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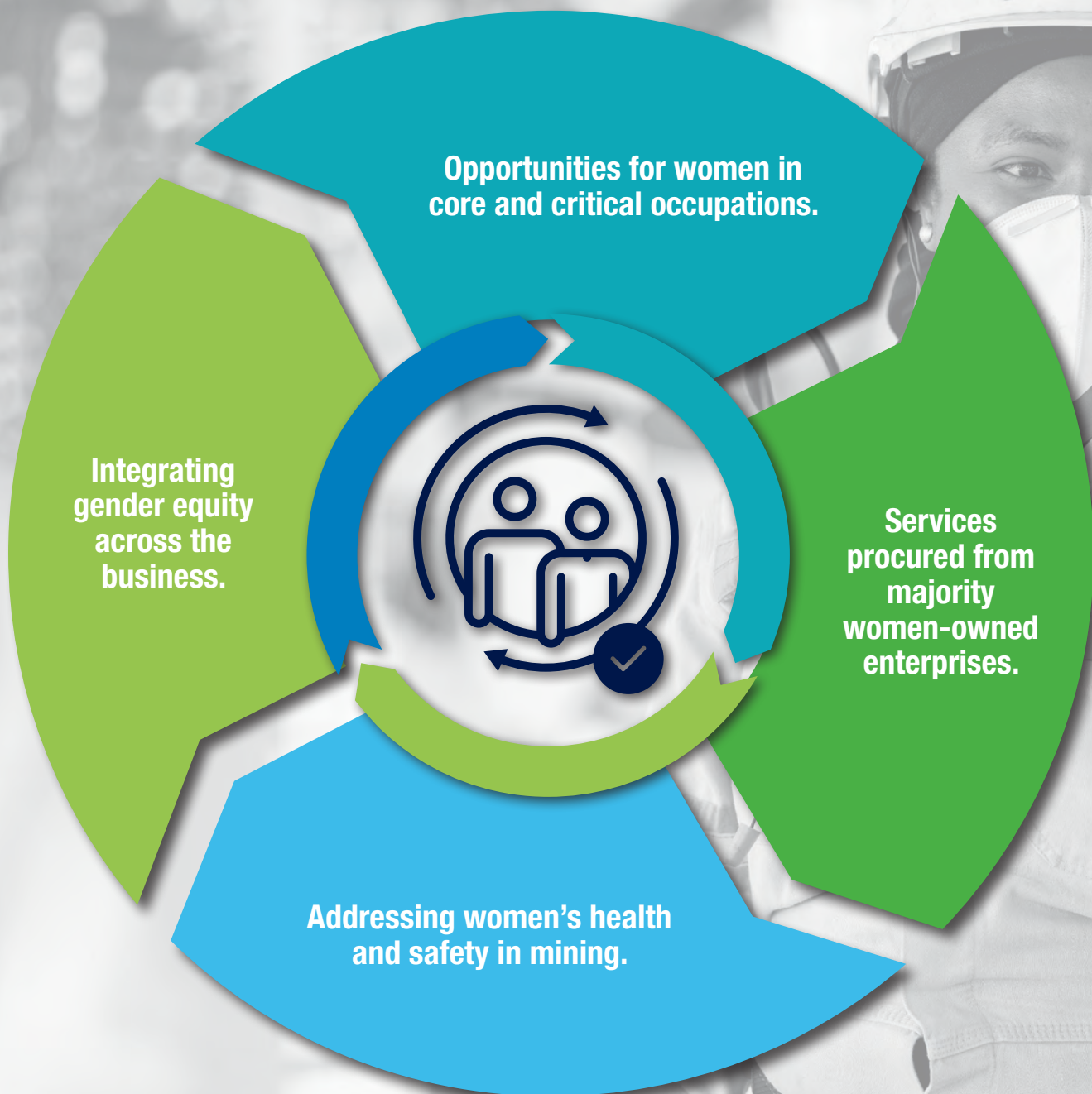
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PUSH PAUSE II

I finally got eight hours of sleep. It took me three days, but whatever.



