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Why Africa

When intelligence matters

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AFRICA NEEDS TO CONQUER MOUNT PROBABLE

Geopolitical turmoil in a bi-polar world has placed African leaders in a peculiar position. Many African countries were beneficiaries of Russian support in the form of military hardware, troops, or financial backing during the heyday of the cold war and in their struggle against colonialism. These historical links with the Soviet Union makes it extremely difficult to outright condemn their erstwhile benefactor. While most around the world have criticised President Vladimir Putin's bombardment of the Ukraine, many African countries have consistently supported Russia's aggression.

At the same time, African leaders need to maintain existing diplomatic ties, while establishing new trade relationships, and identifying new potential markets, especially in Europe amongst those countries that sided with the North Atlantic Treaty Organisation (NATO) against Russia.

With supply chains being severely disrupted, food security has become the primary focus for many African states. A large proportion of Africa's food imports are produced in Ukraine and parts of Russia. With food shortages imminent, and a shrinking piece of the development pie – as resources are channelled into the growing humanitarian crisis in the Ukraine – previously optimistic growth predictions about Africa will have to be toned down slightly.

Many of Africa's traditional socialist states have recently turned the ideological corner and embraced liberal democracy, capitalism, and the free market. Russia's imperialist moves, and Africa's support thereof, coincides with the balancing act of trying to appease Putin and his cohorts while attempting to lure foreign investors from the Northern Hemisphere, a contingent that increasingly regards Africa as extremely strategic in a post Covid-19 world.

However, it is not only the west that is eyeing the potential high returns in Africa. Russia itself under Putin has been on a renewed African drive recently, as has China (in a different guise), Turkey and India. Meanwhile, Africa, still in recovery mode in the wake of the Covid-19 shock, is grappling with what at times seems like insurmountable challenges.

Notwithstanding, there are more than enough indicators pointing towards an inevitable African revival. Economic and political reforms in countries like Tanzania, Zambia and South Africa are encouraging, while new oil and gas discoveries in Namibia, Mozambique and Uganda are attracting attention. The surge in oil and gas prices has given traditional fossil fuel giants like Nigeria, Angola, Algeria, and Libya renewed hope and the trajectories for stable economies like Botswana, Ghana and Senegal are positive. Moreover, renewal and rebuilding programmes in Sierra Leone and Liberia are gathering momentum after calamitous civil wars, Ebola and Covid-19 destroyed their socio-economic fabric.

Rapidly growing markets in East Africa, expanding both inter- and intra-regionally under the broadly ratified African Continental Free Trade Area (AfCFTA), is expected to re-ignite Africa's development story, despite substantial disruptions in local and global supply chains in the wake of Covid-19, which presents a multitude of new and complex risks.

With commodity prices in overdrive on the back of a supply squeeze and sanctions against Russia, disruptions in the mineral and metal sectors and in the oil and gas space have placed Africa at the centre of a global drive to find new and reliable suppliers. Russia and Ukraine are major producers of, amongst others, platinum group metals (PGMs) gold, diamonds, coal, nickel, copper, fertiliser and oil and gas.

This year's *Investing in Africa Mining Indaba* could thus not take place at a more opportune time. Investors, diplomats, government officials, the international media and mining executives will fill the exhibition and conference halls of the Cape Town International Convention Centre from 9 to 12 May, as plans are devised to find solutions for the current challenges, to build new trade networks, and to identify alternative markets. *WhyAfrica*, as a silver media partner at the Mining Indaba, will be there to report and analyse all the action every day.

Since its first online article about two years ago, *WhyAfrica* has gone from strength to strength and partnered with several top companies doing business in Africa. Our readership and advertising networks have grown exponentially and continues to do so. To find out how *WhyAfrica* can assist you in growing your African footprint, contact me at leon@whyafrica.co.za

Through its Southern African Road Trip in June and July (page 9), *WhyAfrica* will introduce investors, readers, partners, and sponsors to around 35 projects in the Northern Cape Province of South Africa, Namibia, Zambia, Zimbabwe, and Botswana.

WhyAfrica's regular updates, videos and articles will keep readers and followers informed about the prospects and potential in these countries, and on top of current affairs, making sure they are aware of the true challenges, opportunities and operating risks involved when venturing into Africa.

African countries are facing its challenges head on, and a continental reconstruction project is well under way – we just don't hear about it often enough. *WhyAfrica* is part of this growth story and intends climbing this mountain with Africa and its wonderful people, taking our investors, sponsors, advertisers, readers, and subscribers with us on this bumpy and uncertain, but ultimately rewarding, road.

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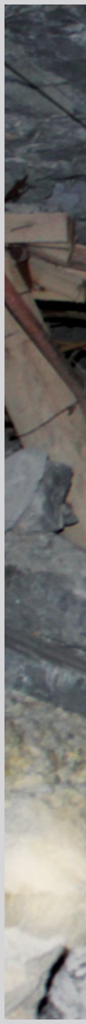
WhyAfrica informs and advises global companies, investors, and entrepreneurs about doing business in Africa through sharing our knowledge and expertise, and through consulting with our extensive, worldwide business network.

WhyAfrica has two branches: a content generation department and a consultancy and research arm.



Indaba: mining through a new lens

With Covid-19 restrictions now significantly eased internationally – not least in South Africa – the Mining Indaba's organisers, Hyve Group, expects to host at least 300 companies at its first live event since 2020, back in Cape Town, from 9 to 12 May 2022.

By Staff writer

Over the past five years, Mining Indaba has attracted hundreds of mining companies of varying sizes and in all stages of exploration. Mining Indaba 2020, notwithstanding it being virtual due to the pandemic, was host to nearly 1000 mining company executives.

According to Simon Ford, Portfolio Director of Investing in African Mining Indaba, last year's virtual event served as a thought leadership forum to address key industry issues. "It was essential and an excellent opportunity to connect our audience during a challenging period," he says.

"It was always our goal to return to Cape Town as soon as circumstances allowed and welcome people back to a live event. With the 2022 event moving forward as a live, in-person event, there is much industry anticipation and excitement to get back to person-to-person engagements," says Ford.

Core strategic remit

As its full name suggests, Investing in African Mining Indaba has a core strategic remit focused on bringing mining-related investment opportunities into the African continent. The conference provides a platform for mining majors, mid-tiers, and juniors to discuss key industry issues.

It also creates opportunities for exploration companies to network and engage with important investment stakeholders and governments, all under one roof. Mining Indaba remains especially important for greenfield project developers looking for investment capital," says Ford.

"Also, for those who may be sourcing services such as airborne satellite surveys, ground-based geological and geophysical prospecting, surveying and other services."

Extremely positive interest

Ford says interest in the 2022 event is extremely positive. "We are encouraged by the relaxation of restrictions across many geographies and the appetite to return to live events has undoubtedly returned. Our exhibition is on track to be sold out within the next couple of weeks, and our delegate numbers are tracking incredibly well, way ahead of our expectations," he says.

"We know people are ready to get back to doing business face to face, and everyone is excited to be back in Cape Town."

On the agenda: addressing global and African challenges

According to Ford the past two years have presented unique global challenges unseen at this massive scale in our modern era. This is particularly true in many of the developing economies on the African continent.

The question now is: what do we do to address

Mining Indaba will delve deep into the issues that affect African Mining.

Leon Louw

> **"Africa's abundance of metals and minerals means that it is incredibly important to build an operator's ESG framework in the right way."**

them? Africa's mining sector today is challenged with finding the best strategic direction to address collectively:

- The ongoing pandemic
- Local and national economic recovery
- Climate change
- Supply chain crunches
- Securing battery metals; political disruption; inflation; and mining sustainability.

These, Ford says, are encapsulated in the overarching theme of this year's Mining Indaba: "Evolution of African Mining: Investing in the Energy Transition, Environmental and Social Governance (ESG) and Economies".

"These 'E trends' are at the very heart of mining's role in Africa today, and they are all interlinked and interdependent. From the existential challenge of energy transition, which demands ESG rigour and, in turn, grows our economies. This is the evolution Mining Indaba 2022 will explore."

Environmental and Social Governance

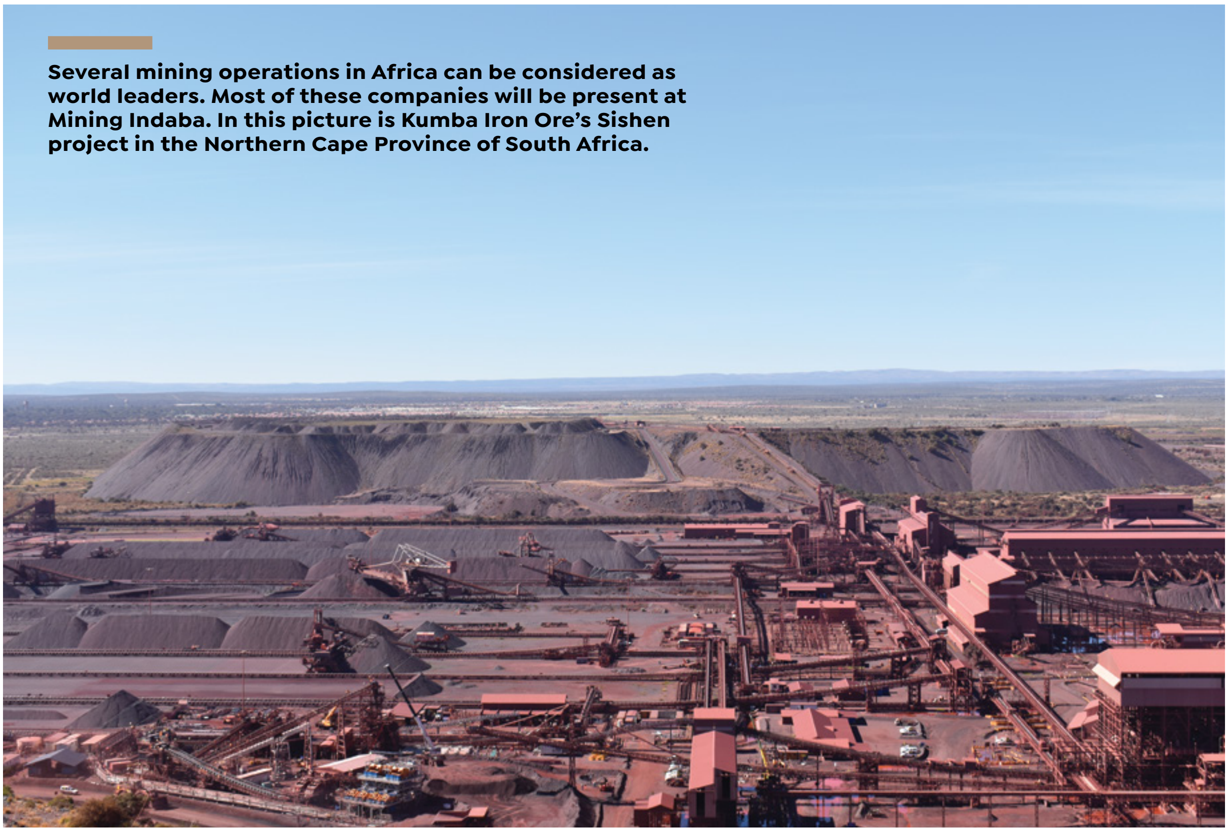
Ford acknowledges that ESG has become a "buzzword" – but not just in mining; also in finance, investment, logistics, infrastructure, and other key areas which feed into the mining value chain.

"As with all buzzwords, it quickly increases the risk of losing its impact and meaning. We are very conscious of not just throwing the ESG acronym around the various content streams at Mining Indaba because it happens to be the "catchphrase of the moment. From the start, we intended exploring what ESG means in practice for Africa's mining operators, communities, and jurisdictions," says Ford.

"A few years ago, many people in the sector were talking about sustainability, in the same way, so Mining Indaba introduced its Sustainable Development Day to discuss what it means for everyone living in mining communities to those making massive investment decisions in the board room.

"Africa's abundance of metals and minerals means that it is incredibly important to build an operator's ESG framework in the right way.

"It is not a tick-box exercise or a footnote on an annual report; there is far too much at stake. The challenges range from the effects of climate



Several mining operations in Africa can be considered as world leaders. Most of these companies will be present at Mining Indaba. In this picture is Kumba Iron Ore's Sishen project in the Northern Cape Province of South Africa.

Leon Louw for WhyAfrica

"Mining Indaba's return will undoubtedly be a cause for celebration by a multitude of the Mother City's businesses – not least the CTICC, hotels, restaurants etc."

change and decarbonisation to the social empowerment that employment creation can bring.

"From the political stability and economic growth opportunities that battery metals and precious metals can promise, to the long-term lifecycle of a mine and the reskilling of communities in the energy transition.

"So many mining projects are undertaken in remote regions around Africa with many stakeholders and fragile ecosystems to take into account, and we have seen how easy they can go wrong, but how necessary they are to get right for the growth of the communities, the environments, and the success of the projects themselves."

CTICC the ideal venue

According to Ford, the Cape Town International Convention Centre (CTICC) is the ideal venue for hosting Hyve's portfolio of events: Mining Indaba, Africa Oil Week and, for the first time this year, the Green Energy Africa Summit.

"Not only is it the perfect destination for international business travellers, but South Africa remains a powerhouse in African and global mining, so it has an incredibly strong strategic fit for us as well.

"We have recently signed three-year deals for all of our events with the CTICC and we look forward to a strong partnership with our host venue for many years beyond that."

Mining Indaba's return will undoubtedly be a cause for celebration by a multitude of the Mother City's businesses – not least the CTICC, hotels, restaurants etc.

Event's value-add to South Africa

Ford says that, after the last live Mining Indaba in 2020, an in-depth report study, using experts, was conducted to determine the event's value-add to South Africa as a whole.

"We found that the event increased GDP in South Africa by R177-million, of which 80% was from international sources.

"We created 274 new jobs in South Africa, 233 of which were in the Western Cape and we helped increase national taxes by R22-million, R18-million of which was from international sources.

"So, our direct impact is certainly significant, and we are committed to increasing that further over the coming years through growing our events.

"With the South Africa launch of Green Energy Africa Summit later this year, we will see many more international delegates visit the country."

Brent Ninaber

The fairest Cape of them all

Sir Francis Drake once described Cape Town as "the fairest Cape in all the circumference of the world" – a description that still holds true today. While this year's *Investing in Africa Mining Indaba* will keep you busy most of the time, there is no reason why you cannot spend another day; or two; or three, before and after this major event exploring some of the best tourist attractions in this wonderful part of the world.

First published by Inside Guide

Cape Town is a world class city not only admired for its natural beauty, but also for its rich heritage and cultural gravitas. It has also been recognised as one of the top culinary destinations in the world.

With that in mind, these are *WhyAfrica's* suggestions of what to do after those long meetings and endless negotiations:

Helicopter over the Peninsula

Witnessing a city as uniquely beautiful as Cape Town from way up high will give you a new appreciation of our mountain-strewn peninsula surrounded by ocean. NAC Helicopters offers a tour of the Atlantic Seaboard, Cape Point and Robben Island.

Visit Cape Point

With a plethora of things to do and see, Cape Point Nature Reserve is a wonderful day-trip destination for locals and tourists alike. Whether it's discovering the rich history of the area, enjoying a beach walk or swimming in the tidal pools, or simply relishing time under the African sun, there is bound to be something for the whole family.

Visit the V&A Waterfront

This working harbour centrally located below the bustling centre of Cape Town is a destination on its own, host to a slew of exciting attractions that keep both locals and tourists alike coming back for more. Don't leave before browsing the array of stalls at The Watershed, a harbourside market showcasing locally made, handcrafted art, clothing and decor. And, after building up an appetite from all the activities, be sure to pop into the V&A Food Market, offering a kaleidoscope of cuisines from Cape Malay and Mexican to Asian and Italian, as well as a selection of fantastic snacks!

