. "We think that gold majors may seek to replace older, higher-cost assets, effectively 'bolting on' mid-tiers with a single, quality, lower-cost asset."

Says Bristow: "This is a cyclical business regardless of what happens in the world. And so you need good assets. We've got six of the world's twelve true tier-one gold mines: we're in a good place."

ORION CHIEF SAYS COPPER MARKET IS HEADING FOR A BIG REBOUND

BY JACO VISSER

BANKING on a rebound in the copper price while developing several mineral deposits isn't for the faint of heart. When the price of the metal slid by up to 20% over the past three months – amid a broader softness in commodity markets – Orion Minerals adapted its strategy to develop its Prieska mine.

"The fundamentals [for copper] are still in place," says Orion Minerals CEO Errol Smart. He expects a big rebound in the copper market due to supply-side constraints. Despite tight supply, demand for copper from the renewable energy component manufacturers remains robust.

"On the supply side we're running in a bear market," Smart says. "We have a decade-long backlog in new supply. We can't meet current demand [for copper]."

He says electric vehicles are but one of the copper-guzzling sectors, with renewable electricity technology – especially transmission and generation – being even more copper-hungry. Wind turbine components demand a lot of copper in their manufacturing.

"The whole infrastructure in generation and storage is reliant on copper, with few substitution opportunities," Smart says. "There's going to be a big rebound in the copper market. [We sit] with the lowest stockpile of copper in warehouses [now]."

The machinations of the commodities market – with its cyclical price swings – has seen Orion opt for a nimbler approach in developing its Prieska Copper Zinc Mine. The mine, previously owned and then closed by Anglovaal in the early 1990s, is estimated to deliver 22,000 tons of copper and 70,000t of zinc over a 12-year lifespan. In addition, Orion is exploring Goldfields' former O'Kiep copper mine in Springbok. Preliminary drilling points to a copper output of 9,000t/year.

Errol Smart CEO, Orion Minerals

Orion devised an early production strategy that demands less capital, whether in the form of debt, equity or offtake funding agreements. On July 11, the company released new drilling results for a shallow pillar at the Prieska mine. Two of the 14 bored holes indicated significant copper and silver mineralisation.

Smart is wary about relying too much on debt to fund the Prieska project. He refers to larger mining companies which took advantage of the recent global low-interest rate environment to bulk up capital. "The less money you need, the easier it is to get," he says. Hence Orion opting for alternative funding, such as offtake funding agreements.

We have a decade-long backlog in new supply. We can't meet current demand.

The company signed a deal with Canada's Triple Flag International for an $87m funding package, pursuant on Orion finding an additional A$20m, to dewater the Prieska mine. In return for the funding, Orion will cede 84% of the gold and silver production at the Prieska mine for a 40-year period. The two companies are also working on an A$10m funding package to kickstart early production at Prieska.

By end-June, Smart told the market that the company is on course to raise the A$20m after issuing two tranches of shares worth A$6m to "sophisticated and professional investors". On June 10, though, Orion halted the capital-raising due to softer commodity prices. Existing shareholders were also offered the chance to buy shares on June 28, in parcels starting from R20,000 up to a maximum of R330,000.

Although trading at 22c apiece in South Africa and A$0.02 in Australia, and with more than 4.1 billion shares in issue, Orion has been tidying up its balance sheet recently. The company got a windfall from its largest shareholder, Tembo Capital, which converted a subordinated loan worth A$4.9m into Orion shares.

So, why not partner with a large mining company? Smart says the opportunity for copper production at both Prieska and O'Kiep is huge. But so was the slump in the cash price of copper – it fell from above $10,000/t to its current $7,785.

SIBANYE-STILLWATER HOLDS BACK ON DEALS UNTIL RECESSION FEAR SUBSIDES

BY DAVID MCKAY

AFTER riding the wave of record platinum group metals (PGM) prices since 2015, Sibanye-Stillwater's last seven months have been a return to terra firma.

Firstly, PGM prices have softened. Secondly, the firm faces a $1.2bn legal suit, launched by Appian Capital Advisory, the UK private investor from which Sibanye-Stillwater had agreed to buy two mines in Brazil. It bailed on the deal in December, citing a "material adverse advent", a legal 'get-out' that Appian is contesting in the UK's High Court.

Then flood waters stopped production at Sibanye-Stillwater's US PGM mines just as the group was coming out of a three-month strike at its gold mines in South Africa — an event that served to remind investors of its fragile relationship with the Association of Mineworkers and Construction Union, which had teamed up with the National Union of Mineworkers.

Would we like to have a bigger gold portfolio? Absolutely. At the right time we will have a look at it.

The strike was ended in June after unions agreed to an average 6.3% pay deal over three years — an outcome that was, on balance, a victory for Sibanye-Stillwater. However, the production losses the gold mines face this year will throw the spotlight on the fact that these are ageing assets. As a whole, Sibanye-Stillwater's gold division — with its high-cost labour complexities — poses more risk than reward for shareholders.

"I think shareholders may even contribute negative value to our gold business," said Neal Froneman, CEO of Sibanye-Stillwater, in an interview. He acknowledges gold market deal-making will be necessary if the group is to maintain its long-term exposure to the metal. Reserves indicate the current base of production will only persist until 2025.

"Is it big enough for us? At 10% of our earnings, no; it really makes very little contribution. Would we like to have a bigger gold portfolio? Absolutely. At the right time we will have a look at it."

That time is not now, however. The gold price is heading for a further bout of weakness despite the fact that economic recession is in the air, says Froneman. (Macroeconomic distress is normally a positive force for gold ownership).

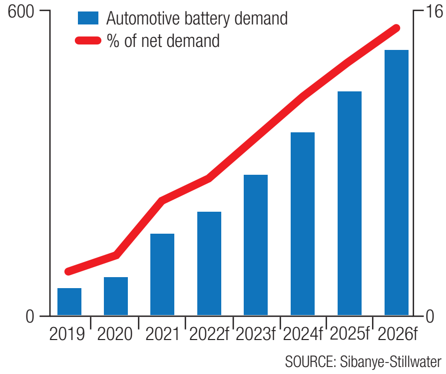
Froneman tried to renew Sibanye-Stillwater's gold division a year ago, pitching mergers with AngloGold Ashanti and Gold Fields, both of which were rebuffed. Froneman didn't fancy the prospect of time-consuming, energy-sapping hostile takeover attempts and so stepped away. In any event, the company had just unveiled the first transaction of a battery metals strategy.

Between February and November 2021, the company allocated $1bn in investment in two lithium projects, the Sandouville nickel refinery in France, and a base metals tailings reprocessing firm in Australia. Sibanye-Stillwater then doubled down with the $1bn proposed purchase of the Appian Capital assets in Brazil before pulling the plug in December. Froneman argued that killing the deal was a rational response, but analysts wondered if it would derail the firm's acquisition push.

Froneman says confidence is as high as ever regarding its expansion through deals; at the same time, however, investors ought

Neal Froneman CEO, Sibanye-Stillwater

Nickel demand from automotive batteries (kt)



SOURCE: Sibanye-Stillwater

not to expect another transaction soon, he says. "You are seeing a global economic reset taking place and the opportunity to make the right moves will probably happen in six to nine months' time. There's too much froth in the market."

WHEELING AND DEALING

Froneman has always been an executive in a hurry. Whether it was Aflease, Uranium One, Gold One — companies he has previously headed — or Sibanye-Stillwater, his preference has been to build through acquisition rather than 'through the drill-bit', the mining sector's sobriquet for exploration and resource development.

In an investment cycle that prizes investor returns more than growth — even in today's metals-hungry market — Froneman's strategy comes at a potential cost, according to a report by RMB Morgan Stanley. While Froneman's companies are always an exciting ride, deal risk is the trade-off, it says. Free cash flow to dividend conversion "could continue to lag the peer group with investors in Sibanye-Stillwater primarily backing management's ability to reinvest cash flows at higher returns via merger and acquisition and new project development", the bank's analysts said in a report earlier this year.