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Editor: Terence Creamer

Magazine Editorial: Martin Zhuwakinyu
Senior Deputy Editor

Engineering News Features:
Nadine James Senior Deputy Editor

Mining Weekly Features:
Donna Slater Deputy Editor

Online Editorial: Chanel de Bruyn
Senior Deputy Editor

Projects in Progress: Sheila Barradas

Advertising: Reinetten Classen

To advertise: advertising@creamermmedia.co.za

Subscriptions & Enquiry Service: Sharon Botha

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Tel: +27 11 622 3744

Postal Address: PO Box 75316,
Garden View 2047,
South Africa

Email: newsdesk@engineeringnews.co.za

Web: www.engineeringnews.co.za
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FIRST WORD

Investigation into underground mining cable is urgent to ensure safety

“ Reports being received by the media about the South African National Standards (SANS) mark being printed on a certain type of underground mining cable, even though the cable appears to be non-compliant with SANS stipulations, is concerning. Insight provided to the media suggests that such cable is placing underground mining at unnecessary risk. Most mining companies take safety very seriously and, as a first step, they should ensure that cable bought has inspection authority certification from accredited test laboratories. Stringent flameproof enforcement in underground coal mining in particular is an absolute must. As public-sector enforcement appears to be absent, consideration should be given to the formation of a private-sector organisation tasked with ensuring that safety-critical products conform with laid-down standards.”



Martin Creamer | Publishing Editor

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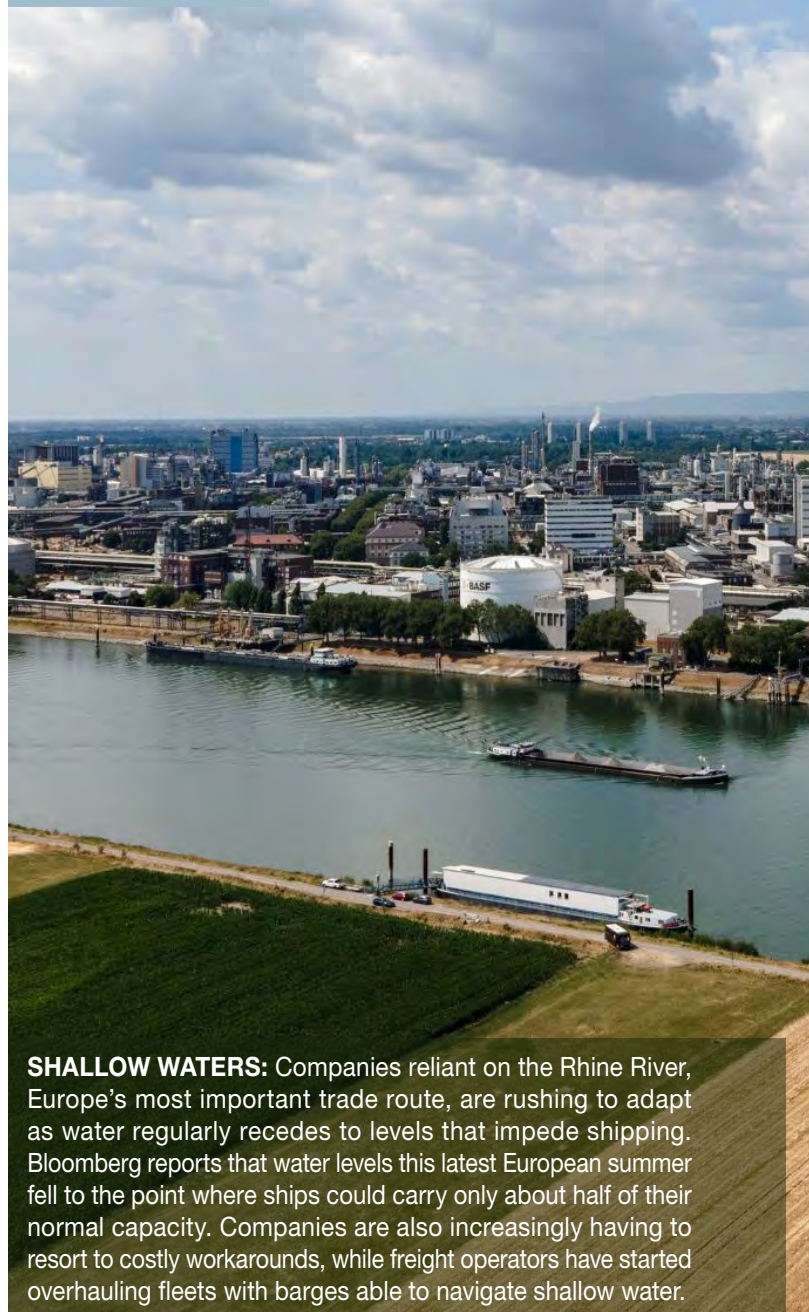
PUSH PAUSE II