Visit Kalk Bay Harbour

The famous red-and-white-striped lighthouse at the tip of a bustling pier is one of the enduring images of Kalk Bay, which was named one of The 12 Coolest Cities in the World by *Forbes magazine* in July 2018. A popular spot for an evening amble during summer months, in winter the harbour sheds its laidback armour and gives new meaning to the phrase "Cape of Storms", as large waves are known to come hurtling into the bay, crashing against the jetty and lighthouse with substantial impact – a riveting sight to behold! While you're there, be sure to snap a picture of the resident playful seals, purchase a fresh-off-the-boat fish to take home for dinner, or grab a bite to eat at one of the picturesque neighbouring restaurants.

Does your company do business in Africa? Are you interested in what is really happening on the ground in the Northern Cape province of South Africa, Namibia, the south of Zambia, northern Zimbabwe, and Botswana?

If the answer is yes, make sure you follow *WhyAfrica's* Southern Africa Overland Road Trip from 20 June 2022 to 5 August 2022.

47 DAYS ▪ 9570KM ▪ 5 COUNTRIES ▪ MORE THAN 30 PROJECTS ▪ 35+ INTERVIEWS

THE BENEFITS OF SPONSORING THE ROAD TRIP

3 premier sponsorship opportunities:

1. **If you let us use your company's vehicle for the full 47 days** you get company logos on both front doors; A4 ads in the April, August, and November issues of the *WhyAfrica* magazine, five in-article banners, 10 newsletter banners, a 4-page advertorial in the November issue of the *WhyAfrica* magazine, acknowledgement as a premier sponsor in all videos, articles, podcasts, and online posts. In addition, your company's marketing material will be included in the information pack that will be handed out at all projects sites we visit and to all people that we interview.
2. **R40 000** will book you space for your company's logo on one back door of the vehicle, half page ads in the April, August, and November issues of the *WhyAfrica* magazine, five in-article banners, 10 newsletter banners, a 4-page advertorial in the November issue of the *WhyAfrica* magazine, acknowledgement as a premier sponsor in all videos, articles, podcasts, and online posts. In addition, your company's marketing material will be included in the information pack that will be handed out at all project sites we visit and to all people that we interview.
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6 - silver sponsorship opportunities of R20 000 each

will buy you half page ads in the August and November issues of the *WhyAfrica* magazine, five in-article banners, 10 newsletter banners, acknowledgement as a silver sponsor in all videos, articles, podcasts, and online posts. In addition, your company's marketing material will be included in the information pack that will be handed out at all projects sites we visit and to all people that we interview.

How is advertising in the magazine and the road trip linked and what are the benefits of advertising in the *WhyAfrica* magazine?

If you advertise in the April issue of the *WhyAfrica* magazine you get exposure at the Investing in African Mining Indaba in Cape Town in May as *WhyAfrica* is a silver media partner, and our printed magazines are displayed at the entrance of the conference. The April issue is going with us on the road trip as well and will be handed out as part of the information pack at project sites and to those people we interview. If you advertise in the August issues those digital magazines are e-mailed to the same people we interview during our Road Trip. That obviously optimises your exposure and reach but most of all, it ensures that the right people see your ads.

CONTACT LEON FOR ALL THE OTHER ADVERTISING RATES:

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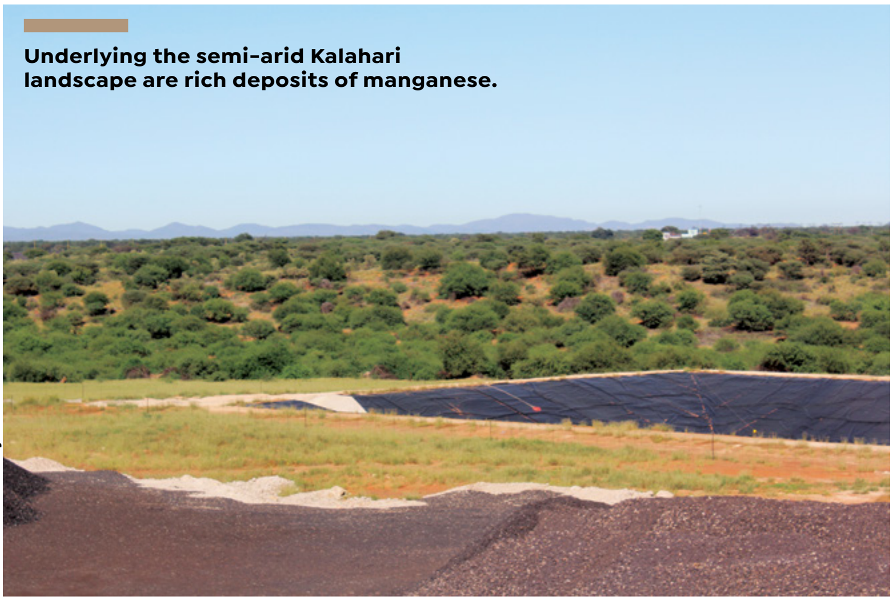
Why Africa

Underlying the semi-arid Kalahari landscape are rich deposits of manganese.



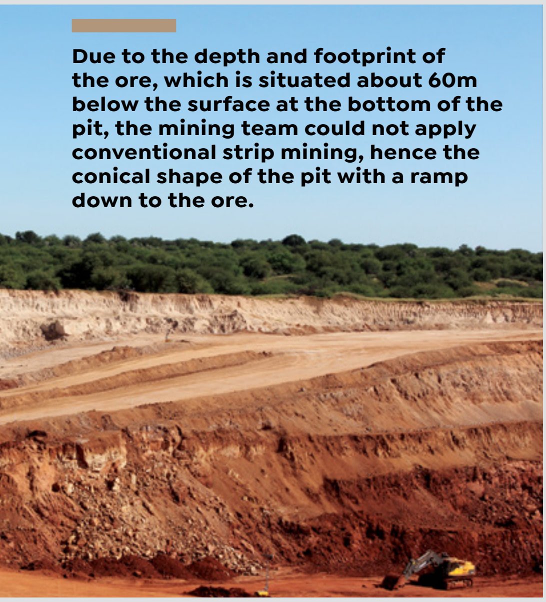
Leon Louw for WhyAfrica

Sitatunga's coming of age

As part of *WhyAfrica's* road trip through the Northern Cape Province of South Africa at the end of February, I paid a visit to Sitatunga Resources' East Manganese mine, one of the latest additions to the Kalahari manganese mining club.

By Leon Louw

Rich veins of manganese found close to Hotazel in the Northern Cape province of South Africa.



Due to the depth and footprint of the ore, which is situated about 60m below the surface at the bottom of the pit, the mining team could not apply conventional strip mining, hence the conical shape of the pit with a ramp down to the ore.

The rich manganese fields in the Northern Cape province of South Africa are attracting an increasing number of mining companies. When the first pioneers started mining in the red sand close to a small hill known as Black Rock more than half a century ago, they didn't know much about the sprawling manganese veins extending all the way to the ends of the horizon. Moreover, the mine workers that settled in Hotazel in the early 80s, could hardly have imagined the central role that their mining town would one day play in the world's supply of manganese.

Exponential economic growth and an insatiable Chinese demand for manganese (which is used in the production of steel) encouraged further exploration of a seemingly bottomless treasure chest. More and more companies developed mines in the region, and today names like Samancor, South 32 and Assmang roll off local tongues as effortlessly as *Vachellia karroo* and *Tsamma*. By the end of last year, there were an estimated 18 manganese projects in the Northern Cape, with several more in the pipeline.

The latest addition to the prestige club of operating manganese miners in the Kalahari is Johannesburg-based Sitatunga Resources, a subsidiary of investment company, Menar. Sitatunga started production at the East Manganese mine under extremely challenging conditions amid Covid-19 lockdowns in September 2021.

After experiencing technical challenges which delayed the full ramp-up of the mine, East Manganese achieved peak production of 30 000 tonnes per month (tpm) of Run of Mine (RoM) material in February 2022.

Menar has built up an impressive portfolio of coal assets in South Africa and by bringing East Manganese online within two years, it has set the pace for a diversification strategy that entails acquiring mines in a range of commodities and bringing them into production in double quick time. With this strategy, Menar

East Manganese's fleet of Volvo ADTs are all brand new.

Leon Louw for WhyAfrica

Drilling in the East Manganese open pit.

The mine uses a dry plant to process the manganese. The Kalahari is semi-desert and water scarce.

aims to grow in line with today's megatrends of decarbonisation, government sponsored economic stimulus packages and electric vehicle demand.

Moving into manganese

The East Manganese pit is a stone's throw from Assmang's Gloria mine on the way to Black Rock when starting your drive from historic Hotazel. Headgear and processing plants dominate wilting thorn trees and fossilised sand dunes, and sign boards with names like Wessels mine, Kalagadi and Tshipi Borwa flash by in the simmering morning heat.

East Manganese is neatly nestled between these gargantuan operations. Although it has a small footprint in comparison to its neighbours, and only has an estimated life of mine (LoM) of just over three years, the mine serves as an ideal steppingstone for Sitatunga into the lucrative manganese sector.

According to Mpumelelo Mkhabela, chairman at Menar, the mine is not only commercially viable, but it also presents a good opportunity for the group to learn and understand the manganese market dynamics and technicalities.

Mkhabela divulges that Sitatunga is looking at several projects to expand its footprint not only in the manganese sector, but also into other commodities. The company's ambitions are not limited to the South African operating space though, and they have already started investigating several promising deposits in other African countries. However, in the short term, the focus remains on growing its manganese operations.

"When *WhyAfrica* visits us in the future, Sitatunga Resources will be reckoned as one of the main players in the Northern Cape. The projects that we are looking at are substantial and we're considering all options, including acquisitions, greenfield developments, and partnerships," says Mkhabela.

"East Manganese is part of our group's planned R7-billion investments. The decision to expand Menar's commodity portfolio aligns with our objectives of becoming a leading South African diversified mining company," says Mkhabela.

So, with coal mining under increasing pressure in a global drive to transform the energy sector, does this mean that Menar is divesting its coal assets and getting out before the kitchen becomes too hot? "No, not at all. Coal will continue to play a key role in the global economy for at least the next twenty years, and it remains an important part of our business portfolio. In fact, Menar is still investing in and developing new coal assets. We are seeking to diversify our commodity portfolio, not reduce it," explains Mkhabela.

DMRE's contributions to East Manganese success

The South African Department of Mineral Resources and Energy (DMRE) is often criticised for delaying new projects due to bureaucratic red tape. However, at East Manganese the project was up and running in just over two years, a remarkable feat considering stringent covid-19 measures that were in place at the time.

Menar purchased East Manganese from Southern Ambition in September 2018. It was granted

Mining manganese in the Kalahari is not for the faint-hearted.

environmental authorisation in February 2019, followed by the mining right in August 2019. The last in a series of regulatory approvals was the water use licence, which was granted in September 2020. Mining operations followed soon thereafter.

"We first consulted the local municipality and other community stakeholders regarding the Social and Labour Plan, and to ensure that the mining activities benefitted local communities. During the second week of July 2020, we started grading the entrance road and opened the first box cut on 4 September 2020," says Mkhabela.

When *WhyAfrica* visited East Manganese, all the mine's infrastructure was already in place, including the 350 tonne per hour (tph) dry crushing and screening plant, which, according to Mkhabela, was commissioned in September 2021.

"Sitatunga has established a grade-control section on the mine and employed a grade control geologist, along with a supporting team, and established a fully equipped on-site laboratory to oversee the blending process. East Manganese is the only mine in South Africa that was launched in the middle of the Covid-19 pandemic, as we started mining the box cut in September 2020," adds Mkhabela.

It is this rapid advance through the value chain that Menar would like to emulate when venturing into new projects. Its success, of course, depends to a large extent on the efficiency of the various governments and regulators in the countries it plans to operate in.

"If a company is awarded a mining license they should not sit on the resource and sterilise it. It is best to start mining as soon as possible (obviously in compliance with rules and regulations) and as efficiently as possible, despite the market dynamics. Even marginal mines will remain operational if they remain steady. They will reap the rewards when the market conditions improve again.

"We saw this with our thermal coal operations. Considering the current prices people easily forget that the coal sector was in the doldrums only 24 months ago. Regardless, all of Menar's mines continued to produce coal and when the price bounced back, they were well positioned to take advantage of the upsurge. If the mine remains consistent and maintains efficiency through all the ups and downs, it will be successful.

Mining as efficiently as possible

The East Manganese pit is accessed using load and haul mining methods. The overburden material is hauled to the overburden and topsoil stockpiles, which will be used at later stages for mine rehabilitation purposes. The mine's fleet of mining machines comprises 12 articulated dump trucks (ADTs), four excavators, two dozers, one grader and two front-end loaders.

Due to the conical shape of the pit, Mkhabela explains that it took about eight months to reach the first ore, after which steady-state- production was achieved.

"Due to the depth and footprint of the ore, which is situated about 60m below the surface at the bottom of the pit, the mining team could not apply conventional strip mining, hence the conical shape of the pit with a ramp down to the ore," says Mkhabela.

The mine recently upgraded the existing access road linking the mine to the main road which will allow the haulage of the ore to the port or nearby Transnet Freight Rail line that is dedicated to manganese transport. The manganese is then railed to Port Elizabeth harbour for export. Transnet recently increased its capacity to rail manganese destined for the export market.

The mining fleet at East Manganese consists of four production teams, each with one 75-ton excavator and three 40-ton ADTs. In addition, there are two bulldozers that are utilised for bench preparations, dump management as well as rehabilitation; one grader for road, loading and dump area maintenance; three Front-End-Loaders for product loading and a water bowser to manage dust emissions and suppression on site.

As Menar gears up to become one of the main players in the manganese fields of the Northern Cape, they will be faced with several challenges, not only operationally, but also in terms of social and environmental challenges. The Kalahari is a harsh, challenging operating environment not for the faint hearted. However, for those who have been able to overcome the initial teething problems, it continues giving, as long as you treat it with respect.

Ethiopia stuck in an ethnic rut

By Leon Louw

East Africa's emerging giant, Ethiopia, is experiencing the political downside of its extraordinary economic success over the last decade and a half.

Since Prime Minister Abiy Ahmed bagged the Nobel Peace Prize for bringing an end to the 20-year stalemate with Eritrea in October 2019, Ethiopia has been on a slippery slope towards failed state status.

A remorseless civil war, Covid-19 and international sanctions have shattered Abiy's ambitions of moulding Ethiopia into a top African economy recognised by the world as the major driving force behind the continent's imminent renaissance.

Ethiopia's potential is infinite. It has a full house of natural resources, a young and entrepreneurial population and its proximity to Europe and Asia gives the country a distinct trade advantage, even though it is landlocked. But its verve is by no means a panacea for its ills. Ethnic politics is Ethiopia's curse, and if the country remains stuck in this mental rut, it is unlikely to emerge from the doldrums soon.

There is some good news though. At the time of writing this article Abiy's Federal Government announced a truce in the sixteen-month conflict with Tigray. The Tigrayan forces responded in kind, pledging to make the truce a success. The truce will hopefully pave the way for a lasting peace and improve the humanitarian situation in the region. The conflict in Tigray plunged Ethiopia in a crisis a year and a half ago and blemished Abiy's reputation as one of Africa's greatest peacemakers.

"The adoption of ethnic federalism was welcomed by groups that felt powerless under the old system but remained controversial in the major cities with their pluralistic population."

Can the future prevail?

According to Dr Marina Ottaway, Middle East Fellow at the Woodrow Wilson Center and a longtime analyst of political transformations in Africa, the Balkans, and the Middle East, the remarkable economic growth that started during the rule of Prime Minister Meles Zenawi in 1995 has also triggered a political backlash that is pushing the country back towards ethnicity.

"The bitter clash of ethnic nationalisms has plagued Ethiopia ever since the military junta known as the Derg overthrew Emperor Haile Selassie in 1974. Continuing ethnic strife could halt economic growth and further impoverish the country," states Dr Ottaway in her excellent research article titled Ethiopia: can the future prevail?