In Froneman's view, however, his battery metals transactions of last year were to position the firm for earnings growth. Sibanye-Stillwater claims it has some form, knowing how the market will develop. By adding PGM production from about 2016, it perfectly anticipated massive gains in the prices of palladium and rhodium. To some extent, improvements in the lithium market, to which Sibanye-Stillwater is hoping to be exposed, had already been underway last year, with the mineral gaining 280% in price. But Froneman thinks there's more upside to come.

Lithium is a critical ingredient in the manufacture of the lithium-ion batteries that power electric vehicles (EVs). To an extent still unknown, these batteries will compete directly with the internal combustion engine (ICE) technology that PGMs supply in the manufacture of autocatalysis over the next 10 years. And given the enormous political capital attached to carbon emission reduction by economies globally, the likelihood is that, eventually, ICE will be phased out.

However, Froneman is not certain this transition will be quick or linear. The scarcity of new metals production, such as lithium, means the market penetration of EVs will most likely be lower than expected and the widely expected decline in ICE metals will be more gradual, he believes.

You are seeing a global economic reset taking place and the opportunity to make the right moves will probably happen in six to nine months' time.

"The big picture is that battery EVs have their role and they have significant roles, especially in Europe and in cities, and ICEs and fuel cells [an alternative zero-carbon technology that uses PGMs in its manufacture] have their roles," says Froneman.

"We are in a fortunate position where we don't have to promote one at the expense of the other. They will both have a place in the mobility sector and we intend to have exposure to both."

Keliber splash

Sibanye-Stillwater's push into lithium production is somewhat different from its PGM strategy insofar as the latter was a classic extraction of operational synergies from existing cash-generating assets. The lithium investments, however, are 'projects' that have to be permitted, constructed and commissioned: mineral production from both is not likely until about 2024 at the earliest.

The most progressed is Keliber, a prospect situated in west Finland. On June 30, Sibanye-Stillwater announced it would buy out minority shareholders in Keliber Oy for €250m, taking an 80% stake in the project with Finnish Metals Group, a government-owned company, holding the balance of the shares. "It's a beaut," says Froneman. "It's going to be one of the best lithium projects in the world; one of the greenest, one of the closest to the European markets."

The company also has a foothold in Rhyolite Ridge, a lithium-boron project, through a $490m option agreement with Australian firm ioneer. The project, situated in Nevada, is facing permitting hurdles but Froneman says it's "evolving very nicely".

He also alludes to where Sibanye-Stillwater might look next for transaction: "We do need to build up our exposure to nickel, but

Keliber is a beaut. It's going to be one of the best lithium projects in the world, one of the greenest, one of the closest to the European markets

it's a three- to five-year strategy. Because we grew so rapidly in PGMs, there's a perception that we need to do the same thing in battery metals. It's not going to work that way."

EV metals investment is also more complex. Given the strategic nature of the zero-carbon transition, there is public sector participation as per the Finnish Metals Group in Keliber. Secondly, the evolving nature of battery metals supply is precipitating commercial deals with original equipment manufacturers.

A year after agreeing the €85m Sandouville transaction in February last year, Sibanye-Stillwater unveiled a €25m investment in Verkor, an EV battery manufacturer with a proposed 16GWh gigafactory planned for Dunkirk, close to Sandouville's Le Havre facilities, and which has the French government as a shareholder. Logically, the nickel refined at the Sandouville facilities will be supplied to Verkor.

Froneman says Sibanye-Stillwater is not interested in being "a contract miner" to EV battery manufacturers. Establishing commercial relationships allows the company to participate in the downstream and helps it influence market development. "Are we going to invest in a car company, no. But we do want strategic formal relationships because we want to work in ecosystems with likeminded people and become pandemic-resilient.

"I think you are going to see more of it," Froneman says. "The supply of metal is going to be the key constraint in just about any of these transformations, so those that have the metal are going to have the leverage."


Joe Public 31298
CIB
36 B
34 B
32 B
30 B
28 B
2022
2023
2024
2025
2026
2027
2028
2029
Leading sustainable growth finance for Africa's mining sector.
With our through-the-cycle offering encompassing the provision of debt, advisory services, markets flows and beyond, we partner with you to provide a full-spectrum solution to shape the trajectory of Africa's mining sector towards a sustainable future.
nedbank.co.za/miningandresources
see money differently
Nedbank Ltd Reg No 1951/000009/06. Licensed financial services and registered credit provider (NCRCP16).

UNITED WE STAND (OR FALL):

IN A SIGN OF WEAKNESS, SA'S MINING UNIONS ARE JOINING HANDS

BY ED STODDARD

UNIONS in South Africa's mining sector have never been so united. Tellingly, this may be a sign of weakness in the wider labour movement: confronting the mining industry alone can have unintended consequences. But it is also no bad thing for all stakeholders, including union members and management.

As the 10th anniversary of the Marikana Massacre approaches, there has been far less violence in the sector of late stemming from union rivalry. And with one recent and notable exception, the uniting of rival unions in wage talks has produced decent wage agreements without the downing of tools.

This does not mean that it is all a bed of roses; there are thorns galore among the petals. The National Union of Metalworkers of South Africa (Numsa) has launched a recruitment drive in the sector, causing disruptions at companies such as Impala Platinum.

The militant Economic Freedom Fighters (EFF), a breakaway from the ruling African National Congress (ANC), has established a labour desk with an online presence and signalled its intention to form its own union. Sources say that EFF recruiters are attempting to woo members of the dominant National Union of Mineworkers (NUM) and the Association of Mineworkers and Construction Union (Amcu).

Joseph Mathunjwa President, AMCU

There are also clear signs that social unrest and outright criminal activity are on the rise, posing material threats to mining operations. But at least labour tensions seem to be cooling.

The driving force behind this state of affairs is the end of the turf war between NUM and Amcu. This is without question the most significant development in labour relations in South Africa's mining sector since the explosive rise of Amcu on the platinum belt a decade ago.

Violence stemming from union rivalry has been largely contained, with some pointed exceptions. The three-month strike the two unions embarked on together at Sibanye-Stillwater's South African gold operations, which ended in June, stood out for its lack of violence.

The contrast with the previous industrial action at Sibanye's gold mines is striking. Amcu members were alone in downing tools at those operations in late 2018 and did so for five months, triggering unrest that killed nine people and saw 60 NUM supporters' houses torched on the restive West Rand. This followed a familiar pattern: Amcu strikes are almost always linked to violence, though it has always denied it resorts to such tactics.

Amcu also lost majorly in that strike after its members had to accept the same wage offer that rival unions had agreed to, and after losing five months' wages. That shook its seeming iron grip on its membership, including that of its charismatic founder and leader, Joseph Mathunjwa.

A subsequent confluence of events, including the Covid-19 pandemic, would bring the unions together and blunt Amcu's militancy.

COVID COLLECTIVE

Amid the tough lockdowns in 2020, which took a wrecking ball to the wider South African economy, the mining industry was given the green light to reboot ahead of other sectors. That required inter-union cooperation on an unprecedented scale.

"Health and safety were the drivers – unions joined forces to protect vulnerable workers under Covid," said Gideon du Plessis, the general secretary of the Solidarity union, which mostly represents skilled workers.

"We stood together to protect vulnerable workers from retrenchment. Then, to get the mines going again, we had to speak from one voice, and then we had to have a joint stance on vaccination."

Meanwhile, other trends related to the pandemic were undermining Mathunjwa's style of leadership. A passionate public speaker from a Salvationist Christian background, one of Mathunjwa's assets has always been his ability to work a crowd with a message that combines an intense biblical faith with African nationalism and Marxist doctrine.

Covid restrictions brought an end to the Amcu rallies where Mathunjwa took centre stage, robbing his status of vital oxygen. Mathunjwa on a Zoom meeting is just not the same.

Mathunjwa has also faced legal setbacks in the form of a Labour Court decision in late 2021 that declared his 2019 re-election to the post of Amcu president unlawful. An appeal process is allowed and Mathunjwa does seem to remain broadly in charge.