I had my patience tested. I'm negative.



STOP GAP: In many of Gauteng’s affluent suburbs it has become common to see banners highlighting resident-funded works programmes to fix potholes, cut grass and repair pavements. At a national level, similar schemes have developed around the country’s power, logistics and crime crises. As with the suburban projects, there is no doubt that these can deliver much-needed improvements. However, they also raise questions about sustainability and governance. To avoid moral hazard, government and State companies must surely eventually start delivering the services they are being paid to provide.

PERSPECTIVES



SHALLOW WATERS: Companies reliant on the Rhine River, Europe’s most important trade route, are rushing to adapt as water regularly recedes to levels that impede shipping. Bloomberg reports that water levels this latest European summer fell to the point where ships could carry only about half of their normal capacity. Companies are also increasingly having to resort to costly workarounds, while freight operators have started overhauling fleets with barges able to navigate shallow water.

“ Hundreds of projects are now being developed across the country, without needing any money from government. These projects will make the biggest difference in bringing an end to loadshedding . . . while . . . helping to shift South Africa towards cheaper, greener energy sources.”

South Africa President **Cyril Ramaphosa**

ELECTRICITY

Where's the urgency?

THE ENERGY REGULATOR'S decision to transfer the transmission facilities licence to the National Transmission Company South Africa (NTC) is indeed a "milestone", as was highlighted by the National Energy Regulator of South Africa (Nersa) when the approval was made in late July.

It is an important signal that the vertical separation of Eskom into independently governed and managed generation, distribution and transmission entities is belatedly under way, with such unbundling having been envisaged a quarter of a century ago in the 1998 White Paper.

As with just about every previous reform in the electricity sector, however, it is not quite the milestone it should have been.

The Energy Regulator, which is Nersa's highest decision-making structure, has thus far considered only one of the three licence applications made as part of a bundled submission that also included a request to have Eskom's trading and import/export licences transferred to the NTC.

The decision to adjudicate each licence separately means that the NTC is not in a position to be fully operationalised.

It also probably means that at least one of the other two conditions for its separation, that of securing lender consent, will have to be postponed until the other two licences are approved.

Even though it should have no direct bearing on the other condition – the appointment of an independent board – the delayed licence adjudication could possibly also delay that process.

Sadly, such stop/start reform progress is par for the course in South Africa.

Many will no doubt recall how the regulator initially responded to the reform that allowed distributed generation facilities below 100 MW in size to proceed without a licence (a cap that was eventually removed altogether).

The regulator found a way to convert the registration process into a quasi-licensing process.

This left the reform relatively impotent until Operation Vulindlela intervened to ensure that Nersa acted within the spirit of the reform, which was all about removing red tape so as to allow for the speedy addition of new private generation.

Likewise, all South Africans have witnessed the feet dragging by government, Eskom and the regulator in ensuring that the conditions were truly in place for the accelerated public and private procurement of much-needed electricity as loadshedding began to bite.

Astonishingly, not one kilowatt-hour of publicly procured electricity has entered the network since the restart of the programme in 2021.

There is also little prospect of the Electricity Regulation Amendment Bill, which contains the legislative changes needed to place South Africa's failing electricity sector on a more sustainable footing, actually being passed by Parliament ahead of the 2024 elections.