Under Zenawi, who became Prime Minister after the adoption of a new constitution in 1994, Ethiopia became officially known as the Federal Democratic Republic of Ethiopia, made up of nine ethnic regions and two chartered cities.

Dr Ottaway states that each entity, in theory, had a great deal of autonomy as well as the right of self-determination to the point of secessions.

"The adoption of ethnic federalism was welcomed by groups that felt powerless under the old system but remained controversial in the major cities with their pluralistic population."

Even if Ethiopia moves on in the wake of the devastating Tigray war that killed thousands and displaced millions, the ethnic experiment that begun in the 1970s will remain a millstone around Abiy's neck, and a hindrance to further economic growth.

According to Dr Ottaway, the economic growth model is coming up against the obstacles imposed by ethnic federalism, which was itself an attempt to solve the problem of holding together a country plagued by ethnic nationalism.

Ethiopian Prime Minister Abiy Ahmed has been under pressure from the international community because of the Tigray crisis.

Flickr

Despite reforms, tension will remain high

Although Abiy has been criticised for his role in the Tigray disaster, he is dynamic, and will be remembered in the history books as reformer and a reconciler. Despite his shortcomings, Abiy remains popular with the people of Ethiopia.

Born of an Oromo Muslim father and an Amhara Christian Orthodox mother, Abiy is an Evangelical Christian and is married to an Amhara woman from Gondar.

“He freed political prisoners and allowed exiled dissidents to return, thus giving a new life to opposition parties and movements that were dormant because they were repressed before. Such steps were badly needed to make the federal republic less authoritarian and reintroduce a measure of democracy, but they added more actors to the already seething political cauldron, making the situation even more complicated. It is a stark reminder that even good reforms can be destabilising because they affect the balance of power established under a more authoritarian regime,” writes Dr Ottaway.

She adds that the politics underlying the economic transformation was authoritarian. “It was rooted in a system of ethnic federalism that perpetuated old conflicts and resentments that threaten to push Ethiopia back into its past of poverty and conflict. Resolving the contradictions will be a difficult task and create more conflict in the short run.”

It has been a challenge for the diverse people of Ethiopia to unite under one flag and a common cause.

Yohannes Minas

Abenezer Shewaga - Unsplash

Ethiopia is home to a diverse population of 117 million. It is the 12th most populous country in the world, and the second most populous in Africa after Nigeria.

According to Zaynab Mohamed, Political Analyst at Oxford Economics Africa, Abiy still enjoys enough domestic support to survive the next three years in office. "Although he has suffered a major setback among international peers over the past year and a half, Abiy is still popular within Ethiopia. However, the conflict dealt a blow to Abiy's reformist ideas and, as it stands, it is unclear how he will push through his reform agenda, particularly relating to easing ethno-political tensions in the country," says Mohamed.

Pressure on a flailing economy

Prior to the onset of Covid-19 Ethiopia was ranked among the fastest-growing economies globally, supported by an ambitious government capex drive, a channel through which the Horn of Africa economy seeks to uplift millions of Ethiopians out of poverty. However, according to Irmgard Erasmus, Senior Financial Economist at Oxford Economics Africa, progress towards a reform-led economic renaissance was brought to an abrupt halt over the past two years.

Erasmus tells *WhyAfrica* that the assault on Ethiopia's growth model can be distilled into two core shocks: an external shock (the Covid-19 pandemic) and the conflict-related idiosyncratic shock.

"The ambition to unlock private fixed investment, specifically from foreign capital, became less probable as surging security risks dampened investor appetite – this is partially due to the high risk that deepening sanctions will be levelled against the country, which in turn may affect hard currency availability and, by extension, business conditions," says Erasmus.

"Furthermore," she adds, "the costs of doing business have increased since the November 2020 military offensive, with Western diplomatic actors enforcing direct and indirect pressure. We attach a high risk to the deepening of sanctions against the country, as well as pressure being applied to foreign operators seeking to do business with government," Erasmus explains.

Ambitions to become a powerhouse

Alongside Ethiopia's ambition to reach middle-income country status by 2025, Abyi envisions the country becoming a regional powerhouse with the coming on-stream of the highly controversial Grand Ethiopian Renaissance Dam (Gerd).

The ambitious goal to establish Ethiopia as a green energy powerhouse and regional exporter of electricity may drive a rebalancing of sectoral contribution to the national accounts over the medium- to long-term. "That is if simmering tensions with the Blue Nile countries (Egypt and Sudan) are addressed in a constructive way. The near- to short-term outlook on this front is poor, as projections for yet another season of drought may amplify intraregional tensions related to water poverty," says Erasmus.

Ethiopia's military offensive in the Tigray in November 2020 prompted the severance of budgetary support by international players, a collapse in market-based funding options, and exclusion from the African Growth and Opportunity Act (AGOA), a United States Trade Act, that came into effect in May 2000.

As a result of the diplomacy-related loss of AGOA benefits, the merchandise trade position is under strain, worsened by drought- and pest-related pressure on food imports, and a higher oil import bill.

Erasmus says that salient risks related to the deterioration in liquidity risk include missed or delayed government payments, dollar-hoarding practices such as repatriation delays, the cancellation of contracts with external vendors on short notice, and tax regime shifts aimed at enlarging dollar receivables.

"In turn, the risk of destabilisation and a re-escalation in military confrontations remain high, especially considering the Tigray People's Liberation Front's (TPLF's) recently illustrated ability to unite armed opposition groups. This risk remains despite signs of positive progress towards a diplomatic – rather than military – resolution to the conflict."

Despite Ethiopia's great potential, especially in the mining sector, the medium-term growth outlook remains weak at about 4% per annum.

A drawn-out conflict and the associated repercussions to regional and international trade, failure to meet infrastructural development goals, and delays to establishing Ethiopia as a regional energy powerhouse, pose downside risk to growth.

According to Erasmus policy overhaul will be instrumental in lifting long-term GDP potential. "The success of the broad reform agenda is critical to unlocking a higher long-term growth path. The key to improving GDP growth potential is the adoption of a market-orientated policy framework, which will extend to an FX system capable of facilitating market clearance, as well as banking sector liberalisation," Erasmus concludes.

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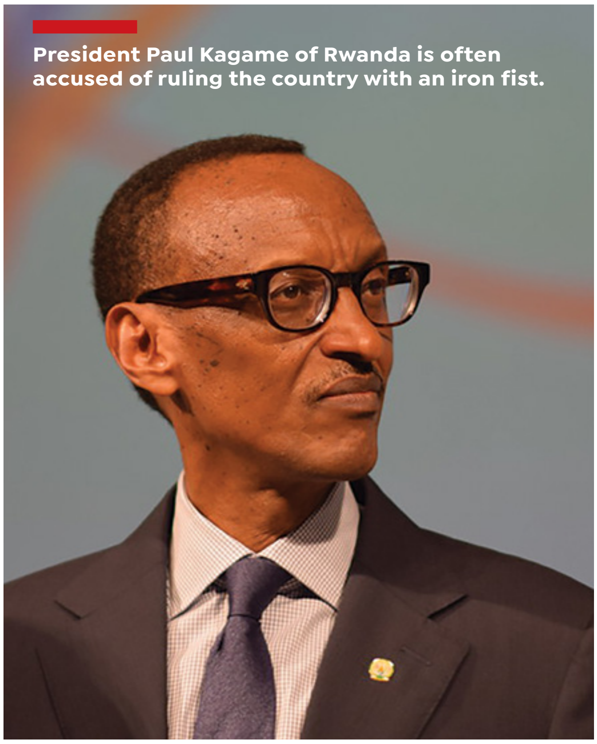
Why democracy will bulletproof your business

The rise of an autocratic state like Rwanda raises the question of whether democracy is a necessity when doing business in Africa.

By Leon Louw

> **“A functioning, robust democracy requires a healthy, educated, participatory followership, and an educated, morally grounded leadership.”**
>
> **– Chinua Achebe**



President Paul Kagame of Rwanda is often accused of ruling the country with an iron fist.

Flickr

Business is politics and politics is business. The recent Russian disaster is a good example of what can go wrong if you invest in a jurisdiction that ranks low on democratic indicators with limited political freedom and civil liberties.

Despite several research papers that imply the contrary, there is a school of thought that believes an autocratic regime entrenches stability and enforces certainty. Rwanda, with Paul Kagame as life-long president, is often used as a prime example.

It is not difficult to see why Rwanda is regarded as the poster child for defenders of authoritarian rule. The country has progressed from experiencing a traumatic genocide in 1994, to being regarded as one of the top investment destinations in the world.

To do business in Rwanda is relatively easy, and the government welcomes foreign investors with open arms. The national airline is efficient. The country is clean, one can almost eat of the streets of Kigali, the capital city, and it is safe to explore the country at any time of the day.

According to the World Economic Forum, Rwanda is the ninth safest country in the world, and it ranks fifth overall on the World Economic Forum’s gender equality rankings. The country is technology-focused and decisions in government are increasingly data driven.

Although Rwanda is tiny, it has used its limited

About 28 years after the genocide in Rwanda, the country has miraculously transformed into a top investment destination in Africa.

resources exceptionally well. The World Bank's Ease of Doing Business statistics ranks Rwanda as the second most competitive economy in Africa after Mauritius (25th) and at 41st in the world, way above Morocco (69), Botswana (81) and South Africa (82).

However, there is a dark side to Rwanda too. It is no secret that Kagame rules with an iron fist. His obtrusive control of every single aspect of Rwandan life and in government has a lot to do with the country's miraculous transformation.

According to the book *Democracy Works – Rewiring politics to Africa's Advantage* by Greg Mills, Olusegun Obasanjo, Jeffrey Herbst and Tendai Biti, Rwanda has been ranked as "not free" politically ever since the Rwandan Patriotic Front's (RPF's) liberation of the country in 1994. Kagame was re-elected for a third seven-year term in 2017 with an unbelievable 98.79% of the vote. Furthermore, Rwanda performs poorly in terms of media freedom – 159th out of 180 on the Reporters Without Borders Press Freedom Index.

According to a March 2021 article in the *Economist*, Kagame cannot rule the country by fear forever. "The only robust, independent institution in Rwanda is the RPF, which is accused of cronyism. Having the ruling party, rather than the state, exert such control, is terribly wrong. It is an invitation to rent seeking. It is a deterrent to private investment at a time when growth is slowing and debts are rising. And it virtually guarantees that no other party can compete with the RPF," the articles states.

Is it safe to invest in autocratic states?

Considering Kagame's huge success in attracting business into the country should investors view other autocratic states in Africa as good investment opportunities?

"One needs to be extremely cautious," says Adrian Saville, Professor of Economics Finance and Strategy at the Gordon Institute of Business Science (GIBS). "Rwanda is subject to a unique set of circumstances. This model and Kagame's role within it, would not necessarily be successful in other African countries. However, it doesn't mean that one party states, and in some cases authoritarian rule, cannot be successful economically. In fact, they can be extremely successful, even though the risks are so much higher, and history has proven that democracy is one of the prerequisites for prosperity," he adds.

Saville and several of his students have extensively researched the impact of political freedom, economic freedom, or economic liberty (the ability of society to make economic decisions and take action), and civil liberties on a country's prosperity, and some of the results were surprising, to say the least.

"We found that the greatest and most sustained gains in a country's prosperity (measured by GDP and improvements in human development indices) corresponded with countries that enjoyed a great level of economic freedom, but, on the other hand, limited political freedom. In other words, economic growth, was highest in countries with single party states, even in its most extreme form," says Saville.

The researchers then added civil liberty as an additional variable. Civil liberties can be defined as the basic rights and freedoms guaranteed to individuals as protection from any arbitrary actions or other interference of the government without due process of law. Simply put, they are the basic rights and freedoms guaranteed by the constitution. The results show that in the absence of political freedom and civil liberties, a country is in serious strife. However, if political freedom is missing but civil liberties

Jannik Skoma - Unsplash

are present, and it is complimented by a measure of economic freedom, the evidence suggests you have a very powerful cocktail.

Examples of such countries would include South Korea and Chile, as well as Singapore, a single party state with high civil liberties. In Africa, Rwanda and maybe Ethiopia would fall under the same category. However, Saville warns that investors need to be extremely careful if a single party state has the capacity to reign in civil liberties or confiscate private property, or where the single party dresses up as a functioning democracy (as President Vladimir Putin did in Russia a few years after he came to power).

Policy certainty more important than political systems

Saville and his students' work draws on data from 160 countries over more than 60 years. As part of their research, they also looked at the relationship between policy, country performance and company performance.

"Most striking is that it is not the quality of the political system, the prevailing ideology or the political arrangement that matters most, but in the end it all comes down to policy, regulatory certainty, and political stability. It will serve businesses well to spend far more time worrying about policy stability rather than political arrangements," says Saville.

Moreover, Saville tells *WhyAfrica* that companies that align socially do far better than companies that align politically. "The evidence suggests that companies should be spending a lot more time focusing on policy stability rather than politics, and society rather than political license," he says.

So, what are the risks of investing in political systems other than democracies? The primary risks, without a doubt, are legal. Does the rule of law hold in that country? In Singapore, for example, there is firm application of the law and investors have binding contracts that the courts would uphold so that they can enforce their property rights. It is far more precarious in the case of China, for example. Both are single party states, the differentiator is that the rule of law and the judicial system holds water in one, but not in the other.

"In the absence of the rule of law, your investment is vulnerable. In the same breath, attached to the legal process, are civil rights and civil liberties. Remember that these can be present in single party states. Business risk is significantly mitigated in those countries where the rule of law and civil liberties are entrenched. Pay attention to those instead of the political system. For example, a country like Argentina has embraced democracy, but at the same time the government has a long history of confiscating assets, not necessarily a country where one would want to invest," says Saville.

If risk averse, invest in African democracies

Although there are examples of bad democracies, and one-party states that have prospered, the consensus is that risks are mitigated in a democracy, and where economic freedom and civil liberties are entrenched.

It is telling that Africa's most prosperous economies are often its most democratic states. According to researcher Enoch Randy Aikins, in an article for the Institute for Security Studies titled: *Visionary leadership and strong institutions are Africa's surest route to achieving economic growth and sustainable development,* nine African countries ranked in the top 10 African democracies in 2019, have a very high, high, or medium human development score.

"Mauritius is very high, Seychelles, Botswana, South Africa and Tunisia are high, and São Tomé & Príncipe, Ghana and Namibia are medium. Except for Madagascar, all countries ranked as the top 10 democracies are middle-income countries, with Seychelles being a high-income country." The exception is still, of course Rwanda. But according to Mills, Obasanjo, Herbst and Biti (2019), there is a set of unique circumstances present in Rwanda that suggests that both the model and the role of a Kagame like figure, would not be successful elsewhere in Africa.

"A very densely populated nation, Rwanda has always been much easier to rule than other African countries, whose people are generally distributed over a comparatively vast hinterland. Rwanda has a long history of pre-colonial state rule compared to other African countries. Rwanda, unlike other African countries, had a tradition of a strong, capable state long before Kagame, he has simply put state power to better use," they write.

Kagame often justifies his rule because of the 1994 genocide, and Rwandans will do anything to avoid a repetition of the past, which includes blindly following their leader. In the long-term, however, this could be a highly risky activity.

Several multinational companies have made promising oil and gas discoveries off the coast of Namibia.

Leon Louw

Oil and gas: Let the people decide

Minnette Le Roux, Principal Environmental Specialist and Head of the Environmental Department at NSDV

NSDV

The discovery of oil and gas off the coast of Namibia, South Africa and Mozambique is good news for the Southern African region. However, pragmatism is needed to prevent environmental degradation and adverse socio-economic impacts.

By Minnette Le Roux

The recent offshore oil discoveries by Shell and TotalEnergies in Namibia are significant events that could reshape Southern Africa's growth trajectory. Moreover, the massive gas projects in the Rovuma Basin of Mozambique, and the oil and gas discoveries off the south coast of South Africa, could change the energy landscape of the region forever.

The downside is that the economic benefits of such large projects only trickle through to local communities after at least three to five years. In the meantime, these companies will have to manage community expectations, skills development, compliance and Environmental and Social Governance (ESG).