And while Mathunwa's public remarks remain the same as he attacks "white monopoly capital" and its alleged declaration of "war" on the black working class, Amcu's actions suggest it is no longer taking such a hard stance.

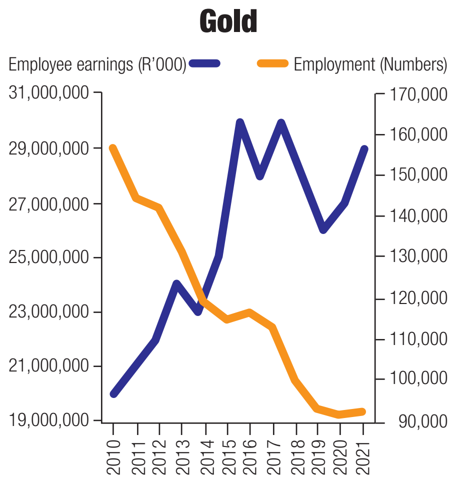
"This shows that Amcu is like any other union; it is there to strike compromises with management. It seemed to come in with a different sort of unionism. But it has become highly institutionalised. It is a sign that it is maturing," says Crispen Chinguno, a senior lecturer at Sol Plaatje University, who has studied Amcu extensively. "Amcu cannot resort to violence because they are now part of the system. Before, they were outside. But now they are inside the tent. They have to conform to the rules of the game."

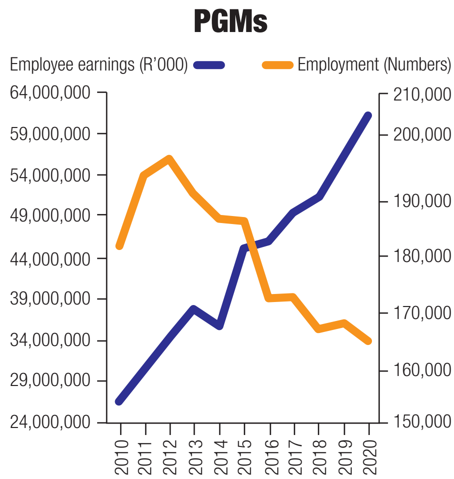
Mathunjwa also now speaks of "Numcu", though union sources say there is currently no merger in the works.

Ironically, the decline in labour violence linked, fairly or unfairly to Amcu, is no bad thing for the capitalists Mathunjwa rails against. The labour violence and instability for the better part of the past decade have been material threats to South Africa's mining sector, setting in motion trends such as the pivot to mechanisation. The dousing of these flames is surely no bad thing for the industry's risk profile.

Take, for example, the Marikana Masscare, in which South African police shot dead 34 miners involved in a chaotic wildcat strike in August 2012. This was the beginning of the end for Lonmin as the event rendered the asset toxic in the eyes of many investors.

The straight-talking Mabapa has an earthy style - he is a miner - and is focused on bread and butter, shop floor issues.





SOURCE: Minerals Council of South Africa

The patch-up of relations between NUM and Amcu began among rank-and-file workers who just wanted to get on with their jobs without coming into conflict with peers. At the leadership level, it was spearheaded by NUM general secretary William Mabapa and Amcu's main negotiator, the soft-spoken Jimmy Gama, who is something of a Dr Jekyll to Mathunjwa's Mr Hyde.

The straight-talking Mabapa has an earthy style; a miner, he is focused on bread-and-butter, shop-floor issues. "Why should we be fighting among ourselves?" he told this correspondent in a recent interview.

The pandemic has been a double-edged sword for the mining sector's union rank and file. On the one hand, the relatively brisk restart of the mines – and the policy of several companies to pay regular wages and benefits to workers forced to stay home – meant miners were spared the worst of the economic hardship that slashed the incomes of other workers.

This helped to build trust between employees and management. The restaurant sector, for example, could hardly afford to pay workers who were marooned at home for months.

This is where the sword's other edge has come into play. The typical mine worker is estimated to have eight to 10 dependants, and while there is no hard data yet on this, it must almost certainly be the case – based on broad economic indicators – that those numbers have swelled. South Africa's unemployment rate hit a record high of 35.3% in the fourth quarter of 2021 before dipping slightly to 34.5% in the first quarter of this year.

By contrast, mining added jobs. According to data compiled by the Minerals Council South Africa – the main body representing the industry – the sector employed 458,954 people in 2021 compared to 452,866 in 2020. And it paid employees R154 billion in 2021 compared to R152 billion in 2020, when many of its operations were temporarily halted.

So miners broadly maintained their incomes, which has poured cold water on calls for class conflict. Simultaneously, many will have family members who lost their income stream, placing a strain on working and even middle-class household finances.

In addition, this state of affairs is playing out as inflation accelerates, driven by fuel and food prices. Consumer inflation in the year to May quickened to 6.5 % from 5.9% in April. Interest rates are also on the rise, which will squeeze households burdened by debt. This combination of factors will likely keep wage demands above inflation for the foreseeable future while dulling the sharper edges of union combativeness.

COMMODITY CYCLE

Fortuitously, from the economic wreckage of the pandemic, a renewed commodity super-cycle has emerged. Like their global peers, South African mining companies have been posting record profits, largely from record prices. This has enabled the settling of above-inflation wage hikes involving multiple unions without industrial action. Harmony Gold's historic three-year wage agreement with five unions, including NUM and Amcu in September 2021, set the stage on this front. Anglo American Platinum followed suit with a five-year wage deal this year with several unions, which effectively amounts to annual pay hikes of over 7%. Several other mining companies have also clinched deals without their employees going on strike, including Impala Platinum, which also nailed down a five-year wage pact with Amcu.

AMCU cannot resort to violence because they are now part of the system. Before they were outside. But now they are inside the tent.

The upshot of all of this has been – with the buffalo-sized exception of the three-month strike at Sibanye's gold operations – almost a "new normal" in labour relations, extending from the shafts to the boardroom. It is certainly a jarring juxtaposition with a decade ago, in the turbulent run-up to the Marikana Massacre.

There remain potential spanners in the works. The upcoming wage talks at Sibanye's PGM mines will be an important test case. They come at a poignant time, with the 10th Marikana Massacre anniversary looming in the background. And Sibanye now owns the Marikana mine, a formerly marginal asset that has returned to profitability.

Was the three-month Sibanye gold strike a dress rehearsal for a Rustenburg rumble? There has been speculation that this is the case. Unions across the board, from Amcu to Solidarity, take an extremely dim view of Sibanye and its blunt-mannered CEO, Neal Froneman, whose R300-million pay package last year has stoked their ire.

Sibanye's approach to negotiations and its handling of the strike have also raised labour hackles. Among other things, according to more than one labour source, the company's strategy of frequently sending its striking employees direct messages irritated the unions.

For its part, Sibanye has maintained that it is not as inflexible as the unions have portrayed it, and increased its offer a number of times in the face of a rigid demand of R1,000 a month each year, mirroring the Harmony deal.

There is also a labour perception that Sibanye buys assets only to mothball them. However, its turnaround of the Marikana asset, which has saved thousands of jobs, flies in the face of that narrative.

Gideon du Plessis General Secretary, Solidarity

Sibanye will also not be able to plead the case that it does not cross-subsidise its assets. Its gold mines are far more marginal than its cash-spinning PGM operations. On the other hand, as the middle of the year approaches, PGM prices are well down from their peaks as the outlook for the global economy dims.

And labour still faces disruptive trends, spurred in part by union unrest, such as mechanisation, digitisation and automation. In the face of these developments, a united strategy may still be labour's best bet.

Meanwhile, Numsa's membership drive, which hit production at Implats, has flared up again, with a wildcat strike erupting in late June at three contractors for the company. A Numsa recruiter has also been assassinated in Rustenburg, which follows a similar murder last year. And the EFF's drive to start its own union may crank up a gear in the shadow of the Marikana 10th anniversary. This is an event the EFF has latched on to to gain traction after its firebrand leader Julius Malema was expelled from the ANC. Expect the party to continue to exploit the incident politically.