The Bill was approved by Cabinet in April but was only tabled in July and no formal programme has been outlined for its passage during the current Parliamentary term.

In the context of ongoing and intense loadshedding, this lack of urgency is shocking yet not surprising, with so many still seemingly content to play politics with the power crisis.

Terence Creamer | Editor



Source: Ebonberg

FACTS IN FIGURES

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The investment in billion dollars a year that is required for universal clean cooking access to be reached worldwide by 2030, according to global body the International Energy Agency executive director Dr **Fatih Birol**.

230

The amount in million dollars that State-owned rail companies from Botswana and South Africa are seeking to fund the Mmamabula–Lephalale rail link between the two countries to transport commodities, including coal.

SHEILA BARRADAS | CREAMER MEDIA RESEARCH COORDINATOR & SENIOR DEPUTY EDITOR

ELECTRICITY ACCESS

Energy Poverty

South Africa urged to elevate universal electricity access to status of education to fight extreme poverty

TERENCE CREAMER | CREAMER MEDIA EDITOR

Calls are growing for government to overhaul its free basic energy (FBE) scheme amid indications that fewer than a quarter of qualifying indigent households are benefiting from the 50-kWh-a-month currently on offer and with the scale of the grant being described as insufficient to reduce poverty and inequality.

Public Affairs Research Institute senior researcher Dr **Tracy Ledger** argues that, given evidence showing electricity's developmental returns to be as large as or larger than any of South Africa's other social welfare interventions, universal access should be elevated to the same level as access to education.

"I think we need to start thinking about electricity in the same way that we think about education.

"We understand that even though the benefits of education accrue to the individual, overall, the whole of society and the whole of the economy benefits . . . it would be extremely short-sighted of any government to say, 'oh, well, if you're too poor to pay for an education, you can't have one'," Ledger argued during a Presidential Climate Commission dialogue on energy poverty.

She also reiterated the call she and

co-author **Mahlatse Rampedi** made in their book *Hungry for Electricity* for the monthly FBE allocation to be increased to 350 kWh, which they argue to be the minimum threshold at which electricity begins yielding meaningful socioeconomic benefits.

"The main reason why grid-connected households cannot access that amount of electricity currently is because of the cost," she explained, indicating that it cost a low-income household with a prepayment meter about R800 to buy R350 kWh.

"To put that in context, 55% of South African households have a monthly income of less than R6 000 a month, which means R800 a month is nearly 15% of their monthly income."

Many poor households are, thus, currently having to choose between electricity and food, which is increasing levels of food insecurity and malnutrition.

Compounding matters is the fact that only 25% of indigent households are receiving their FBE allowance, owing to the fact that many municipalities are failing to maintain indigency registers and are using funds specifically provided for FBE under the equitable share elsewhere.

The National Treasury's **Malijeng Ngqaleni** acknowledged the monthly 50 kWh to be inadequate but said increasing the allocation under the current arrangement would not alleviate energy poverty, as its analysis shows that many municipalities are currently diverting the funds away from the intended recipients.

A total of R57.6-billion has been set aside for FBE for the current three-year expenditure period to 2025/26, but the National Treasury was concerned that there could be "significant fiscal leakage".

Ledger agreed that implementation had to be materially improved before increasing the size of the benefit and also proposed major, albeit controversial, changes to the way the scheme is implemented in future.

Eskom, she noted, should be supplying about five-million indigent households, but was supplying only about 800 000 currently, as the utility is reliant on the indigent list being supplied to it by the municipalities.

"I think there's a good case to be made for diverting that part of the equitable share that should end up in Eskom anyway, directly to Eskom, and let Eskom register those indigent households."

Eskom's **Onicah Rantwane** reported that the utility was indeed engaging with government on the possibility of ringfencing the costs allocated for customers in Eskom-supplied areas and having those amounts paid to Eskom directly.

However, she argued that there was also an urgent need to restructure the retail tariff to reflect unbundled costs, as changes under way in the electricity sector meant that pro-poor policies, such as the inclining block tariff (IBT), would begin penalising poor consumers over time.