While there are limited opportunities for local communities during the discovery phase of a project, more employment opportunities are created when the projects are in the construction and operational phases, including training and education. Unfortunately, oil and gas developments require mostly skilled and specialised labour, which is in short supply in rural communities. Companies are therefore encouraged to invest significantly in skills development and training.

There are several additional risks that a company needs to mitigate when it decides to explore for and/or develop oil and gas deposits. For example, the proposed activities should be compatible with the conservation and ecotourism uses of the area and should not conflict with the local communities' dependence on the local ecosystem services.

In addition, demand for oil and gas should continuously be assessed as a decline in demand will have an adverse effect on the economic benefit which a community would otherwise enjoy. Another risk would be the climate related risk associated with the oil and gas industries, as countries are moving away from fossil fuels to meet their carbon emission reduction targets.

It is evident that the regulatory framework for the oil and gas industries in countries like Namibia, South Africa and Mozambique is mainly focussed on the gas and oil resource and not so much the environment and communities.

Limiting the social and environmental impacts in Namibia

The potential environmental and social impacts of developing the offshore discoveries in Namibia could be severe if regulations fail to promote sustainability and address environmental concerns.

Namibia should learn from the success and failures of countries like Angola and Nigeria, who discovered offshore resources many years ago. The authorisation of these projects by the authorities should consider the cumulative impacts these activities would have and if it would be a desired outcome for the area.

Namibia is an extremely sensitive environment. The Namib desert is not only the oldest desert in the world, but it is home to a range of endemic and protected plant and animal species. At the same time poverty and unemployment continue rising at an alarming rate.

The question is whether the country's environmental laws have enough teeth to ensure that development takes place without environmental or social degradation.

Although Namibia has good environmental laws in place, there are no integrated regulations governing the protection of the environment and social components in respect of mining. This is a major concern as there should be some Integrated Environmental Management objectives set for a country to ensure that development would not have an adverse impact and lead to irreplaceable loss of the environment, indirectly affecting the communities.

Namibia should ensure that the Integrated Environmental Management objectives are met and that the cumulative impact of these activities be considered during the assessment and decision-making process. Furthermore, it should be determined if the activities would be a desired outcome for the area, and if it is in line with the existing uses (conservation and ecotourism) and not in conflict with the local communities' dependence on the local ecosystem services.

Oil and gas projects encounter opposition in South Africa

In contrast to Namibia and Mozambique, where the oil and gas projects seems to have been received with limited opposition from local communities and environmental groups, proposed seismic surveys by Shell on the east coast of South Africa was put on ice when the multinational faced fierce criticism by civil society.

One of the main reasons is that in South Africa, extensive public participation needs to be undertaken. If there are any concerns or the procedures as set out in the legislation is not adequately met, the project could be rejected by the competent authority.

Furthermore, South Africa has above and beyond the legislative requirements, many strategic environmental tools in place that needs to be abide to, such as the 2018 National Biodiversity assessment identifying sensitive areas where no prospecting or mining activities should take place.

With most African economies limping in the wake of Covid-19, African governments are faced with the conundrum of accelerating exploration and development at the expense of the environment and communities or implementing stringing measures to keep the environmental and social integrity intact.

African countries should integrate the best elements of oil and gas projects and reject those that compromises the country's values. It is essential that local communities and civil society organisations are given a right to participate in the environmental decision process.

At the very least, the projects should be sustainable and ensure long-term growth. The regulatory and fiscal regime of a country should inform the decision on whether an international oil and gas company could do exploration work. It would be important for a country to focus on the technical element, safety and environmental performance of such projects and determine if it will be a desired outcome long before the final decision is made.

Minnette Le Roux is a Principal Environmental Specialist and Head of the Environmental Department at NSDV, with over 13 years of experience in both the consultancy field and in environmental management. ●

LEGISLATION DEALING WITH OIL AND GAS

The main legislation relating to the oil and gas industries in Mozambique, Namibia and South Africa are as follows:

Mozambique
Constitution of the Republic of Mozambique;
Law no. 21/2014, August 18 (Petroleum Law);
Decree no. 34/2015, December 31 (Petroleum Law Regulation), amended by Decree no. 48/2018 of August 6;
Ministerial Diploma no. 272/2009, December 30 (Licensing of Facilities and Petroleum Operations Regulation);
Decree no. 56/2010, November 22 (Environmental Regulation of Petroleum Operations);
Law no. 27/2014, September 23 (Petroleum Tax Law);
Decree no. 32/2015, December 31 (Specific Regime of Taxation and Tax Benefits of the Petroleum Operations);
Decree no. 63/2011, December 7 (Employment of Foreign Citizens in the Oil and Mining Sectors);
Council of Ministers Resolution no. 27/2009, June 8 (Strategy for Concession of Areas for Petroleum Operations);
Decree no. 31/2012, August 8 (Regulation on Resettlement Process Resulting from Economic Activities);
Law no. 15/2011, August 10 (Public-Private Partnerships, Large Projects and Business Concessions, also known as the "Mega-Projects" Law);
Decree no. 16/2012, June 4 (Regulation of the MegaProjects Law).

Namibia
The Constitution of the Republic of Namibia (1990)
Environmental Assessment Policy for Sustainable Development and Environmental Conservation, 1995
Environmental Management Act, 2007
EIA Regulations 2012
Petroleum (Exploration and Production) Act, 1991
Petroleum (Exploration and Production) Act Regulations (1999)
Minerals Policy of Namibia (2004)

South Africa
Constitution of South Africa, 1996
Mineral and Petroleum Resources Development Act, 2002
Mining Titles Registration Act, 1967.
The National Environmental Management Act 1998
The Income Tax Act 1962
The Value Added Tax Act, 1991
The Mineral and Petroleum Resources Royalty Act, 2008.

Namibia's mining sector: stable and mature

Namibia is not perfect, but the country has consistently maintained its position as one of sub-Saharan Africa's primary investment destinations.

By Warren Beech

Namibia has a long, stable and mature mining industry, especially the diamond, zinc and uranium sectors. It has remained one of the top mining jurisdictions in Africa mainly because of the consistent interpretation and application of mining and environmental laws, political stability, and, importantly, infrastructure that works.

Namibia is regarded as one of the easiest countries to do business in. As a result of this, and of course, its significant mineral resources, which historically focused on diamonds, zinc and uranium (and some gold), and which now includes battery minerals, Namibia can make a substantial contribution to the transition to a green economy. As a result of these vast deposits of battery minerals such as cobalt, lithium, and copper, Namibia is well positioned to meet international demand for battery minerals. Namibia also continues to provide significant amounts of zinc to world markets.

Namibia is, of course, not perfect. For example, its power generation often outstrips demand which is often problematic for the mining industry. But overall, the country is not a high-risk investment destination. The Namibian government is not scared to take decisive action when investment is threatened.

Prospecting and exploration remain the lifeblood of all mining sectors, and when indigenisation laws, in relation to prospecting, created concerns amongst investors, the Namibian government withdrew the requirements, accepting that Namibians would ultimately benefit from prospecting and exploration, and the establishment of operating mines through Namibian ownership, royalties, and employment.

The Namibian government implements requirements that it believes will benefit Namibians. Namibia requires exploration and prospecting licence holders that are Namibian, to retain a stake, in the licence, preventing outright disposal to external companies and investors. Where non-Namibian companies have been granted licences however, the requirement for the Namibian licence holder to retain a stake, does not apply. The Namibian government has effectively balanced compromises with medium to longer term gains, for Namibians.

Namibia moves into a green economy

While the Namibian government makes it easy to do business, the key attraction which has resulted in increased investment in Namibia, is Namibia's deposits of green or battery minerals, and as the world transitions to the green economy and demand grows, Namibia can meet these demands. The good state of infrastructure in Namibia, including the upgrades to the ports of Walvis Bay and Luderitz is a critical factor supporting increased investment in Namibia's mining sector.

The current Mining Laws, including the Minerals Policy of Namibia, Minerals Prospecting and Mining Act, Minerals Development Fund of Namibia Act, Diamond Act, and the Foreign Investment Act, all contribute to a healthy legislative framework that has, most importantly, remained stable, providing investor certainty, supported by consistent interpretation and application.

The Ministry of Mines and Energy in Namibia has, as one of its primary mandates, the objective of creating and attracting private investment into exploration, prospecting, and ultimately, mine development.

The current Mining Laws in Namibia provide the

An old drilling hole in the Uis area of Namibia, well known for its tin deposits, but there are also large deposits of lithium.

All images: Leon Louw for WhyAfrica

Namibia remains a top destination for geologists, mining companies and investors.

ideal platform for investment, and where policies or components of the Mining Laws impact, negatively, on investment, the Namibian government has been quick to take action, to reduce or remove the challenges, and the Namibian government has introduced requirements, such as the case in relation to prospecting licences held by Namibians, to ensure that Namibians continue to benefit directly creating an ideal balance.

Namibia's mining sector is stable and mature, thanks to the long legacy of diamond, uranium, gold, and zinc mining in Namibia.

Gold remains a safe haven in the world and despite the Covid-19 pandemic, has remained an important hedge against the vagaries of the pandemic's impacts.

Most importantly, however, Namibia has extensive deposits of cobalt, lithium and copper. These minerals are vital to the Just Transition through the use of renewable energies, and electric vehicles. These battery minerals are in extremely high demand, particularly for batteries that power electric vehicles. While renewable energies, including hydrogen, will holistically support the transition to the green economy, the immediate focus is on electric vehicles.

Even with the accessibility of good quality synthetic diamonds, the world's demand for quality diamonds fluctuates, but never disappears. The abundance of good quality large diamonds in Namibia, means that the country will remain an important source of diamonds to meet demand.

Diamond mining will continue to contribute significantly to Namibia's gross domestic product, transformation, and growth. As the extraction and beneficiation of battery minerals increase however, the income (including foreign investment) will supplement the substantial income from Namibia's diamond mining sector, for the foreseeable future, and may, in the medium- to long-term, outstrip the financial benefits from diamond mining.

There are a number of expansion projects at brownfield sites, and Greenfield projects that are transitioning to full mining operations or will be doing so in the near future.

These projects are not only focused on battery minerals, but also diamond, uranium and zinc mining and includes operational mines such as Scorpion Zinc and Rosh Pinah.

There are a number of companies in Namibia focusing on battery minerals, including Lepidico, which is developing a lithium mine in Western Namibia, and Desert Lion Energy, also focusing on lithium. Gecko Namibia is developing cobalt in the Kunene Region. Other operations include Weatherly Mining Namibia (copper), and B2Gold (gold).

Warren Beech is CEO at law firm Beech Veltman Incorporated.

Opportunity for Africa to fill the commodity gap

Forecasts suggest that in the near future the global economy will be facing a 'commodity gap' as the demand for battery minerals could outstrip supply. Africa could be the continent to fill that gap.

By Staff writer

There is certainly good reason to see Africa making a valuable contribution to future supplies of mined commodities, from lithium, cobalt, nickel and graphite to manganese, iron, copper, chrome, uranium and aluminium. According to SRK director and principal consultant Andrew van Zyl there are considerable resources of these minerals available in Africa and even currently being mined. However, economically, it remains challenging extracting them. These issues will be discussed in detail at this year's Investing in African Mining Indaba that takes place in Cape Town from 9 to 12 May 2022.

"One of the reasons why the gold sector thrives in many parts of Africa, for example, is because it needs relatively little in the way of national or state-managed infrastructure," says Van Zyl. "For better or worse, a gold mine can operate quite effectively as an island of activity and prosperity – providing most of its own inputs to mine and process ore, and to transport the very compact end-product," says Van Zyl.

By contrast, many of the commodities that are now growing in demand are bulk minerals that need extensive road, rail, and harbour infrastructure – so they can be transported efficiently and shipped to customers from functioning ports. Planning and developing such facilities requires more than capital. They rely on far-sighted government policies being implemented by well-resourced state bodies – combined with collaboration from the private sector and international funding agencies.

They also call for close working relationships between neighbouring countries, with the necessary shared vision and practical protocols to allow railways, powerlines and goods of all descriptions to pass over borders with minimal effort and at the lowest possible cost.

Further, with the African Free Trade Agreement having come into effect, this should expedite matters. "The start of trading under the African Continental Free Trade Area (AfCFTA) agreement on 1 January 2021 marks the dawn of a new era in Africa's development journey. Over time, the AfCFTA will eliminate import tariffs on 97% of goods traded on the continent, as well as address non-tariff barriers," says SRK Consulting ESG Partner Darryll Kilian.

An abundance of battery minerals in Africa

There is little question that the minerals of the future are abundantly in Africa, says Ivan Doku, principal resource geologist at SRK Consulting and country manager for SRK Ghana.

"There is still plenty of opportunity for exploration and mining of battery minerals in West Africa, as we have recently been discovering in Ghana," says Doku. "The country is becoming a very interesting place to explore right now, having not been historically associated with battery minerals. A significant lithium deposit is currently being investigated – the only one so far in West Africa."

He says deposits like these had attracted considerable foreign interest, and it was likely that more prospective investors would be looking at the region as more data on this project was published.

Van Zyl highlights that the condition for – and impacts from – large, bulk mineral projects extended not just to physical infrastructure, but to communities. Mines with larger footprints and longer supply chains upstream and downstream also affected a wider natural and human environment.

"For these projects to be sustainable in terms of Environmental, Social and Governance (ESG) considerations, developers need to navigate complex terrain related to regulatory compliance and social licence to operate," he adds. "This assumes a level of certainty in the expectations of the host country, as well as a high level of scientific and engineering skill being available to help mines

All images: SRK Consulting

From left: Andrew van Zyl, SRK director and principal consultant; Ivan Doku, principal resource geologist at SRK Consulting and country manager for SRK Ghana; Wouter Jordaan SRK Consulting environmental scientist; and Darryll Kilian, SRK Consulting ESG Partner.

identify and mitigate the related risks."

According to Van Zyl, Africa was gradually developing the capacity to deliver on these requirements, and the continent needed to share the professional expertise that was available across its borders and from the global community.

"It is important to remember that Africa has made great strides in a range of facets, and we are successfully producing a large range of minerals, including bulk commodities," said Van Zyl. "This is something that few developed economies have achieved and, while SRK is focusing on further improvement in Africa, it is also contributing its expertise to other developed economies that are struggling to establish mining industries."

According to SRK Consulting environmental scientist Wouter Jordaan, the company's business model is set around collaboration between its global consulting practices to ensure that the needs of its clients are met. As an example, SRK has embarked on a strategic approach of servicing its Chinese clients in Africa, particularly in the Democratic Republic of Congo and Zambia, from its offices in Lubumbashi, Beijing and Johannesburg.

SRK Consulting's longer-term vision is aimed at establishing a dedicated resource from China in its Lubumbashi office. This provides the opportunity to engage with clients at head office and mine level, thereby providing the relevant expertise required at each level. To strengthen these links, the SRK South Africa, DRC and China team will be attending the Mining Indaba in May and DRC Mining Week in June. The collaborative effort will also look at infrastructure projects within the region.

Africa is making a valuable contribution to the future supplies of mined commodities.

About SRK

SRK is an independent, global network of over 45 consulting practices on six continents. Its experienced engineers and scientists work with clients in multi-disciplinary teams to deliver integrated, sustainable technical solutions across a range of sectors – mining, water, environment, infrastructure and energy. For more information, visit www.srk.co.za

Mining in Nigeria – a slumbering giant

Despite the Nigerian government's efforts to revive mining in this vast and diverse country, the mineral sector in Nigeria has not yet reached its full potential.

By Steffen Kalbskope BSc (Hons), Pr.Sci.Nat, FGSSA, MSEG

Given its size and geological diversity, Nigeria ought to be a solid minerals powerhouse, but with the discovery and development of hydrocarbons in the early 1970s, alternative commodities were subsequently relegated to the cloakroom – the present 0.3% contribution to the GDP is a fact highlighted by many commentators including *African Business' February 2022* issue – *Can mining help to wean Nigeria off petrodollars*?, but they also point to instability and legal challenges.