WEALTH IS NOT ONLY MEASURED IN GOLD, BUT IN HOW MUCH WE CARE FOR THE WORLD AND EACH OTHER
Sustainability is at the heart of all we do. From delivering meaningful, ongoing returns to our shareholders, to caring and uplifting our people in a safe and nurturing workspace, to delivering wealth to our nation, we have a duty to preserve and respect the environment. To leave our children a cleaner, healthier planet. We know beyond doubt that those who care are the ones who win.
HARMONY™

ZAMBIA'S LONG-NEGLECTED COPPER RICHES ARE TURNING HEADS AGAIN

BY BRENDAN RYAN

Robert Friedland Co-chairman, Ivanhoe Mines

MAJOR mining companies are getting increasingly involved in the Central African Copper Belt, expanding existing operations and exploring for new discoveries as the positive fundamentals for copper in terms of soaring demand and limited new supply remain in place.

Those groups include Barrick Gold, Anglo American, Ivanhoe Mines and First Quantum, which are stepping up their investments in copper mining in Zambia, the Democratic Republic of Congo (DRC) and even Angola.

The driving forces behind the copper boom are that demand for the metal from EV (electrical vehicle) and renewable energy generation is expected to more than double over the next five years because EVs use up to four times more copper than internal combustion engines, and renewable power generation uses five times more than conventional generation.

At the same time, copper supply forecasts are for a looming deficit because of a lack of new mines and currently stand at reaching around six million tons annually within a decade.

That doesn't mean the copper price won't fluctuate as it did in June. Bloomberg News said the metal suffered a "dramatic reversal", dropping to a 16-month low of $8,122.5/t on June 24 and registering "one of the biggest monthly losses of the past 30 years".

That was from a high of just over $10,500/t a few months earlier. The metal continued to lose ground into July, falling through $8,000/t, its lowest level in almost two years. Set against these fluctuations is the fact the mining groups commit huge capital investments for new mines over periods of up to five years. They are consequently focused on the longer-term trend, which remains overwhelmingly positive.

The possibility of such a price pull-back was flagged by Barrick Gold CEO Mark Bristow in early May during a press conference at the Mining Indaba in Cape Town, when he commented that "copper will still cycle but we can manage the cycle. You are going to see a big reduction in copper prices

Zambia is a place to grow. The Central African copper belt is of very great interest to us at the moment because there is still the ability to make discoveries.

BUSHVELD
MINERALS

Powered by possibility

The road to an advanced future is not paved with old ways. It is fuelled by the power of human possibility.

A less wasteful, more resilient tomorrow requires a shift. In thinking. In doing. Toward better systems, better structures. Ones that don't leave us as culpable, or vulnerable.

At Bushveld Minerals, we're committed to pulling this kind of future forward. To bringing manufacturing, development, energy, and growth not just to life, but to lives.

Building. Not just structures, but sustainability. Powering. Not just progress, but people. To fuel human freedom in advancing a better, safer, more durable existence for us all.

And to ensure that what we take from the earth goes back into it, in the form of progress for our planet.

Life. Powered.

Hakainde Hichilema President, Zambia

in the next six months if China continues wrestling with Covid as it is now, with a focus on zero Covid."

According to Bristow: "If you just use an average growth rate — projected by analysts — for copper, you need seven Escondidas before 2040 to meet demand. We have not got one. Reko Diq will be half an Escondida and it's the biggest copper project out there."

Reko Diq, situated in the Baluchistan province of Pakistan, is Barrick's latest copper-gold project. According to Bristow, it meets the group's tier-one asset investment filters on long-term price assumptions of $2.75/lb for copper and $1,200/oz for gold. A feasibility study should be completed by 2024, with potential first production possible from 2027.

But Barrick also owns the Lumwana copper mine in Zambia. According to Bristow: "Lumwana works at $2.75/lb copper and that's our filter. We have some upside, with a potential super-pit, which will take it to 60 years' life.

"Zambia is a place to grow. The Central African copper belt is of very great interest to us at the moment because there is still the ability to make discoveries."

THE PROPHET

Bristow is not alone in his enthusiasm for Zambia. However, the increasing focus on that country and the DRC is at the expense of the great copper-producing nations of South America — in particular Peru and Chile, which account for around 45% of global copper output — but where grades are falling and political risk is rising.

The 'prophet' here has been Robert Friedland, founder and co-chairman of Ivanhoe Mines, which is developing the Kamoa-Kakula copper-cobalt project in the DRC, which country Friedland describes as the "Saudi Arabia of copper, cobalt and hydro-electric generation potential".

Zambia is very well placed to take advantage of the green energy transition. But it hinges on it dealing with the legacy issues and embarking on law reform going forward

Friedland has been singing the DRC's praises at international mining conferences for years and once famously likened the great copper mines of South America — such as Escondida — to "little old ladies lying in bed waiting to die" - because of their low and declining grades.

Attacking Chile's dominant position in the copper mining sector, he told the 2020 Mining Indaba in Cape Town that "it's absolutely silly to think that Chile is a safe place to mine and should have a 3%-4% discount rate and, somehow, the DRC should have a 12% discount rate".

Kamoa-Kakula started commercial production in July 2021. Planned expansion will make it the second-largest copper complex globally, with annual production of more than 800,000 tons, according to Friedland.

He reckons there's a lot more to come from the region because exploration drilling on the 2,407km2 Western Foreland project — which sits north and west of Kamoa-Kakula — has so far found the Makoko Copper Discovery, which "shows similar geological characteristics to Ivanhoe's tier-one Kamoa and Kakula discoveries".

ZAMBIA

The DRC copper deposits are geologically linked to the Zambian Copperbelt — once the largest copper-producing region in the world — but where mining companies' fortunes have swung like a pendulum because of the cycle of political upheavals in that country.

The industry collapsed following its nationalisation in the 1960s under the government of Kenneth Kaunda. It was revived in the 1990s after Kaunda left office and the new government swung back towards privatisation.

Conditions started deteriorating again over the last decade as the Zambian government pushed for a greater share of the revenues from the country's copper mines and got involved in a number of ugly confrontations with the mining groups.

The pendulum is now swinging back the other way under new president Hakainde Hichilema, who, according to UK broking and investment firm SP Angel "is focused on encouraging investment into Zambia, targeting a tripling of copper output over the next ten years".

Peter Leon, a partner at law firm Herbert Smith Freehills, says: "The copper price has until very recently gone through the roof and everyone wants copper. Zambia is also a much safer mining destination than the DRC – and they've got cobalt. I think Zambia is very well placed to take advantage of the green energy transition, but it hinges on it dealing with the legacy issues and embarking on law reform going forward."

Reaction from the mining industry was swift, with First Quantum Minerals approving a \$1.25bn expansion of its Kansanshi copper mine in Zambia. Similarly, Anglo American has returned to Zambia to explore for copper after what SP Angel described as an "extraordinary" deal with exploration junior Arc Minerals, which the firm also said "highlights interest by the majors in exploration and new discovery".

Anglo has also gone exploring for copper and nickel in neighbouring Angola, where it has just carried out two of its largest-ever geophysical exploration programmes on the 20,000km^2 Moxico project and the 30,000km^2 Cunene project. Anglo's return to Angola — and that of diamond subsidiary De Beers — follows sweeping positive changes to the country's mining investment regulations.

Anglo has formed a joint venture with Arc over Arc's copper-cobalt project in the north-west of Zambia and will hold a 70% stake for an aggregate investment of up to \$88.5m, including a cash consideration of up to \$14.5m.

This is Anglo's second look at the project because it previously explored the areas through a joint venture with Equinox Minerals in the late 1990s.

First Quantum's expansion at the Kansanshi mine will extend its life to 2044, over which period it is expected to produce about 250,000t/year of copper.

First Quantum CEO Tristan Pascall says the decision to make the investment followed the reintroduction of mineral royalties being deductible for corporate income tax assessment purposes, which became effective in January 2022.

"This measure realigned Zambia with international best practice. The government's

Peter Leon Partner, Herbert Smith Freehills

commitment to improve the predictability of the mining fiscal regime also provides the certainty needed to support large capital investments in Zambia.