"Customers investing in alternative energy sources and energy efficiency are usually relatively affluent. Under the IBT, these customers will pay a lower block rate based on their lower consumption and will, thus, be benefiting from a subsidy intended for the indigent," Rantwane noted.

She also stressed that even under current circumstances low consumption was not necessarily reflective of a customer being poor, with multiple shack dwellings, for instance, being exposed to high block unsubsidised energy rates.

"Tariffs need to be unbundled to reflect the cost structure. Fixed costs must be recovered through fixed tariff structures and variable costs through variable cost structures," she outlined.

There was also a need, she argued, for a national subsidy framework for all subsidies, including electricity subsidies.

Such a framework would include clear principles on how cross subsidies should be targeted to benefit indigent households. ■



SKewed ACCESS

Power lines running above an informal settlement in Cape Town. Many informal-settlement dwellers, as well as many other South Africans, do not have access to electricity

DEVELOPMENT FINANCE

Waiting in the Wings

IFC ready to support private grid investment in SA

TERENCE CREAMER | CREAMER MEDIA EDITOR

The World Bank's private-sector financier, the International Finance Corporation (IFC), has indicated a willingness to fund public-private partnerships (PPPs) aimed at expanding and strengthening South Africa's transmission infrastructure.

IFC VP for Africa **Sérgio Pimenta** tells *Engineering News & Mining Weekly* that the private sector already plays a significant role in deploying electricity grids in most developed countries and some emerging markets and that South Africa is well placed to pilot such PPPs in light of the urgent need to expand the domestic grid, particularly in provinces with potent wind and solar resources.

"When you look at how electricity networks or systems have been evolving across the world, generation has been the first area where the private sector has come in but, in developed markets, transmission is also delivered by private-sector companies.

"I think South Africa has the conditions to actually pilot this type of initiative in Africa and, if well structured, such projects would attract private-sector financing, including from the IFC," Pimenta said during a visit to South Africa late last month.

Electricity Minister Dr **Kgosientsho Ramokgopa** has already warned that South Africa can ill-afford to "kick the can down the road" in the area of grid investment as it did in the early 2000s with generation, which has resulted in daily power cuts.

Ramokgopa has also indicated that he sees a potential role for PPPs in delivering much-needed grid infrastructure, probably on a build-operate-and-transfer basis, with State-owned Eskom remaining the sole custodian of the network.

The development of transmission infrastructure has also been included for specific support under the \$8.5-billion Just Energy Transition Partnership, or JETP, which the World Bank Group is backing.

Pimenta says that if there is a requirement for private-sector funding under the JETP, the IFC could play a role, noting that this could take various forms, with support for South Africa's decarbonisation and energy transition having been identified as a top priority.

The IFC is also closely monitoring the progress of the reforms being undertaken by the South African government across the rest



SÉRGIO PIMENTA

In developed markets, transmission is also delivered by private-sector companies

of the energy sector, as well as in the area of freight logistics.

While acknowledging that such reforms are always difficult to implement, Pimenta believes ongoing progress will help materially increase the opportunity for the IFC to fund private companies pursuing fixed investments in South Africa.

"If we see an opening in the transmission sector, for instance, that will unlock hundreds of millions, if not billions, of dollars that we could deploy," he says.

The IFC has already extended \$92-million to support various independent power producers in South Africa and expects the pipeline of port and rail financing prospects to grow significantly as Transnet implements concessions and pursues long-term lease agreements.

The development finance institution has invested \$4.9-billion in South Africa since 2018, and its current exposure in the country stands at \$3.1-billion.

Spanning the financial, manufacturing, agribusiness, services, property and infrastructure sectors, the South African investments are a major component in the IFC's \$15.1-billion Africa portfolio.

"South Africa is our largest portfolio on the continent and it's our fifth-largest portfolio in the world," Pimenta notes.