A glance at the map alongside shows that the Nigerian shield and its greenstone belts cover a two to three times larger area than the corresponding granite-greenstone terrane in Ghana, yet the annual gold output of the latter is probably 15 to 20 times greater. The Nigerian cratonic area encompasses Archean (2500-3650 Ma) and Paleoproterozoic (1700-2060 Ma) supracrustal suites reworked by Pan-African orogenesis (±600 Ma) plus lengthy craton-scale and second order shears with favourable lithological contrasts that provide the ideal environment for gold deposition.

The value of Ghanaian bauxite and manganese exceed base metals production from Nigeria's greater landmass, and this takes no account of diamonds – Nigeria has prospective geology but zero systematic exploration.

Given the hundreds of active artisanal mining sites and possibly more than two million persons involved, the unproven gold endowment ought to rank a lot higher than an estimated 1000-2000 tonnes gold metal potential resource target in Ghana. With respect to gold, Ecopheonix, Erin, Savannah Gold and Australian Mines were some of the internationally-focused companies that were involved with gold exploration in Nigeria from 2006-2012.

Most of these drilled several targets such as the well-known Birrin Gwarri deposit. However, none of these companies succeeded in establishing a gold mine. Savannah Gold was most likely to be one of the more successful companies and managed to do an early scoping study at Bin Yauri, Kebbi State, but failed to raise funds to advance the project in 2013 mainly due to Nigeria's high risk investment perception, coupled with the global downturn in exploration.

Nevertheless, TSX-listed Thor Explorations, with an astute Nigerian geologist at the helm, successfully inaugurated production in Quarter 3 of 2021 at the Segilola gold mine in Osun State. Here, zones of mineralised quartz-veined schist in granodiorite have open pit resources of 518k ounces (oz) of gold grading 4 grams per tonne (g/t) and underground resources amounting to 114k oz averaging 5.6g/t with untested down-dip potential and neighbouring unexplored satellite targets.

Moreover, with hundreds of lead-zinc-copper-barite-fluorite (Pb-Zn-Cu-Ba-F) workings in the prospective 75 000km^2 section of the Benue Trough, the annual production of 60 000 to 70 000 tonnes Pb-Zn ore and concentrate and ≈15000 tonnes of Ba hardly reflect the in-situ resource endowments. Based on surveys conducted by National Integrated Mineral Exploration Project (NIMEP) teams, this author estimates very preliminary non-JORC target potential Pb-Zn-Cu-Ba resources at a conservative 19 million tonnes per 100 vertical metres.

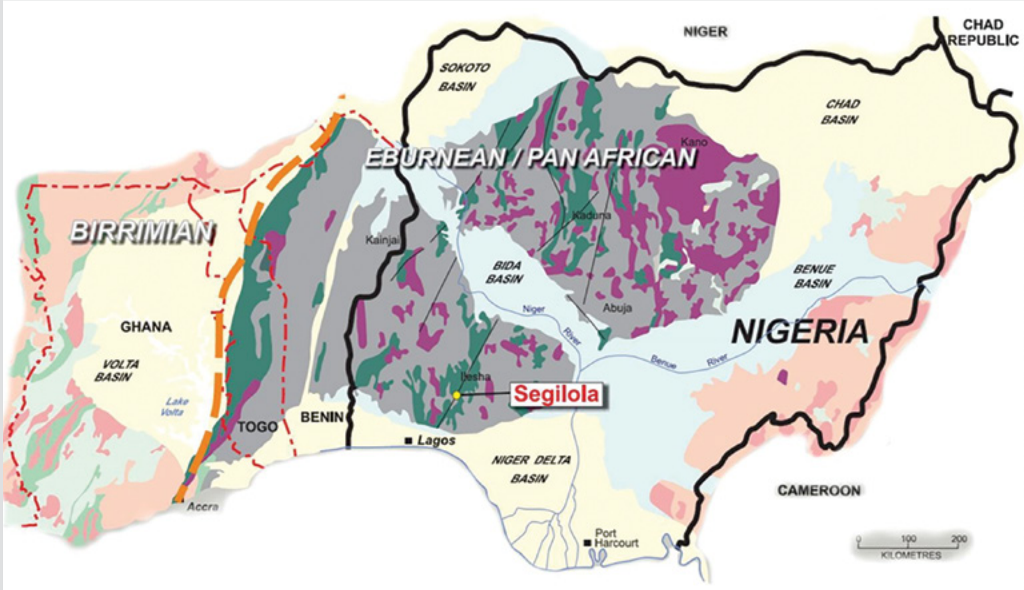
Targeting specific commodity groups

These facts spurred the government to not only amend the mining regulations in promulgating a far more investor-friendly mining act in 2007, but to implement NIMEP in 2017 targeting five commodity groups:

- Gold: vein-type with associated base metals plus Platinum Group Elements nickel and chromite
- Critical metals: tin, tantalum, niobium, lithium and rare earth elements
- Lead, zinc and copper
- Barite and
- Iron

Committee for Mineral Reserves International Reporting Standards (CRIRSCO) compliant Qualified Persons (QPs) were embedded in the local exploration teams and supervising consultants to deliver interpretive spectral analysis, aeromagnetic plus radiometric and geological maps with detailed reports and plans from soil sampling and drilling selected high priority projects. Except for iron ore, all the contractors' deliverables have been handed to the Nigerian Geological Survey Agency (NGSA) but the results have not yet been made public.

Defining prospective areas for all commodities has been limited by a budget that was of necessity, not designed to cover the entire nation. However, this work reinforces



Key:
Pink & pale violet = Basement and granitoids; Purple = Palaeoproterozoic gneiss & granitoids; Grey = undifferentiated basement; Green = Greenstone/schist belts; Pale blue in Ghana = undifferentiated granitic basement; Pale blue in Nigeria = mostly Mesozoic sediments

Figure 1: Geological map of Nigeria and the eastern part of the West African Craton

the potential and confirms and enlarges on the structural framework and prospectivity for mineralisation.

Small to medium scale mining on the rise

In parallel with this initiative, local and Chinese investors have been engaged over the past five to seven years in both small- to medium-scale mining ranging from local quarrying and buying from artisanal and small-scale mining (ASM) groups to commercial Pb-Zn mining with a few underground and larger open-pit operations.

To some extent, this is reflected in a growth of almost 20% in 2020 compared to 2019 if the tonnage metric alone is used, although these figures are heavily biased by construction and related materials. According to the Nigerian Extractive Industries Transparency Initiative solid minerals audit in 2018, 69 reporting companies out of the 720 companies that paid royalties in 2018 met the materiality threshold of 3-million Naira's (USD8-million) royalty set for the report. Of this 69, less than 10% are involved in metalliferous although in 2018, Pb-Zn output was the third most valuable solid mineral.

Creation of the Sector Roadmap

Recognising the need for diversification and the weak value chain in the sector (i.e. little downstream processing), a Sector Roadmap was created and the federal government of Nigeria obtained credit from the International Development Association and The World bank to fund the Mineral Sector Support for Economic Diversification (MinDiver) project which is aimed at implementing the targets of the Sector Roadmap and revitalising the mining sector's contribution to the economy.

The key focus of the MinDiver project includes:

- Establishing a strong foundation for mining sector development
- Facilitating downstream sector development and enhance competitiveness
- Monitoring and coordinating project management activities
- This includes formalisation and extension services to the ASM sector

Within the context of a well-developed banking and financial services industry, in 2017, the federal government provided several tax incentives such as a new company going into the mining of solid minerals shall be exempt from income tax for the first three years of its operation.

The same measures provide accelerated capital allowance at 95% of qualified capital expenditure on solid minerals mining in the first year of use of the asset as well 0% import duties on equipment.

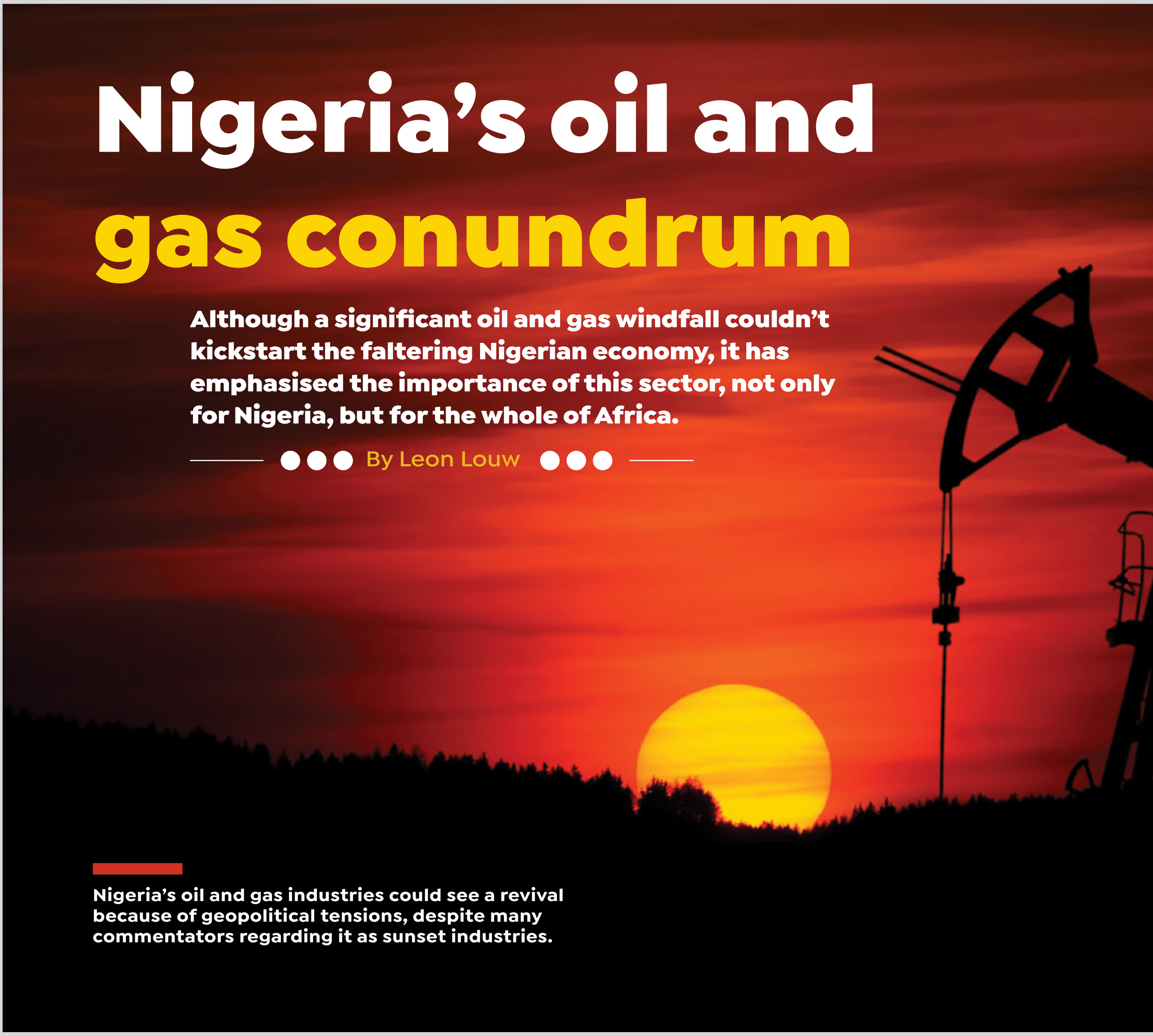
Additionally, in 2019, the Nigerian Investment Promotion Commission Act offered further incentives bringing the country in line with international best practice; https://pwcnigeria.typepad.com/files/nipcfirs_compendium-of-investment-incentives-in-nigeria_nov2017.pdf. While allowing for 100% ownership without any onerous restrictions on repatriation of dividends, the current policies suppress sentiments favouring resource nationalisation reducing the risk in this area compared to certain less well-developed nations.

In 2021, the Ministry of Mines and Steel Development (MMSD) updated and streamlined the registration and recording of licences, introducing a transparent cadastral system like that of, for example, Zambia and Mozambique, which employs a use-it-or-lose-it policy. The Mining Cadastral Office (MCO) awards mining titles on a first-come, first-serve basis.

Upgrading of power and transport infrastructure is ongoing, the most relevant project being the total rehabilitation of the railway from the Ajoaokuta Steelworks to Warri port.

Along with a well-staffed and cooperative Nigerian Geological Survey Agency (NGSA) who is able to supply significant essential geodata, the nation is poised for solid minerals development acceleration.

[1]**Gillman, A., Mawson, S., 2016, Updated Resource Estimate for the Segilola Gold Deposit, Osun State, Nigeria for Thor Explorations Ltd, March 2016, NI 43-101 Technical Report, www.sedar.com**



Nigeria's oil and gas conundrum

Although a significant oil and gas windfall couldn't kickstart the faltering Nigerian economy, it has emphasised the importance of this sector, not only for Nigeria, but for the whole of Africa.

By Leon Louw

Nigeria's oil and gas industries could see a revival because of geopolitical tensions, despite many commentators regarding it as sunset industries.

Zbynek Burival from Unsplash

Amid tragic death and destruction in Ukraine, Russia's war-mongering has resulted in a serious squeeze on global oil and gas supply. While international sanctions have crippled Russian producers, the supply shortage has turned the global energy transition on its head.

Although the green energy drive weaned Western European nations from their fossil fuel addiction, the transition to renewables happened so fast that they were forced to find temporary alternatives. In their haste to do so, several countries invested in gas from Russia through the Ukraine. When the Russian-Ukrainian crisis thus erupted earlier this year, more than 40% of Europe's gas was sourced from these two troubled countries. When the bombings in the Ukraine started, the oil and gas price headed north on the back of reduced supply.

Skyrocketing oil and gas prices gave African producers a significant boost in the first half of 2022. It also made oil and gas producing countries like Nigeria ponder the possibility of increasing production while the world was in a whorl. While it is highly unlikely that hostilities in the north will prompt investors to re-visit funding strategies immediately, a prolonged regional, or worse still, a global war, is bound to change their anti-hydrocarbon stance.

Meanwhile, Europe will be looking to de-risk their current oil and gas

"The government needs to fast track the implementation of the PIA, and this will give investors more confidence. Remember, capital goes where it feels welcome."

supply, which could play into the hands of African countries like Nigeria, Angola, Algeria, and Morocco. Nigeria recently developed a comprehensive roadmap to increase its natural gas production, diversify away from an oil-reliant economy, and to supply an increasingly gas-thirsty international market.

Even before the Ukrainian crisis, Algeria revived its plan for a trans-Saharan Gas Pipeline, which will run from Nigeria, through Niger, into Algeria. The pipeline will make gas exports to Europe simpler for all three these African countries. Algeria is already linked with a line to Italy, while Morocco is contemplating the construction of a subsea gas line to Spain.

According to NJ Ayuk, Executive Chairman of the African Energy Chamber, Nigeria has massive gas reserves that could solve the European energy and gas crisis. However, structural constraints and inefficiencies have hampered Nigeria's oil and gas production and export. In fact, despite its massive potential, the country has serious energy shortages itself. But there is unlimited potential, not only in the oil and gas space, but across the entire energy spectrum, including renewables.

Is Nigeria moving away from oil?

The Nigerian economy has been reliant on oil production since the first oil fields came on stream in 1958. Oil was discovered in Nigeria in 1956 at Oloibiri in the Niger Delta after half a century of exploration. The discovery was made by Shell-BP – at the time the sole concessionaire.

According to Ayuk, the country has made significant progress in moving away from an oil- based economy to a gas-based economy. In addition, the government has been promoting Nigeria's mineral resources to attract the world's major mining houses. However, for the country to become a serious gas producer, it needs more investors. "To attract more investors, regulations and policies are important. The recent passage of Nigeria's Petroleum Industry Act (PIA) is a move in the right direction, but implementation is key. The government needs to fast track the implementation of the PIA, and this will give investors more confidence. Remember, capital goes where it feels welcome."