"Furthermore, First Quantum and the government have successfully resolved all points of contention that have been stumbling blocks to progress on the S3 expansion and Enterprise nickel project. This includes reaching agreement in respect to the outstanding value-added tax receivable sum and an approach for repayment based on offsets against future mining taxes and royalties," says Pascall.

Also impressed with the new Zambian government approach is Bristow, who comments: "It's been an absolute pleasure dealing with this new government and there's no doubt that Zambia is underinvested.

"Copper has always been part of Barrick. We need to grow more and copper helps you. We will keep investing in Zambia but our other focus is the Nubian-Arabian shield, which is western Saudi Arabia and Egypt, where we have our toe in the water."

Bristow reckons there is going to be an inevitable convergence of gold and copper mining. Not long after Randgold had merged with Barrick — and Bristow took management control of the new group — he was involved in talks over a possible merger with huge copper producer Freeport-McMoRan during a "window of opportunity" in 2020, when the copper price was depressed at levels below \$3/lb.

Nothing eventually came of it and, asked about this during a press conference at the Mining Indaba, Bristow replied: "I tried. Everybody bitches at me, but I tried. It was a damn good idea but the guys who stopped us were the big funds."

Kenneth Kaunda

ANGOLA EYES BEING WORLD'S LARGEST DIAMOND PRODUCER IN FIVE YEARS

Diamond exploration budgets are shrinking amid a visible decline in new quality projects. One country that is famed for its untapped diamond potential is Angola. Fresh from reform, it intends becoming an influential supplier of rough diamonds, writes **BRENDAN RYAN**

ANGOLA, long viewed as "elephant country" by geologists searching for major diamond strikes, is finally getting the exploration attention it deserves after a radical transformation of its mining policy. The reforms are pulling diamond explorers back into the country.

Over the past year, mining majors Rio Tinto and De Beers have returned to explore for the "holy grail" of a major kimberlite deposit matching existing mines like Venetia. De Beers' parent, Anglo American Corporation, is also back in Angola looking for copper and nickel.

According to Angolan state-owned diamond mining company Endiama GM Pedro Galiano, these are likely to be followed by private investors from China and Dubai, who he says are "interested" at this stage.

Galiano says Angola's aim is to become one of the world's three biggest diamond producers within five to 10 years. The country produced around eight million carats in 2021 - of which 80% came from the Russian — owned Catoca mine — and Galiano estimates 2022 production at more than 10 million carats. He adds that Angola is looking for a 25% rise in diamond output over the next five years.

Angola has not always been so attractive to exploration firms despite it being arguably the most prospective country in the world to look for a major diamond kimberlite pipe. That's because onerous mining regulations imposed by the government under the late former president Jose Eduardo dos Santos, as well as widespread corruption, blighted exploration and mining for roughly a quarter of a century. It led to an exodus of diamond mining explorers and companies in the early 2000s.

It all changed when Dos Santos stepped down in 2017 to be replaced by João Lourenço, who came in vowing to reform the Angolan economy and deal with the corruption and nepotism of the previous administration.

It has taken him nearly five years, but confirmation of his success comes from the return of De Beers, which pulled out in 2012 but has now taken up two mining licences for periods of 35 years.

De Beers CEO Bruce Cleaver comments that "Angola has worked hard in recent years to create a stable and attractive investment environment and we are pleased to be returning to active exploration in the country.

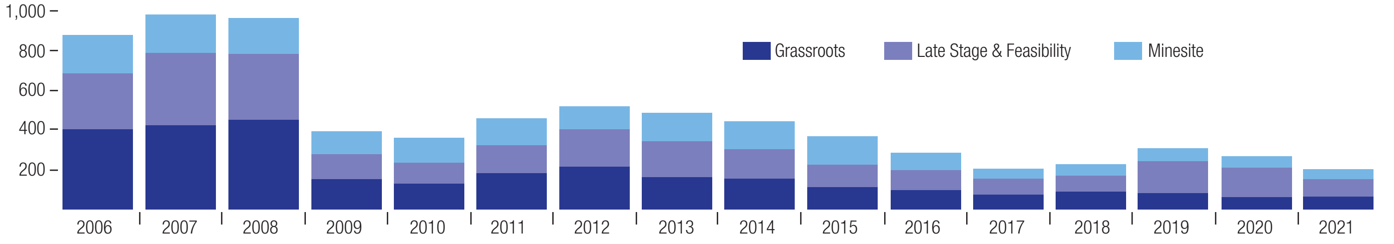
"Angola remains highly prospective and we look forward to being part of this next stage in the development of Angola's diamond sector."

Angola's attraction is that not only is the country highly prospective but it is relatively underexplored and the diamond mining groups are desperate to find new mines. There have been no major diamond discoveries since those made in Canada some 40 years ago. Those mines are now winding down.

Says consulting geologist John Bristow: "Much of Angola sits on the Central African Craton and the African craton structures have been jewel boxes for the discovery of diamonds. Also, Angola has not been explored using modern exploration technology, such as high-resolution aeromagnetic surveys."

In addition to the stable political conditions in the country created under Lourenço, the regulations applicable to diamond mining companies operating in Angola have been radically overhauled. According to Galiano, Endiama has a 25% free equity carry in any new mine — because of the initial prospecting work and provision of infrastructure done by government — but any increase above that level will be bought at market rates. However, the foreign company will be able to keep absolute — at least

Exploration budget trends 2006-2020 (US$m)



SOURCE: S& Global Market Intelligence

51% — control of its mine.

Galiano adds that there are new capital investment and repatriation policies and new diamond marketing policies. All diamond marketing is regulated by Sodiam, the Angolan diamond trading company, but 60% of the production from any mine is earmarked to be sold to their clients while 20% is to be sold to clients of Sodiam and 20% to be sold to diamond manufacturers and polishers in Angola.

Galiano says the adjudication of the bidding proposals through Sodiam to buy the diamonds for all clients will be transparent.

RIO TINTO

The terms of Rio Tinto's contract in Angola are that it has formed a joint venture with Endiama over the Chiri kimberlite deposit, in which it owns 75% and Endiama 25%, but the contract "leaves open the possibility for Endiama to increase its holding to 49%".

That is a vast improvement on the previous arrangements. One of the companies that suffered the worst under the previous system was the formerly JSE-listed Trans Hex.

One of the quickest wind-ups in mining journalism was to ask then Trans Hex CEO Llewellyn Delport pointed questions about what exactly was going on with his troubled Angolan operations. The response was always a pained facial expression and a reply along the lines of: "Why do you keep asking me those questions? You know I cannot answer them."

The reason for his reticence was that the Angolans were extremely sensitive to any criticism and that could lead to repercussions for the company.

Trans Hex got involved in Angola in 2001 through initiatives led by former chairman Tokyo Sexwale, who was drawing on his political contacts in the country. But it rapidly turned into a mess with the then CEO, Calvyn Gardner, quitting abruptly in 2003. Delport inherited the job of cleaning up that mess, which took him around 10 years.

The real situation on the ground was spelt out by Petra Diamonds when it got out of Angola in 2008 and, clearly, felt it had nothing to lose from telling it like it is. Petra revealed that the foreign mining company was not allowed to own more than 40% of any project, with the balance of the equity held by the Angolan government through Endiama and other nominated Angolan partners. Despite this, the foreign company had to fund 100% of the capital expenditure upfront.

Once the mine was operating, the foreign mining company had priority over revenues generated until the capital outlay was recovered but it might still only get some 80% of the initial revenues because of profit-sharing agreements with the Angolan partners.

Judging by what happened at Trans Hex, it seems the Angolan partners also got directly involved in the mining operations at times — for example, trying to force the operators to keep loss-making operations going.

In the current situation, according to Richard Morgan, who is head of government relations at Anglo American, it now "helps that the Angolan government keeps materially out of the mining industry".

FAMILIAR FACE

The irony for South Africans is that this turnaround in Angola's attitude to the private mining sector is being overseen by Jacinto Rocha, who was the deputy director-general at the Department of Mineral Resources & Energy (DMRE) in 2005, when the Minerals and Petroleum Resources Development Act was imposed on the South African mining industry.