The IFC will also continue to support mining projects in South Africa, particularly those aligned to producing the critical minerals required for the global energy transition. ■

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PLATINUM GROUP METALS

Counting Down

Opencast production expected at Anglo Platinum's Middelaagte mine by year-end

MARTIN CREAMER | CREAMER MEDIA PUBLISHING EDITOR

Platinum group metals (PGMs) mining and marketing company Anglo American Platinum (Amplats) is finalising the permitting process for the future opencast Middelaagte mine, one of three areas of the company's Amandelbult complex.

Located in Limpopo, within the municipality of Thabazimbi, the Amandelbult mine will consist of three main areas. Firstly, the modernisation of the existing mining areas that have started to deliver safety and efficiency. Secondly, the start of the Middelaagte through the opencast operation, and, thirdly, mining studies to shape the future of Middelaagte and Tumela 1 Sub Shaft.

"We are focusing on continuing the roll-out of modernisation cycle elements. We are staggering implementation to manage change and truly embed the modernised mining cycle," outgoing Amplats CEO **Natascha Viljoen** said

during the company's half-year presentation on July 24, covered by *Engineering News & Mining Weekly*.

"This has enabled us to start capturing value through a safer and higher productivity mining cycle and lowering cost. We are finalising the permitting process and expect to start production at Middelaagte with an opencast mine at the end of this year," Viljoen added.

Production will ramp up to a maximum expected rate of between 110 000 t and 180 000 t a month.

Further, three studies are currently under way that will provide optionality for either life extension or growth of the Amandelbult complex.

The objectives of the Amandelbult studies are to find the optimal mining strategy, volume and timing of various new mining areas and applied mining systems that could be both modernised, conventional, mechanised mining and/or hybrid mining opportunities within the portfolio.

The journey Amplats has been undertaking is to try a fully mechanised solution in Tumela 15 East, which has proven valuable in understanding the successes and current limitations of mechanisation for Amandelbult.

"These learnings form part of the studies as we map out our optimal pathway for Amandelbult," said Viljoen.

Depicted on a slide that was displayed during the presentation was an image of the extra-low-profile fleet being trialled, which was shown to be a fraction of the size of conventional mining equipment.

A marked improvement in safety has been seen at Amandelbult, which is a critical success factor for the future of Amandelbult.

The modernisation programme at the mine utilises new technologies to continuously improve safety, mine productivity and simplify operational logistics. This was described as being a positive journey, with focus continuing on the delivery of the programme to enhance the work and to improve operating conditions.

Second-quarter performance within the Amandelbult complex was lowered by continued poor ground conditions at Dishaba and short-term operational challenges at Tumela, with underground rail maintenance stoppages impacted. The redevelopment impacted development buffers at Dishaba



NATASCHA VILJOEN

We are finalising the permitting process

and an additional labour skills mix has been introduced to restore the mining buffers and to provide flexibility to implement the full benefits of cycle mining across the operations.

Half-year capital expenditure (capex) of the JSE-listed Amplats was R8.5-billion, with R4.5-billion on stay-in-business capital and R1-billion on growth capex, the growth capex being predominantly linked to the future of the Mogalakwena mine, where exploration decline work is being undertaken as well as progressing studies associated with the future of Mogalakwena work.

Capital was also spent on the Mototolo/De Brochen life extension project, on which around R3-billion is expected to be spent this year.

Guidance for the year remains unchanged, with between 3.6-million and 4-million PGM ounces, subject to the impact of Eskom load curtailment. Unit cost guidance for 2023 remains between R16 800 and R17 800 per PGM oz and is expected to be at the upper range of guidance. In 2023, total capex is expected to remain within the market guidance of R22-billion.

In terms of market outlook, platinum is expected to remain in deficit over the next few years, as automotive demand gains from ongoing substitution of palladium in gasoline catalysts. Palladium is expected to move into surplus for the opposite reason, though to what extent will depend on what happens to automotive production and battery electric vehicles' share of it. Rhodium will remain in a small surplus, assuming further disposals from the fibreglass industry. ■


To watch a video of Anglo American Platinum CEO Natascha Viljoen's half-year presentation, covered by *Engineering News & Mining Weekly's* Martin Creamer, scan the barcode or visit www.miningweekly.com.