Nigeria's Petroleum Industry Act

The long-predicted drop in oil investment finally enabled the government to pass the redrafted PIA after two decades of trying.

The act sets out new terms of investment on both exploration and production, while offering more commercial rates for natural gas production to ensure that gas is marketed within the country rather than being flared. Moreover, the Act brings renewed certainty to oil and gas royalties and taxes. On the other hand, hopes that the PIA would require oil and gas companies to pay 10% of revenue to host communities, were dashed when the new law made provision for just 3% – a big disappointment to campaigners.

Abuja has set a target of boosting oil production from an average of about 1.6 million barrels per day (b/d) at present to 4 million barrels per day (b/d) because of the PIA's passage. Whether this is possible remains to be seen. The new Act is a good sign though. It has jolted the government into action to exploit its resources properly before the world turns its back on fossil fuel for ever.

Nigeria's gas potential

Despite a move away from fossil fuels, Nigeria's economy will not transform overnight, and will continue to be reliant on its massive oil and gas reserves for at least another decade or two. The importance of gas in this transition was emphasised by Yemi Osinbajo, the Vice President of Nigeria, when he addressed delegates at the World Economic Forum's Davos Summit earlier in the year. In his speech, Osinbajo called for natural gas to be accepted as a transitional fuel.

"For many gas-rich African countries, one of the biggest shocks is the notion that fossil fuels including gas should be defunded, especially by international financial institutions," he said.

"We think that gas as a transition fuel is absolutely crucial, not just for an effective transition but also for our economies," Osinbajo added.

He made it clear that gas is "without doubt the only pathway" for Africa to transition out of more hazardous fuels such as coal and heavy oil.

Osinbajo claimed that Nigeria is "probably the first country in Africa to develop an energy transition plan and to cost it out". The plan, which he said will be launched in the next couple of weeks, includes connecting 5 million homes to solar power, requiring more foreign investment in manufacturing panels and components.

Despite the enormous challenges of tackling Covid-19, climate change and terrorism, Osinbajo remained upbeat about economic prospects for Africa and Nigeria. The sub-Saharan economy grew by 3.7% in 2021 and is projected to continue on this trajectory into 2022. Nigeria's National Development Plan 2021-2025 envisages investments totalling USD840-billion, of which 86% is expected to come from the private sector. A lot of this money will be invested in new deep-sea and offshore oil and gas projects and also in Nigeria's marginal oil fields.

Nigeria's marginal oil fields

Although the oil majors still play an important role in the Nigerian landscape, this is slowly changing as global giants start divesting their international fossil fuel exposure to reduce their environmental impacts. This has left a gap for a new breed of local, Nigerian companies to claim a stake in the lucrative oil and gas sector.

Royal Dutch Shell recently started talks with the Nigerian government to sell down its interest in onshore oilfields. Shell plans to divest all its operated joint venture licenses held by the Shell Petroleum Development Company.

According to consultancy Wood Mackenzie, independents and new entrants in Nigeria are eager to acquire under-invested assets with plenty of volume upside. "Playing at home, their acceptance of risk differs markedly from international exploration and production companies."

Nigeria has several small, well-developed local companies that are nimble and more focused on operational issues than the large International Oil Companies (IOC). This makes it possible to reduce costs and increase efficiencies.

There are also several smaller international players that are looking at Nigeria and other parts of West Africa. These include Afentra, an Africa-focused company led by Paul McDade, former CEO of Tullow Oil and PetroNor E & P, a sub-Saharan focused independent oil and gas company listed in Oslo, Norway. PetroNor E & P holds offshore licenses in West Africa including in the Republic of Congo, The Gambia, Guinea-Bissau, Senegal and in Nigeria, where it is developing the Aje Field.

According to Ayuk, smaller companies will pick up the crumbs and keep the industry alive. "The cost of production is exorbitant for big international players, and they have massive overhead costs. New entrants run tight ships and are able to increase production rapidly. The local players are doing really well in Nigeria and we'll see it increasingly becoming a trend across West Africa.

According to Ayuk's book *Billions at play – the future of African Energy and doing deals,* Nigeria began looking into marginal field development in the 1990s after a number of international majors declined to develop some sites they had been awarded, saying that the reserves in question were too small to warrant their attention. "In 1996 the government amended existing legislation to identify these sites as marginal fields and encourage their development by Nigerian companies. It spent the next few years developing guidelines for licensing and then launched the first round of bidding for 24 fields in 2003. Since then, it has handed a few more sites over to local investors, bringing the total number of marginal fields under development up to 30.

"Nigeria's marginal field initiative ought to be counted as a success. It has given more than 30 locally-based companies the opportunity to establish themselves and develop their capacities as upstream operators. It has allowed them to do so without assuming the risks (or the costs) of exploration, since all the fields designated as marginal were confirmed discoveries, surveyed and tested by foreign companies, and known beyond a shadow of doubt to contain hydrocarbons," says Ayuk.

Ayuk says that Nigeria's oil potential is massive, and its gas reserves are immense. "There are massive deals waiting to be signed this year," says Ayuk. As the world's funders turn their backs on oil projects, Nigeria is readying itself to sign two or three large billion-dollar oil deals.

Solar can save small-scale miners

Although there is a lot of hype around the energy transition and mining companies migrating to renewable energy sources, the reality, especially for smaller mines on the ground, is a lot different.

By Leon Louw

There are many challenges for mining companies to migrate from baseload electricity to renewable energy.

On a recent road trip through the Northern Cape province of South Africa, the challenges mining operations face in the switch from baseload and fossil fuels to alternative energy sources, were made clear to me by managers of especially smaller operations with a limited life of mine.

According to one manganese miner, it is more cost efficient to use diesel generators than to invest in solar panels or other sources of renewable energy. “When your life of mine is less than five years, it is difficult to recoup the capital invested in a renewable project in such a short space of time,” he said.

Considering the return on investment (ROI), it is a lot easier for multinational mining companies with a long life of mine to make the change from baseload and/or diesel to green energy. However, even the large-scale operations in the Northern Cape are finding it difficult to convert overnight, despite an unlimited supply of sunlight and wind. The recent supply chain squeeze and bottlenecks at ports across the world due to Covid-19 lockdowns, has not helped the case. The higher logistics costs have meant higher overall costs for several ongoing projects. Furthermore, prices of solar and battery equipment have increased exponentially due to higher commodity prices.

Although several open pit quarry owners and small-scale diamond miners that I spoke to in the Kimberley area are enthusiastic about installing solar panels, most of them still consider diesel generators and/or electricity supplied by government entity Eskom, as the most cost-effective energy solution. This is despite rising fuel prices, exacerbated even further by the Russia/Ukrainian crisis, and intermittent and unreliable supply from Eskom.

Renewable stability makes planning easy

The energy crisis brought about by the instability in Europe and the resultant spike in fossil fuel prices have certainly strengthened the case for alternative energy solutions and a diversified energy base. A mining or quarrying operation, no matter how big or small, that relies solely on fossil fuels, will always be exposed to market volatility and geopolitical instability. In most African countries, not only the prices, but the reliability of electricity supply, remains unpredictable, which makes planning and forecasting extremely difficult.

Installing a stable renewable system eliminates this uncertainty and reduces exposure to geopolitical risk. Renewables allow mines to forecast energy cost and reduce exposure to fuel prices and unpredictable energy security. But there are more than a handful of other reasons why mining companies should invest in renewable energy as the world moves into a transitional period.

There is more than enough research to prove that solar power is one of the most cost-effective energy solutions around. In paper thin marginal operations like quarries or small-scale diamond mines, where owners are always looking to reduce running costs, solar power is almost a no-brainer. This is especially true in the Northern Cape, where the sun shines for an average of between 272 and 300 hours per month.

Energy makes up 15-40% of a mine's operating costs. A renewable energy solution like solar panels or a solar/hybrid system can reduce the energy cost significantly, while protecting the mine's balance sheet by shifting capital expenditure to operating expenditure.

Investing in renewables does not only reduce operational costs. In a world where Environmental and Social Governance (ESG) standards are increasingly important, especially for investors and potential funders, having a mine run on renewables or some form of hybrid system, will go a long way in ensuring that the operation is in good standing in terms of its green credentials.

Generators guzzle diesel and increase carbon emissions

Running a mine on diesel generators could incur significant costs even if the generators are only used as back-up. This not only refers to day-to-day input costs like fuel, but also to carbon emission tax, which came into effect in South Africa earlier this year. Combustion emissions, process emissions and fugitive emissions could now potentially incur a tax depending on the threshold that is applicable.

The South African Treasury has set a 10MW installed thermal input capacity threshold for combustion activities that result in emissions. This means that regardless of utilisation or fuel type, if an operation has the capacity to combust 10MW (th) then the emissions will be subject to carbon tax. Many process and fugitive emissions have no threshold, and a mine will be taxed on it regardless of how small the operation is.

According to Hans Olav Kvalvaag, SVP Release at Norwegian based Scatec, the most important benefits for mining companies to invest in renewable energy are savings, energy security, meeting decarbonisation targets and carbon credit generation.

Scatec's Release system is mobile and ideal for smaller scale remote mining operations in Africa. Depending on the logistics involved, a 1MW to 40MW Release plant will take about six months to set up from the time the client has signed the contract to the day commercial operations get underway.

According to Kvalvaag, Release will supply renewable energy solutions to any mine or quarry no matter how small the operation. "One of our Release design blocks is 1 MWac, so our target projects start from 1MW upwards. While we can offer solutions that are smaller than 1MW, it is more cost-effective to stay above the minimum size. Each facility and offering is based on customised design according to the customers electricity load and needs, and Release will engage the customer to satisfy that its production and operational needs are met," says Kvalvaag.

The Release model is flexible and will benefit mines in remote regions of Africa. Scatec has extensive experience of operating in Africa and the company is capable of delivering their energy solutions (which includes a variety of hybrid systems) across the continent.

"Release is a great short- and mid-term solution to answer immediate energy needs pending the deregulation of the South African energy sector and increased ease of wheeling," says Kvalvaag. Apart from the substantial monetary benefits derived from investing in renewable energy, the ESG benefits for any operation that installs a renewable solution will give it a competitive advantage, especially if it is a greenfields project that needs funding.

ESG credentials essential for funding

In a world where investors consider all aspects of an operation and shun it if it falls short on the environment and social side of things, high ESG ratings are beneficial. Funding and compliance with environmental and social legislation are two major challenges for junior mining companies. The upfront costs for investing in renewable electricity supply is often too exorbitant for small scale miners. This is certainly the case for the micro diamond miners of South Africa who are expected to comply with the same regulations as multinationals. To get the paperwork done not only costs an arm and a leg, but it takes up considerable time, which could be spent mining. The result is that they need to get their processing plants up and running within one or two months after they've been given the green light to mine by the government. It means that in most cases, they do not have the money to splash on renewable solutions, even if they know it will benefit them in the long term.

Kvalvaag is aware of the challenges small scale miners face. Therefore, he says that the Release concept (from Renewable Energy Lease) is based on a flexible lease commercial offering. "This flexible structure allows for a simpler and more streamlined contract, avoids the upfront commitment of an Engineering, Procurement and Construction (EPC) structure, and avoids the long-term commitment of a 20-year Power Purchase Agreement (PPA) structure. Release also offers flexibility in terms of the ownership of the asset at any point in time during the lease," says Kvalvaag.

There are always questions about the life of solar panels, the effect of dust on their performance, maintenance, possible damage by severe hailstorms and other extreme weather events, as well as the fact that they often get stolen. Kvalvaag recommend that the plant is fenced as a minimum and monitored by CCTV cameras and even security patrols if needed.

"The equipment is resilient to most weather events, and we train the local power management teams on day-to-day maintenance, including vegetation cleaning and module washing. Our solar modules and equipment normally come with 20-year warranty and is designed to generate power for up to 35 years," he says. ●

By the International Water Management Institute (IWMI). First published on Research features (Taking inventory of natural resource indicators within the Sustainable Development Goals (researchfeatures.com)

Identifying SDG shortcomings **to monitor natural resources**

The Sustainable Development Goals (SDGs), laid out by the United Nations in 2015 provides a map to guide and measure the world's progress towards a more sustainable global future. However, the SDGs are heavily slanted towards social and economic development.

The Sustainable Development Goals (SDGs) aim to guide our progress towards a more sustainable future. At the Consultative Group on International Agricultural Research, Dr Chris Dickens is working to identify the shortcomings of the SDGs in terms of protecting natural resources.

Of 231 unique indicators, just 18 directly monitor the natural resources provided by land, water, air, and biodiversity. While moderately comprehensive, these indicators lack holistic approaches to monitoring ecosystems and biodiversity. Moreover, they suffer from a lack of country-level data. A pragmatic future approach would be the forging of bridges between the SDGs and other global programmes.

They say that 'you can't manage what you can't measure'. Nowhere is this truer than for the natural resources on which society depends. There are increasingly strong indications that we are already using more resources than the Earth can provide, and this does not bode well for the future of humanity. Society requires natural resources, including those provided by the land, water, atmosphere, and biodiversity, to survive and to develop. However, unless the exploitation of these resources is sustainable, they become depleted. Increases in population and consumption, along with changes in lifestyles, are placing huge strain on the availability and sustainability of natural resources. In just one example among many, it is estimated that 80% of the world's population now live within areas where there is a high threat to water security. Exacerbated by anthropogenic climate change, these pressures could result in the collapse of natural ecosystems and loss of essential services. It would not be the first time. History can reveal examples of civilisations that collapsed following excessive depletion of natural resources (eg, the Mayan civilisation).

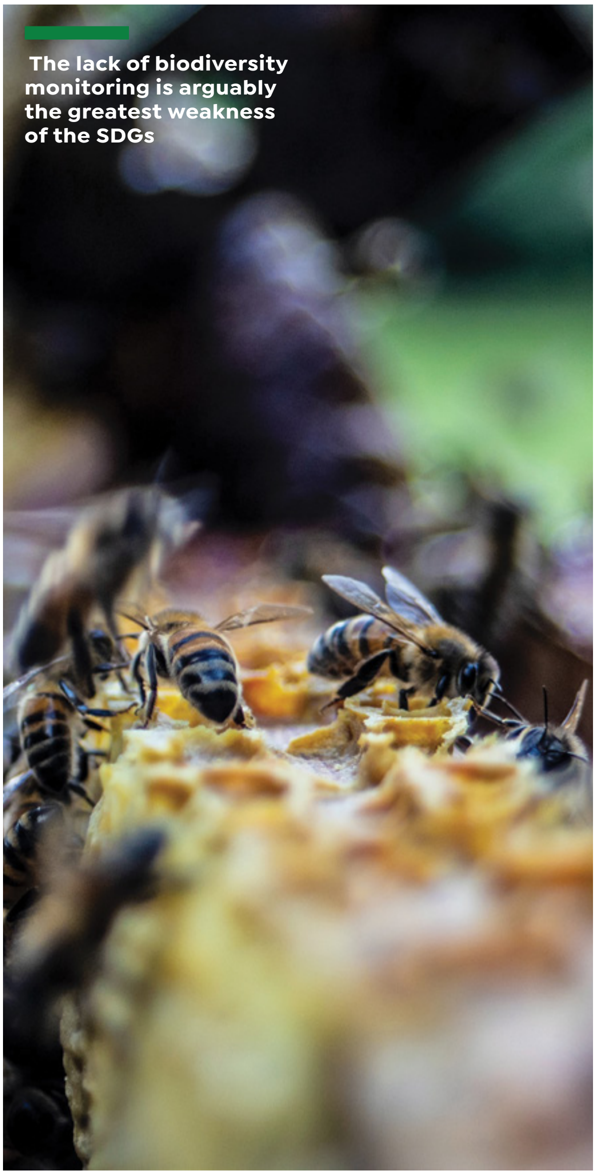
The Sustainable Development Goals (SDGs), laid out by the United Nations in 2015, are the world's attempt to combat this issue. They provide a map to guide and measure our progress towards a more sustainable global future. Countries around the world have pledged their commitment to achieving these goals by 2030. However, despite climate and environmental change being the single greatest threat to mankind, the SDGs are heavily slanted towards social and economic development.