Rocha is CEO of Angola's National

João Lourenço President, Angola

Agency for Mineral Resources, which is responsible for the regulation of the country's mining industry as well as promoting the industry to new investors.

The terms Angola is offering are vastly more attractive to mining investors than the current requirements to go mining in South Africa, with, in particular, the fact that there is no requirement for black economic empowerment (BEE) in Angola. Rocha — who was extremely unpopular with many South African mining executives during his tenure at the DMRE — sees no issue with that, commenting: "I was just doing the job. In South Africa I was implementing the BEE policy laid out by the South African government for the mining industry and, in Angola, I am implementing the policy laid down by the Angolan government.

"The histories of the two countries are completely different. There is no need for BEE in Angola because there was no apartheid in Angola."

Rocha adds that Angola now has "a positive, welcoming attitude to investors, and the new government has taken a very hard stance against corruption. The mining companies coming back can see that government now practises what it preaches. It does not say one thing and do another."

THE REVOLVING DOOR OF ZIMBABWE'S MINING INVESTMENT KEEPS ON SPINNING

BY DAVID MCKAY

Sam Hosack MD and CEO, Prospect Resources

ZIMBABWE'S mining sector was delivered a body-blow in June when Russian firm Vi Holding withdrew its support for the long-proposed platinum group metals (PGM) mine Darwendale.

The company foresaw insoluble difficulties attracting investors following its homeland's attack on neighbour Ukraine. The project is now exclusively owned by the Zimbabwean government, which intends to go it alone. That could take some doing, though.

Darwendale is scoped to produce up to 860,000oz of PGMs annually, a scale requiring $3bn in investment, $500m for its first phase alone. Government seems undeterred by the task: "That platinum project is a great asset for the country and we are not only focusing on platinum in acquiring shareholding but other assets as well," said George Guvamatanga, Zimbabwe's finance permanent secretary in an interview with Bloomberg News. "That is the new thrust of government."

The project had been in the sights of Russian investors for 16 years without ever seeing light of day. Despite the riches of the resource, there's no escaping the reality that Zimbabwe is a tough place to do business.

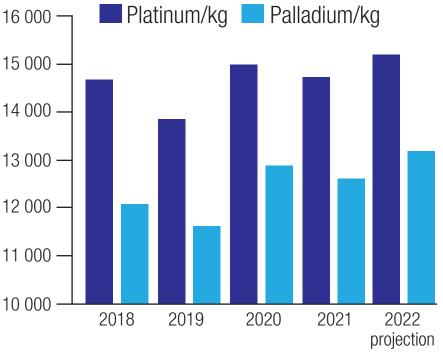
The late David Brown, previously CEO of Zimbabwe's Kuvimba Mining House, a government-owned company that is now the sole owner of Darwendale, was fulsome in his appraisal of the asset. "The [Darwendale] resource is reasonably attractive. It's shallow and on the Great Dyke and so it's got a good post code from PGM content point of view. I think it's got some good optionality," he said.

People need to get their heads around the negativity. Having good geology helps.

"But like all things, you can't lock that in unless you've got the right investors. In Zimbabwe, there has been an inability to attract significant foreign direct investment [FDI] in a generic way. Saying there are one or two projects in Zimbabwe doesn't really help. You need a wave of FDI," he said.

"I'm not sure the government has been that successful at attracting investment for itself. I'd say they probably aren't [successful], and I don't see that wave of FDI coming through." Brown tragically passed away on June 18 — a major loss for Zimbabwe considering his 20-year-long involvement with the country.

Platinum and palladium output



SOURCE: Chamber of Mines of Zimbabwe

Brown's view was also recently expressed by the Chamber of Mines of Zimbabwe. Commenting in its 2022 Commodity Outlook, it identified an estimated capital shortfall in its mining sector of $10bn over the next five years. That, and the hindrances of "erratic power supply ... exchange rate volatility and foreign exchange restraints", are preventing the country from benefiting from "favourable commodity prices".

The track record suggests Zimbabwe is a place where mining companies can have some success if they have a commodity the market views favourably. But the converse is also true. Fundamental hindrances undermine its reputation, such as its currency problems.

These include the reintroduction of the Zimbabwe dollar three years ago after the (US) 'dollarisation' of the economy. As part of this, exporters have to "give up" 40% of their export proceeds, which have to be paid in Zimbabwe dollars. "The Zimbabwe dollar relative to the US dollar has been inflationary," says an industry source. "The differential between official rates and unofficial rates shows there's a lack of faith in the

When the Chinese came along, they were on the scent.

local currency, in what it can buy and what its value is."

There are workarounds, such as a company securing a special mining lease, but issues around currency are just the tip of the iceberg for investors. Another problem is that it's difficult to import capital goods. Electricity supply is also unreliable.

INCENTIVISING PROJECTS

Yet new mining projects do get announced in Zimbabwe. One is Tharisa's proposed $250m Karo Platinum Project, which aims to produce 150,000oz/year of PGMs, doubling the size of the Johannesburg-listed firm's current South African production. "Absolutely, you can invest in Zimbabwe," says Ilja Graulich, spokesman for the company.

"People need to get their heads around the negativity although, obviously, having good geology helps," he adds, referencing the project's position on the Great Dyke so favoured by Brown. In fact, Karo Platinum Project is to be constructed on property originally owned by Implats until it was appropriated by Zimbabwe's former president, Robert Mugabe.

But the game-changer for Tharisa is that the Zimbabwean government has declared the region a special economic zone (SEZ), which carries a 15% tax rate compared to 25% for other corporates, as well as duty-free importation of capital goods. "We wouldn't have a project without the SEZ," says Graulich. "It provides a lot of comfort."

Tharisa is also applying for national project status, which will speed up Karo's implementation by improving the flow of capital goods in and out of the country.

On the back of this, Tharisa has raised the prospect of tapping Zimbabwe's bond market in order to part-fund the project, possibly through the newly founded Victoria Falls Exchange. That sounds bold, but it's a sign of the confidence Tharisa has in Zimbabwe. Debt funding and export credit finance are other funding mechanisms underway but which are yet to be finalised by the company.

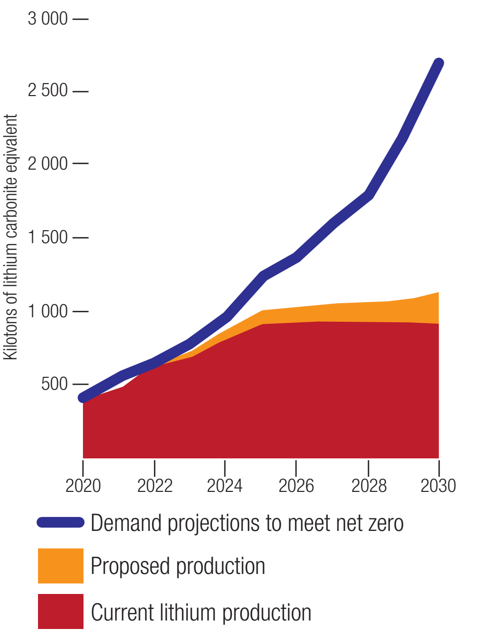
If successfully built, Karo Platinum Project will take its place in an established PGM business that has Impala Platinum as its most significant investor through its 85%-owned Zimplats. It announced in March the $204m doubling of Zimplats' smelter capacity. This investment frees up capacity for additional smelting in South Africa, which currently treats concentrate from the Mimosa mine in Zimbabwe.

Nico Muller, CEO of Implats, says the decision to invest in Zimplats' expansion was premised on "the attractiveness of the orebody, strength of the operating team and unmatched record in operational performance and project delivery". As for jurisdictional risk, he thinks Implats can fall back on a 25-year track record of collaboration with the government.

This has led to some criticism of Implats: how does it square its own principles against the corrupt administration of Mugabe? But Muller has few qualms. "Zimbabwe has been our best jurisdiction, where we have had the least amount of disruption and the most predictable production profile," he said in April at a PGM industry conference.