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Banking on Renewables

ArcelorMittal South Africa pins hopes on renewables demand after confirming big loadshedding-induced loss

TERENCE CREAMER | CREAMER MEDIA EDITOR

ArcelorMittal South Africa, which slumped to a R448-million loadshedding-induced loss in the interim period to June 30, expects renewable energy and regional infrastructure projects to stimulate a recovery in sales for the remainder of the year but probably without a commensurate price recovery.

The JSE-listed company shocked the market on July 20, when it revealed in a trading statement that its earnings were poised to contract dramatically from the comparable period of 2022 when it reported a R3-billion profit, which resulted in its shares falling 40% to R2, before recovering slightly.

The poor performance was attributed to intense loadshedding during the period, which CEO **Kobus Verster** said had disrupted the market and its own operations, with Eskom instructing the group to curtail its demand 41 times during the period, up from only four such episodes for the whole of 2022.

More damagingly, however, the group admitted to having underestimated the effect that the intense power cuts would have on curtailing downstream demand, as fabricators pulled back on production shifts, leading to a build-up of steel stocks and a fall in demand – all of which took place in an already soft international steel-price environment.

Speaking during the release of the group's interim results, Verster forecast a recovery in sales for the remainder of the year, making specific reference to demand emerging from both the renewables sector as well as several steel-intensive infrastructure projects in the rest of Southern Africa.

He also revealed that ArcelorMittal South Africa was making preparations to leverage future anticipated renewables growth over the coming ten years, including by using its own 200 MW solar project at Vanderbijlpark to showcase the use of steel in such facilities.

The R3-billion project, which will be jointly owned by the South African company and its international parent, is the first of several renewables projects on ArcelorMittal South Africa's radar. This, as it seeks to

reduce carbon emissions and shore up clean electricity supply ahead of the introduction of a 1.7-million-ton-a-year electric arc furnace at Vanderbijlpark, which also forms part of its decarbonisation roadmap.

Interim CFO **Gavin Griffiths** reported that the South African group was planning to introduce its parent company's patented high-strength, high-corrosion-resistant Magnelis solution, a metallic coating that enables steel to withstand hostile environments such as those to which solar-plant components are exposed.

"We have an opportunity to really convert our own solar project into a banner project for steel in South Africa," Griffiths reported.

He added that it was also looking to develop downstream partnerships with fabricators able to convert Magnelis into components used in solar farms, such as upper structures, poles and cable trays.

The company was already supplying plate into the domestic wind market, having worked with various original-equipment manufacturers to ensure that its plate grades were specified.

Besides the immediate and emerging renewables opportunities, ArcelorMittal South Africa expected second-half demand to be buoyed by seasonal factors (the third quarter of the calendar year is historically the strongest for steel sales) and a stabilisation of production, which would ensure that product was available in the event of a recovery.

"That's the volume story, if not hope, and then obviously price is the uncertain part," Verster said.

He also reported that, following much soul searching, it had also concluded that there was a future business case for its troubled Newcastle mill, within a revamped long-products strategy.

"We have earmarked areas where we have superior quality and product and we are going to grow these markets.

"And, we think that we can secure, in the next three years, a baseload of a million tons of steel, which would be adequate to cover Newcastle's minimum production." ■

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ENERGY

One-Stop Shop

New platform to ease regulatory, other constraints that renewable energy project developers face

MARLENY ARNOLDI | CREAMER MEDIA SENIOR CONTRIBUTING EDITOR ONLINE

Trade, Industry and Competition Minister **Ebrahim Patel** has launched the Energy One-Stop Shop (EOSS), as well as the Energy Resilience Fund (ERF), as part of efforts to streamline the process of renewable energy project development and to enable more investment. The EOSS is aimed at fast-tracking energy projects, in line with government's broader effort over the last few years to increase the supply of energy available to the grid.

Patel says the platform addresses a key constraint that energy developers face, which is the many regulatory and other approval measures that need to be complied with before a project can be built or operated.

He reiterates his department's commitment to fostering a resilient business environment and accelerating private-sector investment in electricity generation to secure a stable energy future.