Through the Consultative Group on International Agricultural Research (CGIAR), Dr Chris Dickens (International Water Management Institute, IWMI) is working with WWF and Conservation International to identify the shortcomings of the SDGs in terms of natural resources. Together, they have interrogated the indicators that have been proposed to measure the state of all natural resources, and offer recommendations on critical course corrections before it is too late.

17 steps to a sustainable future

The SDGs include 17 goals, 169 targets, and 231 discrete indicators designed to monitor progress. The concept behind the goals is to achieve sustainability by balancing triple pillars of environmental, social, and economic development. The 17 Goals are:

- No poverty,
- Zero hunger,
- Good health and wellbeing,
- Quality education,
- Gender equality,
- Clean water and sanitation,
- Affordable and clean energy,
- Decent work and economic growth,
- Industry, innovation, and infrastructure,
- Reducing inequality,
- Sustainable cities and communities,



SN Pattenden

- Responsible consumption and production,
- Climate action,
- Life below water,
- Life on land,
- Peace, justice, and strong institutions, and
- Partnerships for the goals.

It has been argued that the SDGs are too vague, lacking in practical pathways for realising the sustainable development that they seek. Dickens argues that the indicators are a particular area of weakness, as in their current form they are deliberately non-prescriptive about their achievements. Luckily, the indicators are not set in stone; undergoing continual development, there is room for improvement.

Natural resource indicators

Of the 231 unique indicators currently in use, just 18 (a mere 7.8%) directly monitor natural resources; a further 19 (8.2%) monitor conditions for natural resource protection but do not directly quantify them. The 18 indicators of interest fall into four main groups: land, water, air, and biodiversity.

Land indicators focus on the health of agricultural soil, urban land conversion, forest area, greening of mountains, and the area of degraded land; however, there are gaps among these categories. For example, the measurement of sustainable agriculture does not include an indication of water resource availability; the degraded land indicator considers land cover and the net primary production of vegetation and carbon stock, but fails to consider soil conditions, nutrients and fertility, salinisation, or desertification. More major gaps include those related to the conversion of rural land to urban, the health of forests, the conditions of numerous ecosystems (eg, grasslands, savannah, wetlands), and the monitoring of ecosystem health at a landscape level.

Even when explicitly included, some indicators are poorly constrained and lack precision, making quantitative measurements a challenge. For example, there are no clear definitions of forest degradation or restoration, which can vary greatly from place to place. In other cases, indicators are so prescriptive as to be exclusionary; for example, stating that there is a direct correlation between green coverage of a mountain and its state of health ignores the fact that high altitude and desert mountains lack green cover while being perfectly healthy.

There are also substantial gaps in the indicators for monitoring water resources. While water quantity is considered through direct measures of water volume, discharge, and spatial extent across different landscapes and as groundwater, water quality is only somewhat covered. While many variables influence water quality, only five are specifically included (oxygen, nitrogen, phosphorus, salinity, pH). There are good reasons behind this decision – for example, choosing variables that are easy and cheap to measure, requiring only basic field equipment and skills that are globally available. However, by ignoring more comprehensive monitoring we risk overlooking serious threats to water. These include common pollutants like heavy metals and pesticides, but also emerging pollutants – natural or synthetic chemicals that are not routinely monitored but which pose a threat to human and/or ecosystem health. The main gaps come in the form of measurable variables that are not considered; for example, the volume of water in snow and ice, seasonal variation in water resources, and changes in river connectivity after dam development.

There have been recent improvements to air monitoring indicators, which originally only considered particulate matter in cities (that is, the level of particulate matter of 2.5μm or smaller). In 2020, an indicator was introduced to monitor greenhouse gas emissions, although a methodology for applying this indicator has not yet been developed. Other airborne pollutants that will be considered going forward include ozone (O_3), nitrogen dioxide (NO_2), and sulphur dioxide (SO_2). A notable omission is the consideration of air temperature, the key variable of climate change. Dickens argues that linking the SDGs to the data and resources of the United Nations Intergovernmental Panel on Climate Change (IPCC) would be of great mutual benefit.

The greatest weakness

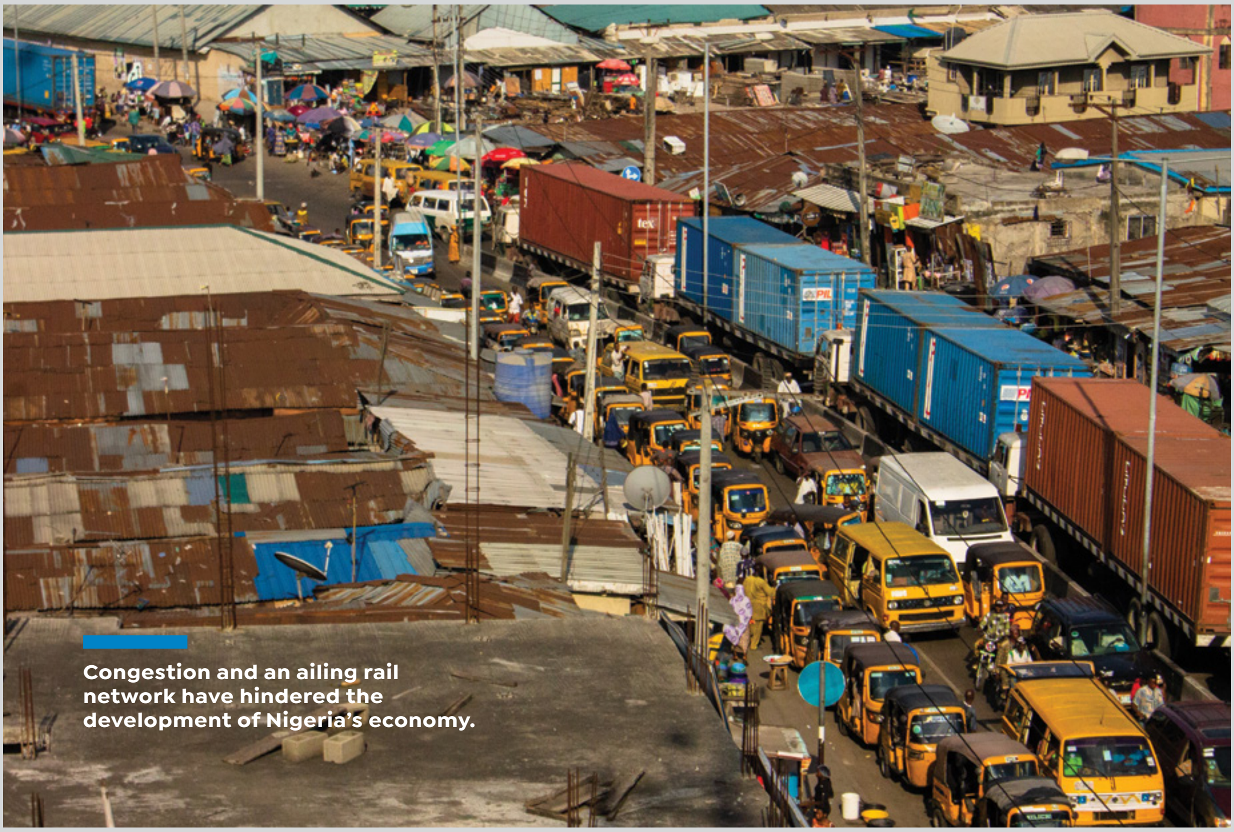
The lack of biodiversity monitoring is arguably the greatest weakness of the SDGs. Some minimal measures are tangentially included within other indicators; for example, marine fish stocks are considered while freshwater and marine biodiversity are not. An indicator of marine eutrophication does require the evaluation of marine biodiversity, but no methodology is provided. Some indicators, once implemented, should help to protect biodiversity, but do not directly measure it; for example, those linked to the trade in animal products, financial support for land and marine resources, and placing limits on alien species. The most biodiversity-focused indicator considers the threat to 120,372 coarsely defined at-risk species but fails to acknowledge that our planet actually supports some 8.7 million species.

Dickens summarises, ‘the glaring weaknesses are the health of ecosystems and biodiversity – on which all society is dependent’. Again, he suggests that forging strong links with other, existing biodiversity programmes around the world would be hugely beneficial, on the proviso that data are defined at a country level and that such links go beyond simple conversations (ideally, data from other programmes should be hard-linked to the SDG, such that one does not need to go looking for it).

Many hands make light work

The examples described here are just a small number among many identified by Dickens and his collaborators. Ultimately, they conclude that, in terms of natural resources, the SDG indicators are moderately comprehensive and partially appropriate. However, they lack a holistic approach, particularly about the monitoring of ecosystems and biodiversity, which are not included in any comprehensive way.

Moreover, even when appropriate indicators are included, the volume of country-level data remains inadequate owing to the priority given by countries to social and economic development, and to an unwillingness and/or inability of national governments to collect data on natural resources. Dickens and his colleagues argue that the most pragmatic approach to addressing these issues is to forge stronger bridges between the SDGs and other programmes collecting relevant data to guide our progress towards a more sustainable future. ●



Congestion and an ailing rail network have hindered the development of Nigeria's economy.

Dami Akinbode from Unsplash

Unlocking Nigeria's supply chain gridlocks

Nigeria is a complex country with unique challenges. In the Nigerian government's efforts to diversify its economy away from an unhealthy reliance on oil production, the Nigerian supply chain will play an integral role.

By Leon Louw

Although Nigeria has huge potential, the country is currently faced with severe infrastructure constraints that hinder the exploitation of the rich natural and human resources that could stimulate its development.

There are many opportunities in the Nigerian agricultural and mineral space that, with the right policies, regular power supply, adequate training and capacity building and improved infrastructure, could translate into significant economic growth. But the absence of critical infrastructure continues to impact negatively on the cost of doing business, investment, and capital inflow into the country.

To complicate matters further, global lockdowns during Covid-19 had a devastating impact on Nigeria's supply chain and logistic companies, which already faced an uphill battle even before the onset of the global pandemic.

According to Aisha Ali-Ibrahim, a Fellow of the Chartered Institute of Logistics and Transport in Nigeria, the pandemic's adverse effects will continue to have an impact in 2022. Nigeria's ports were hard hit in 2020 and 2021. Ali-Ibrahim says that during the pandemic there was a total lockdown with skeletal services at most ports across the country and few vessels entered or left the ports.

Road transport and aviation were as badly affected. "Aviation came to a standstill as aeroplanes were not coming in or out, borders were locked down and staff were laid off. Factories were shut down and inflation worsened with unbearable exchange rates and many companies were forced to close. Business is gradually returning to normal, but


Leon Louw

New roads in Abuja, the capital of Nigeria a few years ago.

the effects will linger," she says.

Ali-Ibrahim has 37 years of working experience in the logistics and transport industry in Nigeria with most of her time spent in the maritime sector. Prior to her retirement in 2020 she was the first female General Manager Marine and Operations from the Nigerian Ports Authority and was a Port Manager of the Lagos Port Complex (LPC).

Lack of infrastructure hinders development

Ali-Ibrahim tells *WhyAfrica* in an exclusive interview that a lack of infrastructure has hindered the Nigerian government's desire to diversify its economy, especially into the mining space. Despite the efforts to encourage mining activities, and although several new projects in the coal, iron ore and lime sectors, for example, have come on-line recently, a lot still needs to be done to improve the operating environment in Nigeria.

Ali-Ibrahim says that the main challenges include, amongst others, inadequate infrastructure, insufficient funding, high risks and health hazards, a lack of well-equipped laboratories, low productivity, weak regulation, illegal practices of stakeholders and inconsistent policy and inadequate legislation.

"On the other hand, the Federal Government has done quite a lot over the last three to four years to attract more private investment into the mining industry. For example, more ports are being dredged to accommodate bigger vessels, several roads are being rehabilitated and the railway lines are being changed from narrow gauge to standard gauge.

"In addition, barge operations are on the increase to reduce the pressure on our roads, while regional and continental collaboration like the African Free Trade Agreement (ACTFA) is ongoing. Once completed, the Leki deep seaport will add additional capacity to the efficient Onne port, which will increase the number of large vessels that will be able to enter and leave Nigeria," says Ali-Ibrahim.

The railway transport system seems most suitable for mining activities and the government recently invested a significant amount of capital into the Lagos-Calabar railway in addition to the Lagos-Ibadan expressway to connect western and eastern parts of the country.

Challenges facing Nigerian seaports

According to Ogochukwu Ugboma, Head of Department of Transport Management and Operations, School of Transport and Logistics in Lagos State University, Ojo, Lagos, Nigeria has three major cape-gauge rail lines in the country. The Western line connects Lagos on the Bight of Benin to Nguru in the Northern state of Yobe; the Eastern line connects Port Harcourt in the Southeast to Maiduguri in the North-eastern state of Borno, close to Chad border and the Kano-Maradi line. There are several other branch lines and standard gauge lines running across the country. Nigeria boasts about 195,000 km of roads with about 36,000 km of federal roads. Nigeria has six major seaports: Tin Can Island and Lagos Ports in Lagos State; Rivers Port and One Port in Rivers State; Delta port in Delta State and Calabar port in Cross River State.

Ugboma tells *WhyAfrica* that port congestion, inefficient processes and procedures, multiple tariffs and checks, extortion and illegal payments and port access gridlocks are only a few of the challenges that face Nigeria's seaports. "What we really need to do is to adopt better technology and automate most of the current tedious processes and there should be better collaboration among various departments, agencies and stakeholders," she says.

According to Ali-Ibrahim, Nigerian ports underwent a major overhaul with operational management being converted to a landlord model in 2000. As a result of public-private partnerships (PPPs), Deloitte reports that terminal operators made a combined 200-billion Naira (USD646.6-million) of investment in new port infrastructure in 10 years including major outlays such as rubber-tyred gantry cranes, mobile harbour cranes, trucks, buildings, quays, inland container depots, terminal lighting, automated tracking systems, generators,

Leon Louw

Nigeria boasts about 195,000km of roads with about 36,000km of federal roads.

plants, and machinery. "However," she adds, "a number of key challenges remain, and there is also a need to improve both marine and landside access to ports."

According to the Nigerian Civil Aviation Authority, Nigeria has 20 airports, 23 active domestic airlines and it is served by 22 foreign carriers. Two of its largest airports in Lagos and Abuja accounts for over 60% of total passenger and aircraft movements; other international airports lie in Calabar, Kano and Port Harcourt.

Roads and railroads need to be rehabilitated

Nigeria's railway network is dilapidated and vastly underutilised. The Nigerian Rail Corporation reports that the current network comprises of eight lines, 3 505km route of 1067-mm lines, as well as a 19km, 1067-mm gauge extension from Port Harcourt to the deep-sea Onne Port, and 277km of standard, 1435-mm gauge track running between Ajaokuta and Warri via Itakpe.

Nigeria has developed an extensive national network of roads and bridges which is responsible for more than 90% of domestic passengers and freight. Across the country, the general condition of the road network ranges from good, fair, and poor. Few areas remain unconnected to national backbones, and those are generally concentrated in the central, western, and eastern parts of the country. Nigeria's regional connections are fair, connecting to neighbouring countries like Niger, Chad, Cameroon, and Benin, as well as coastal roads joining routes to Dakar in Senegal or Abidjan in Cote d'Ivoire.

"Nigeria has relatively advanced transport infrastructure networks that cover extensive areas of the nation's territory. Although overall transport infrastructure is inadequate, the country has made progress since 2017 in alleviating urban congestion through investing in critical infrastructure projects and increased call for private sector participation in the development of transport arteries; especially in the road sector, a tax incentives scheme and the establishment of new toll booths on major highways," says Ali-Ibrahim.