"Personally, I am quite happy that the jurisdiction is seen as a risk by most other competitors because it allows us to continue expanding our interests," he said.

Supply deficit forecast for lithium

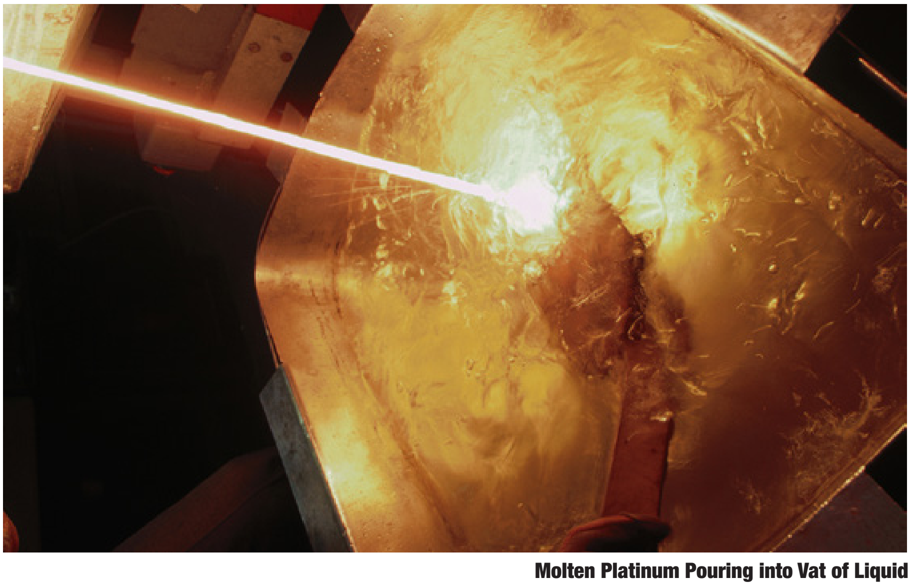


SOURCE: PwC/International Energy Agency

LITHIUM

Sam Hosack, MD and CEO of Sydney-listed Prospect Resources, says his company is content to reinvest in Zimbabwe's minerals exploration industry despite having in April completed the $387m sale of the firm's Arcadia lithium project to China's Zhejiang Huayou Cobalt Co.

"The government of Zimbabwe gets a



Molten Platinum Pouring into Vat of Liquid

Emmerson Mnangagwa Zimbabwe's president

load of bad press and I accept that. It is not getting everything right, but its incentives, what it is putting in front of foreign direct investors, are well thought through," he says. "Zimbabwe is trying to create an 'open for business' culture and to create that awareness, and certainly in our case it was a clear example of a well-incentivised investor that found a good asset."

It's a little known fact that Zimbabwe is the world's sixth-largest producer of lithium, and the largest in Africa. Lithium, a mineral critical in the assembly of batteries for the electric car industry, is expected to flourish over the next five to 10 years. Its price gained 400% last year and according to the International Energy Association, a major supply deficit opens up from about 2024 (see graph).

China controls the market but the price hike alarmed some of its smaller producers, triggering a rush for the mineral globally; hence the play for Prospect's Arcadia. Sinomine acquired Zimbabwe's Bikita lithium mine earlier this year while Chinese firm Chengxin Lithium Group has teamed up with Sinomine to explore for the mineral in Zimbabwe. London-listed Premier African Metals recently raised funds for the continued development of the Zulu lithium and tantalum project in Zimbabwe whilst there was speculation last year that the government's Zimbabwe Mining Development Corporation planned to reopen the Kamativi tin mine as a multi-element operation including lithium production.

"Much of the new developments involve smaller players in China looking to secure resource supply overseas, a strategy that China has employed to gain control of the supply chain," says Allan Ray Restauro, an analyst at BloombergNEF.

The West is concerned about the geopolitical risk of China having so much dominance in a critical metal, much as it does in the rare earth industry that is critical in the manufacture of wind turbines for renewable energy. Hosack's view is that the Chinese are quicker to the table than Western original equipment manufacturers (OEMs). "When we were looking at, shall we say, investment approach, I was quite frankly disturbed by the attitudes from Western countries. It was very predatory, there was no profit-sharing interest," says Hosack.

"It's of course a function of risk appetite that China can move quicker and that the West is lagging," he says. "When the Chinese came along they were like a gundog on the scent. When they want something they can move very quickly. That's part of our fiduciary duties as directors to carefully note where the real likelihood lies and where the best shareholder value can be created."

Emmerson Mnangagwa, Zimbabwe's president, welcomes China's presence in the country's minerals sector, according to a report by Xinhua, the state-owned news agency. China had brought "value and employment" in contrast to Western investors, said Mnangagwa. According to Xinhua, the government mouthpiece, the investment in Bikita this year could herald a new start for the mine after years of one-way exploitation by Western investors. Based on recent history in Zimbabwe, the fulfilment of that assumption remains to be seen.

Nico Muller CEO, Impala Platinum

AFTER NEARLY GOING BUST, THE FUTURE COULDN'T LOOK ANY BRIGHTER FOR GEMFIELDS

BY DAVID MCKAY

Rough rubies at Gemfield's Montepuez mine

WHEN three of South Africa's wealthiest families engage in some discreet business dealings, it's perhaps worth taking a second look. In September last year, Christo Wiese sold his 13.72% stake in Gemfields, a Johannesburg- and London-listed mining business founded by mining supremo Brian Gilbertson and now run by his son, Sean. The buyer was Assore, an investment company owned by the octogenarian geologist Des Sacco whose father, Guido, was a founder of South Africa's manganese fields, dating back to the 1920s.

What, though, is Assore doing establishing a beachhead in Gemfields, an investment it has since extended to 26.6%? Gemfields has been uneven in performance in the past and operates in the arcane world of emerald and ruby mining. In fact, when you think about it, coloured gemstones are about as far removed from Assore's core business of bulk mining manganese and iron ore as can be found in the resources sector.

Gemfields' assets are also relatively far-flung compared to Assore's South African footprint, which, in mineral resource terms, is familiar territory, having been established generations ago. The market is also fairly secure, with supply deficits forecast for iron ore and manganese, albeit over differing timelines. In contrast, Gemfields' rubies are mined at Montepuez in northern Mozambique, close to Cabo Delgado, which in 2020 were attacked by jihadist insurrectionists. Then there's the opacity of the coloured gemstone market, of which more later.

Kieran Daly, head of Assore's strategy, refers inquiries to Gemfields CEO Sean Gilbertson. Assore was never an especially voluble company, even when it was JSE-listed. Since going private in 2020, it is less inclined to make public pronouncements.

Luckily, Gilbertson speaks openly, and persuasively.

"We are very much graduating from a junior miner to a mid-level miner both in terms of scale of mining and revenues. We've very recently gone through $250m in revenue, and we're keen to grow that. This is what Assore sees," said Gilbertson in an interview with the Financial Mail's Investors' Monthly.

Already, Assore's bet is paying off. Wiese's tranche of shares was sold when Gemfields was hovering around 13 pence/share. Its shares in London are around 16p apiece, and could reach 25p, according to the UK-based investment firms, Liberum and finnCap.

In the last 12 months, shares in Gemfields have been 24% higher, although that needs to be seen in the context of 2020, when the firm nearly lost its shirt. Covid-related travel restrictions stopped gemstone auctions for a year. Consequently, Gemfields cut staff and executive salaries, closed Montepuez and Kagem, its Zambian emerald mine, and then prayed. Thankfully, Gemfields avoided having to ask shareholders for cash but it was a close call, says Gilbertson. He recently described 2020 as "grisly".

Clearly, that is all blood under the bridge. Liberum analysts Ben Davis, Tom Price and Yuen Low say Gemfields has "bounced back stronger than ever". Free cash flow totalled $118m for the 12 months ended December while the balance sheet had been "fully repaired",

There's no magic pixie dust we can sprinkle. It's just hard work done with a shovel.

with net cash of $62m. On top of that, Gemfields delivered a maiden 1.7 US cents per share dividend. While there's no payout policy in place yet, at 7.3%, Gemfields has the highest yield of the gem miners.