Opportunities abound for logistic and transport companies

The question is that in a country where there seems to be so many challenges in terms of logistics and supply chains, will there be space for companies from other African countries to fill the gap? Ugboma has no doubts. "Opportunities abound for any supply chain, logistics or transport companies of other African countries in a country with more than 200 million people, most of them young. They only need to look at the areas where there are challenges and work out a sustainable model to solving the problems," she says. Ugboma adds that it is especially the agricultural sector in Nigeria that face challenges. "For example, the storing and distribution of perishable goods and temperature sensitive foods are inadequate as there is insufficient freezing infrastructure," says Ugboma.

To be able to create opportunities though, the Nigerian authorities will need to improve its policies and regulations to ensure a smooth supply chain and streamlined logistics sector. "This they can do," says Ali-Ibrahim, "by adopting a well-developed freight and logistics strategy which should be integrated and overarching. It should facilitate the safe and efficient movement of freight within the country and should integrate the country seamlessly within the West African sub region and beyond."

"The plan should address sources of freight generation; commodity flows and associated database modelling. It should also cover the transportation and distribution industry and workforce, storage, and warehousing location principles and movement of bulk commodities, containers and general cargo through major ports, and airports. In addition, the plan should cover railroad access to allow efficient access of bulk freight to support agricultural regions, production clusters, local industries, business and customers," says Ugboma.

The outfall of Covid-19 will have significant impacts on the protection of natural areas in large parts of Africa.

Oppenheimer Generations Research and Conservation

Forging a future for the African wildlife economy

Africa's iconic wildlife forms a key part of the continent's identity and is globally significant, both ecologically and economically. As the twenty-first century progresses, how is Africa's economy likely to evolve and what role will this vital natural heritage play within it?

By Michael 't Sas-Rolfes

Emerging from the ravages of the Covid-19 pandemic, Africa faces some sobering realities. In the short run, public and private custodians of wildlife and natural areas face severely reduced income streams and growing pressures to exploit natural resources.

The pandemic's disruption of international tourism cut off critical revenue flows to many wildlife conservation initiatives and its general effects on the economy have constrained the extent to which governments and multi-lateral agencies can step in and provide subsidies to compensate for these losses.

Economic constraints negatively affected rural communities and resulted in more people poaching wildlife for food and profit. In the longer run, Africa is set to continue its trajectory of rapid human population growth and urbanisation, which will fuel demand for a range of natural resources against a background of destabilising climate change.

Exactly how this affects African wildlife will depend on the nature of economic development, shaped by a combination of varying socio-political and governance factors, including the application of emerging technologies.

The historical context of African wildlife economies

In pre-historic times, Africa's wildlife was closely intertwined with the lives and livelihoods of our human ancestors, who depended upon it for their survival. The advent of agricultural practices started

State Protected Areas like national parks and game reserves has protected wildlife against hunting and habitat loss.

to reduce this dependence but until the twentieth century, much of Africa remained relatively sparsely populated by humans with abundant wildlife that was regularly harvested.

The Cape colony in what is today South Africa was the first to experience a human-driven extinction of a large African mammal species (the bluebuck) and by the late nineteenth century most of this region's wildlife had been lost to hunting and habitat loss through land conversion. Whereas much of Africa has since followed this trend, the establishment of state-protected areas (SPAs) – such as national parks and game reserves – throughout the twentieth century has helped to mitigate it.

However, SPAs have been no panacea. Initially established during colonial times and mostly pursuant of a 'fortress conservation' approach (which prohibits all hunting and harvesting), many such areas carry a legacy of forced removals of indigenous people, harming their lives and livelihoods. This has frequently undermined the local legitimacy of SPAs and subsequently led to various forms of resistance, from poaching to an outright land invasion. These problems still persist across large parts of Africa today.

Looking ahead

Not only do wildlife governance arrangements vary widely across the continent, but different interest groups continue to disagree over policy goals in relation to its management and use. Some focus on people-centred conservation: efficient and sustainable wildlife use, and the equitable sharing of economic benefits. Others are more concerned with maintaining healthy ecosystems and ecologically functional wild populations of species.

Yet others are more concerned with the welfare of individual animals, especially those with high sentience such as elephants, and may oppose lethal management and extractive commercial exploitation of these animals. These concerns are somewhat in conflict with one another and inevitably require trade-offs in policymaking and practice.

In 2020 Oppenheimer Generations Research and Conservation committed R10-million to the African Wildlife Economy Institute of Stellenbosch University to support and promote sustainable and inclusive wildlife economies across Africa through research, outreach, teaching and engagement with stakeholders.

When it comes to wildlife and its role in the economy, contemporary Africa finds itself amidst a plethora of competing demands, varied approaches, and diverse results – as well as in the crossfire of fiercely contested policies in relation to wildlife management, harvesting, and trading practices. A robust future African wildlife economy will need to appropriately navigate this policy conflict across different scales of governance at the different levels, and further harness new technologies and sources of socio-economic support, guided by good data and inclusive ethical standards.

Sustainable and resilient wildlife economies are critical to align wildlife conservation with inclusive economic development in Africa. The governance of the African wildlife economy should be informed by the lessons of the past and anticipate future trends and plausible scenarios.

Michael 't Sas-Rolfes, is Research Fellow at the African Wildlife Economy Institute. ●

The Oppenheimer Generations Research and Conservation team continue to build a first-class research entity which supports, funds and partners with national and international researchers to undertake and share cutting-edge research focused on the natural sciences ensuring practical and impactful outcomes. They are committed to further developing, expanding and promoting systems of sustainable conservation programmes and networks throughout the African continent.

The African Wildlife Economy Institute aims to be the leading academic institute in Africa for research, teaching, and outreach on wildlife economies. Its academic mandate is multidisciplinary working across the faculties of Stellenbosch University and, importantly, collaborating with universities, research institutes, and conservation organisations across Africa. AWEI aims to generate new research on wildlife economy and to use it to enhance policies, governance, and management practices within the sector.

All image credits: Kal Tire

Kal Tire's on-site services remains the company's leading service offering requested by customers.

Kal Tire's technical and on-site teams are trained and experienced in conducting site severity studies.

Kal Tire's African growth in the wake of Covid-19

Despite Covid-19 lockdowns and supply chain constraints, tyre management company Kal Tire has seen continued growth in the Southern African countries in which they operate.

By Leon Louw

After more than two years of lockdowns and economic devastation across the globe, Kal Tire, like other companies around the world, had to find solutions to challenges never encountered before. As supply chains disintegrated once the world reopened after the Covid hiatus, companies were suddenly faced with significant increases in commodity costs, spiralling freight rates and a substantial scarcity of ocean-going freight space.

These supply chain and logistical bottlenecks could not have come at a

Repair work at one of Kal Tire's services centres in Southern Africa.

John Martin, Southern Africa Vice President at Kal Tire's Mining Tire Group.Tire's

worse time. Industries had just started to emerge from a Covid-struck economy when the supply chain disaster struck. Markets were then further challenged by the shock of a war in Eastern Europe early in 2022 and another outbreak of Covid-19 in China, which created even further disruption.

"To mitigate the risks and negotiate the supply chain bottlenecks in the wake of a global pandemic, Kal Tire invested enormous amounts of working capital into additional levels of safety stock to ensure our clients do not run short of tyres and other tyre products," says John Martin, Southern Africa Vice President at Kal Tire's Mining Tire Group.

Canadian-headquartered Kal Tire's presence in Southern Africa is managed through their operations in South Africa, Zambia, Mozambique, and Botswana. These four countries form the service and supply platform to support the company's in-country customer base, as well as customers in other Southern African countries, including the DRC, Zimbabwe, Tanzania, and eSwatini. In addition, Kal Tire is pursuing new opportunities in Namibia and Lesotho.

The rise of the Northern Cape

Kal Tire has seen its most notable growth in the Northern Cape province of South Africa. The company recently expanded its footprint in the iron ore and manganese fields of the Kalahari and with the construction of a full Off-The-Road (OTR) service centre, is able to include OTR tyre repairs and other related services in their service offerings in the Northern Cape.

The growth in the Northern Cape has been so prolific that it currently necessitates additional, dedicated service and support resources and investment in localised infrastructure. "We have now assigned these dedicated resources to the region, and we continue to assign further service and support competencies as new mining operations continue to open. This remains a key area of growth and the opportunity to serve new customers with Kal Tire's full service offering and technical capabilities," says Martin.

Although Martin says that Kal Tire experienced some tough challenges during Covid-19, he adds that the company continues to see growth in all its Southern African countries.

"The significant investment into several large mining operations in Botswana by international mining companies is exciting, as is the recent election of a new president in Zambia. The new Zambian government has created hope of an improved economy through much needed reform and support for the country's mining industry," says Martin.

While Kal Tire's Botswana and Zambian operations performed admirably in recent years, their Mozambican operation delivered levels of growth that outperformed the rest of the Southern Africa market. Kal Tire successfully introduced expanded and elevated levels of service and support, including a state-of-the-art OTR tyre repair facility in Mozambique, and that, adds Martin, has been enthusiastically welcomed by their customers.

This growth comes on the back of a depressed 2020 and 2021 in which most businesses were negatively affected, although the South African mining industry was fortunately given a reprieve to continue to operate during the long periods of business lockdowns. According to Martin, 2020 was probably one of the toughest business years in recent times. "However, it was softened to a degree by the ongoing demand we had from existing mining operations throughout these two years. Our contractual commitments with our customers allowed Kal Tire to continue servicing the mining industry. An industry which ultimately became a significant contributor to the revival of the ravaged South African economy," says Martin.

The role of tyre management in a circular economy

With a worldwide push towards higher standards of Environmental, Social and Governance (ESG) reporting, mining companies will benefit

Kal Tire's Southern African team.

substantially from investing in activities like tyre management, which forms part of a growing circular economy.

The United Nations' definition of the circular economy is to reuse, recycle, repair and share. These principles also apply to many of the objectives of ESG to ultimately achieve an improved level of sustainability in the way all businesses should operate.

Kal Tire's fundamental philosophy is to prolong the life of all tyres under their care and to minimise the wastage generated from under-utilised assets, in the form of tyres. Along with competent, local resources, advanced tyre management tools, such as its proprietary TOMS (Tire Operations Management System), exclusive repair technology and innovations all contribute to improving the sustainability of the mining operations that they service. Mines can then finally witness the ethical and responsible recycling of the end-of-life tyres, returning the waste tyres back into use, via the circular economy.

According to Martin, Kal Tire's on-site services remains the company's leading service offering, most often requested by customers. "However, our site service is not a stand-alone product. Its success is inextricably linked to several contributing factors that includes strong logistical and support infrastructure; unrivalled training and competence development systems; and the provision of competent and capable technical teams to assist with any technical issues customers may experience."

"Furthermore," Martin adds, "expanded services that include OTR tyre repairs continue to attract more favour as customers realise the benefits of having a complete end-to-end tyre management strategy from Kal Tire. We are introducing elevated levels of services into our surface mining operations in terms of autonomous tire inspections with our new partnership with Pitcrew.ai, which continues to draw significant interest from our global customer base," he says.

Kal Tire provides mining operations with fully-integrated tyre management services and the related systems required to do so. In other words, Kal Tire's management systems are integrated with the mine's operational systems that allows for critical decisions related to tyre management to be made in real time, and in unison with key operational decisions. TOMS is a forward-looking tyre management system that integrates into mine operations systems, as well as interfacing with TPMS type systems, resulting in the generation of work orders to address operational issues that are recorded by these live systems.

Work orders for tyre maintenance can then be assigned to coincide with normal mechanical maintenance schedules, thereby minimising unnecessary downtime associated to tyre maintenance. Keeping mining machines in continuous operation is one of Kal Tire's primary objectives as a service provider.

The importance of good tyre management

Good tyre management requires a definitive strategy that manages the life of the tyre from its point of manufacture through to the ethical disposal of the tyre through recycling. The investment in tyres on any mine site is always significant, which can very quickly and easily drain vast volumes of working capital in unnecessary inventory, tyre damage and of course the resulting poor tyre life. Many of these risks to profitability can be mitigated by using the kinds of services offered by Kal Tire.

In an effort to support operational and production objectives, mining tyres can be managed through a comprehensive tyre management strategy and programme that offers efficient and effective maintenance support, as well as quick turnaround times of the production vehicles, when undergoing maintenance. However, underfoot conditions in any mining operation remains a key contributor to the success or failure of the budgeted cost of ownership of the tyres. Kal Tire's technical teams and on-site teams are trained and experienced in conducting site severity studies, identifying opportunities in the operations to reduce the risk of damage and therefore also reduce tyre wear.

According to Martin a good tyre management strategy and maintenance programme can save on unnecessary operational costs. "However, the benefits stretch much further than just cost avoidance," he says.

"From Kal Tire's experience, there is additional value over and above the economics of managing tyre life, through maintenance and repair strategies. Additional value in utilising the experience of a competent service provider comes through the mitigation of risk, against increased supply constraints of new tyres, logistical delays at congested ports as well as poor availability of ocean freight. These are all contributing factors and risk-mitigating options that should be considered when operating in very remote geographies," says Martin.

Harnessing change for future success

Johannesburg based Cable Technology has seen exceptional growth over the past two years, despite the extremely challenging business environment in South Africa during the Covid-19 pandemic.

By Leon Louw


Leon Louw

The wires and cables on large mining equipment would stretch several kilometres when extended. Having them hang loose could be risky and hazardous.

There is a thin red line between success and failure when executing an operational plan, whether it is in the mining, agricultural or energy space. Precision mining and farming depends on the most minute detail. The intended outcome is often determined by the inputs that are never seen. How often do we hear someone say: "Out of sight out of mind, right?" Well, that is a great recipe for disaster in any project manager's book.

Throughout history, those operations that failed, are the ones where engineers and artisans neglected to pay attention to the key parts of the engine underneath the truck bonnet, or in the electrical box of an ADT, tractor, tank, aeroplane, or other vital equipment.

Cable harnessing is one of those vital functions that is not always top of mind when running large operations. A cable harness is an assembly of electrical cables or wires which transmit signals or electrical power. The cables are usually bound together by rubber, vinyl, electrical tape or heatshrink, or a combination thereof.

There are several benefits of using a harness instead of letting the cables and wires hang loose. The wires and cables on large mining, farming and military equipment would stretch kilometres when extended. By binding them into a harness they are protected against the adverse effects of vibrations, abrasions, and moisture. At the same time, space is optimised and the risk of a short or other malfunction is decreased significantly. Binding the wires into a flame retardant sleeve also lowers the risk of electrical fires.

"Cable harnessing is essential and will result in significant savings for your company in the long run," says Gerhard van Heerden, Director of the Johannesburg based company, Cable Technology.

"Risks and hazards are increased tenfold without cable harness assemblies. Moreover, it increases the life of cables and wires substantially," he adds.

Cable Technology is an electrical harness manufacturer that specialises in electrical harnesses in the mining, agriculture, energy, and military industries.

"Adhering to the same procedures and protocols the military industry require, we build harnesses for leading providers of heavy equipment in the mining industry, suppliers of precision planting equipment and for the largest energy storage manufacturers in Africa," says Van Heerden.

Cable Technology was established just under a decade ago, but Van Heerden and other key staff members have more than 20 years' experience in this specialised discipline.

Despite the numerous challenges over the last two years, Van Heerden says that Cable Technology has experienced above average growth and that the company is now much stronger than what it was before the global pandemic hit African shores just over two years ago.

Although Van Heerden adds that some of the repercussions of Covid-19 are only being felt now in the form of global stock shortages, Cable Technology is looking to diversify and expand its footprint across South Africa and then Africa north of the Limpopo.

"We have seen a lot of growth and innovation by South African companies, despite the global challenges. It is exciting to be part of this exciting industry in South Africa," says Van Heerden.

"This year, we plan to expand our business even further, not only with our current building plans on our own premises but to increase our footprint in several industries. We see great potential in the agricultural industry - not only in building harnesses for farming equipment, but also to provide our innovative Precision Farming Systems for monitoring, tracking, and switching by use of low frequency RF devices," Van Heerden concludes.