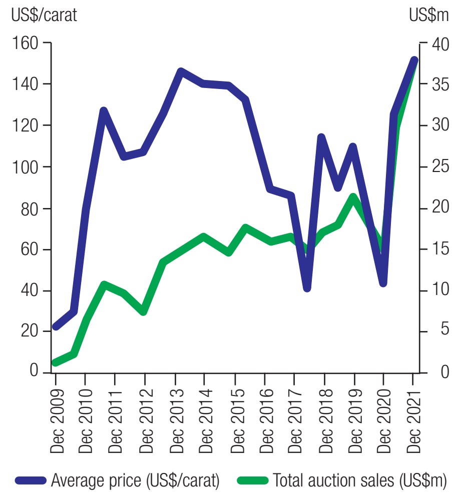
The question, though, is where Assore goes from here with Gemfields. "Assore is the single largest shareholder in Gemfields and at a 30% stake it would trigger a mandatory offer to shareholders [in terms of UK takeover regulations]," says Gilbertson. "I don't believe Assore has any intention of doing that."

Rather, Gemfields is one piece in Assore's investment plan post going private. Had Assore's "off-piste" investment in Gemfields been taken a couple of years ago while listed, it would have raised a few eyebrows, Gilbertson acknowledges. Now, though, it appears to be the Assore strategy: it has, for instance, a similar-sized minority stake in UK-listed Atlantic Lithium, an exploration firm.

"What we've seen so far from Assore is a desire to work together," says Gilbertson. There's also been a technology and 'how-to' exchange in the engineering and mining departments. That's important as Gemfields is on the cusp of expansion. An increase in ruby production at Montepuez is planned, with a second washplant to be commissioned around the first quarter of 2023. All in all, some $50m in capex is planned for Gemfields' 2022 financial year. Based on the current trajectory of ruby prices, and with increased volumes on the horizon, revenue could march through $300m in two to three years' time, says Charlie Long at finnCap.

Assore also represents an anchor shareholder for Gemfields, potentially ending two years of acrimonious shareholder relations. This relationship was largely driven by the activist shareholder, Groundswell, and the Le Roux family of Capitec fame via Rational Expectations, which still holds 9% in Gemfields. Gilbertson likens a recent entente between the sides as a "truth and reconciliation" moment. One bone of contention that Groundswell catalysed was a long-standing disaffection among Gemfields shareholders to the firm's executive pay. Its remuneration report hasn't received more than 75% of the vote for the past four years, although it nearly passed muster in 2021.

Gemfields' emerald prices



SOURCE: Gemfields

Among the disaffected are remnant shareholders in Gemfields' predecessor, Pallinghurst Resources, the investment fund listed by Brian Gilbertson on the JSE in 2007 for R10/share, a valuation never to be scaled again. One might blame the 2008 global financial crisis for Pallinghurst's poor start to life, but Pallinghurst shareholders have tended to blame the Gilbertsons. Investec and EMG Investments, a Washington investor, left the stock in 2017 around the time Pallinghurst was closed and restructured, with Gemfields being the outcome.

Pallinghurst was long dogged by a significant discount to NAV. That's still a reality for Gemfields but it's narrowed, says Gilbertson. "There's no magic pixie dust we can sprinkle. It's just hard work done with a shovel," he says of one day winning market confidence. Again, you can see why Assore espied a window of opportunity.

A less tangible factor, but possibly critical in Assore's Gemfields investment, is to do with the feelings of romance only miners can have towards insensate rock. "We appealed to their eyes and their heart," says Gilbertson of the Sacco family's passion for all forms of geology. Des Sacco's personal collection of more than 3,500 mineral spec-

Sean Gilbertson CEO, Gemfields

The diamond industry, for example, has a multitude of suppliers, dealers and traders and owing to time-honoured pricing points, a degree of value standardisation. That simply doesn't exist in coloured gemstones.

imens has been curated and includes such curiosities as pyrophyllite, a mineral with reputed mystical powers. Mined at the Wonderstone mine near Ottosdal in North West province, it's one example of why Gilbertson describes Sacco as "an eager collector".

UNWIELDY MARKET

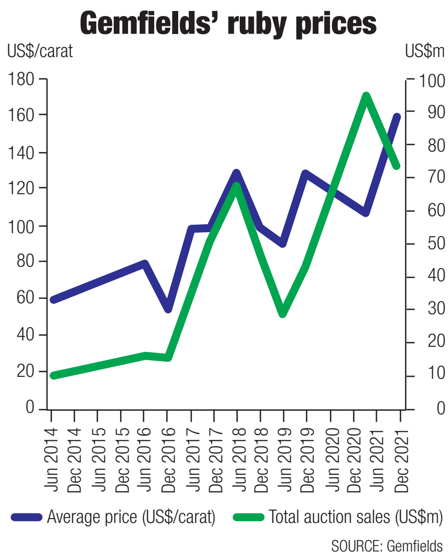
As for rubies and emeralds and other coloured gemstones, such as sapphires, the first thing to know is that their marketplace is decidedly unsubtle compared to any other luxury goods. The diamond industry, for example, has a multitude of suppliers, dealers and traders and owing to time-honoured pricing points, a degree of value standardisation. That simply doesn't exist in coloured gemstones.

Take, for instance, a top-of-the-range Mercedes Benz, which is estimated to be roughly 10 times the price of an entry-level model of say €30,000. But in gemstones, the difference between the top and lowest is an estimated 30 million times per carat. "I've been in the industry for years and it's still hard to get my head around that one," says Gilbertson. "The coloured gemstones market is still a baby."

That makes getting a fair price potentially tricky. Valuing coloured gemstones at the point of export is possible, but unwise, he says. "You're screwed because no customs official has expertise to set a price."

In this there's opportunity for Gemfields because in installing pricing order, it can also cement its market leadership. This it attempts by putting a placeholder price on goods at point of origin in a process that is government-monitored. Then Gemfields procures a market price from buyers, taking the best and withholding stones it can't reasonably dispatch.

A related risk of the evolving gemstone market is the challenge of establishing provenance - something the diamond industry has only recently achieved. In the coloured gemstone market, however, this is still problematic. In 10 years of government



data, Gemfields' Montepuez mine - which has been operating for only seven of those years - comprises about 94% of total ruby, emerald and sapphire sales from Mozambique. "I find it disgusting, depressing and illuminating, but at least it shows gem sales have just evaporated from the continent."

All these factors shout opportunity to investors provided Gemfields can reliably produce its stones, control its costs and ethically exploit a developing market. But there are some rough edges still in Gemfields. One is its investment in Fabergé, the historic Russian family jewellery brand once repurposed by Unilever to sell aftershave. A serial lossmaker in the past, Gilbertson refuses to make it a marketing cost and says the tide has turned for the brand.

Another issue is Gemfields' stake in Sedibelo Platinum Mines, which had precious metals as part of its then offering and represents a throwback to the Pallinghurst Resources days. Since Gemfields relisted in London, the Sedibelo stake has been locked up in structure. Eventually, there is light at the end of the tunnel. A demerger last year now means Gemfields has a direct 6.5% stake in the firm that it can now sell once Sedibelo Platinum Mines lists, possibly later this year.

Gilbertson confirms proceeds will be returned to shareholders. If this can be achieved, along with a dividend policy, Gemfields might forge a new path.

Christo Wiese South African businessman


WE ARE COMMITTED TO RESPONSIBLY SOURCE COMMODITIES THAT ADVANCE EVERYDAY LIFE.
As one of the world's largest diversified producer and marketer of commodities that play an essential role in modern life, and with more than 40 years of being a major contributor to the South African economy, we bring about long-term growth and opportunity for our stakeholders.
By partnering with our host communities near our operations, we are able to bring progress to many. This is our Purpose. When we fulfil it, we advance everyday life.
PROGRESS. TOGETHER.
YOU
zeroflame
ACID RESISTANT
www.glencore.com/southafrica
GLENCORE