"While the Presidency is

exploring ways to simplify these processes, we have seen that having a dedicated resource available to the private sector, to address blockages, has worked in other parts of the economy," he adds.

The EOSS is being rolled out in four phases, the first of which has been completed and comprised personnel appointments, website design, the creation of a registration portal for energy projects and a mapping function showing where projects are in the approvals process.

The personnel have been appointed to unblock or fast-track applications for approval.

Phase 2, which will start in coming months, comprises scoping provincial and municipal processes and building capacity at these government spheres.

The following phase will involve a single electronic application process being put in place, with greater automated feedback.

The last phase entails the full



EBRAHIM PATEL

Having a dedicated resource available to the private sector has worked in other parts of the economy

project being in place, covering both immediate blockages to project approvals, as well as a wider reform programme. Patel highlights that the full time-saving benefits of a simplified approval process will be realised in this phase.

Department of Trade, Industry and Competition (DTIC) Investment South Africa head and deputy director-general **Yunus Hoosen** explains that multiple projects can be registered and tracked on the EOSS platform, with tracking information pertaining to technology type, province and stage of approval, among others.

He adds that the platform allows for quicker query turnaround times, compared with conventional government engagements.

Project developers can register their projects and fast-track approvals at www.energyyoss.gov.za.

Presidency project management office head **Rudi Dicks** says the EOSS lays the foundation for R200-billion worth of projects, totalling more than 10 000 MW, to become fully permitted and operational.

The Presidency has more than 100 energy projects it is procuring that are in various stages of development.

Eskom interim CEO **Calib Cassim** comments that the EOSS will support the Energy Action Plan, which was

launched this time last year, and add to the structural reforms that government has been undertaking to enable a more affordable and sustainable energy system.

Energy Council of South Africa CEO **James Mackay** believes the EOSS will help clarify the rapidly changing policy landscape.

"South Africa is reshaping the regulatory landscape to facilitate the energy transition to distributed, decentralised and traded energy. The EOSS will play a significant role in developing this evolving landscape," he adds.

Patel implores energy developers to use the EOSS facility and provide feedback to the team on both technology and human resources, so that the DTIC can improve the facility and enable more power to homes, factories, mines, offices and indeed all the economic hubs that create jobs in the country.

Patel also launched the ERF, to which the DTIC has contributed an initial R200-million, for the Industrial Development Corporation (IDC) and the National Empowerment Fund (NEF), as partners of the fund, to facilitate localisation.

IDC energy strategic business unit head **Christo Fourie** explains that the IDC has invited energy solution providers to deploy solutions to build and maintain embedded energy systems for small and medium-sized enterprises. ■

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LIFTING EQUIPMENT

Cross-Border Order

Condra supplies overhead crane to Angolan mine

NATASHA ODENDAAL | CREAMER MEDIA SENIOR DEPUTY EDITOR

Crane manufacturer Condra Cranes has manufactured and commissioned an overhead crane for a mine in Angola.

The overhead crane is assisting with the construction, in a project managed by specialist engineering company Consulmet, of a milling plant at the Angolan mine, before it assumes its primary role of mill maintenance.

The overhead crane and gantry, with an effective lifting height of 16 m, was specifically designed to overcome the functionality constraints of portal crane alternatives tendered by rival firms, a Condra spokesperson said in a statement sent to *Engineering News & Mining Weekly*.

“Portal machines would have been limited in operation to this mill only, unable to service units planned for the future because of conveyors interrupting their passage.”

According to Condra, its design has an overhead crane mounted on a gantry with legs situated between the conveyors, allowing uninterrupted crane movement.

The design also enables later gantry extension to service future mills when they are built.

Further, the 28-m-span crane and gantry incorporated a special design to allow for delivery by road, as access routes to the site



SPECIAL DESIGN

The crane was designed in such a way that it overcomes the functional constraints of portal crane alternatives tendered by rival firms

cannot be navigated by conventional tractor and dolly.

Box girders and gantry legs had to be designed to fit within standard 12 m containers.

“Additional gantry height beyond that afforded by the containerised legs was achieved by concrete plinths cast as part of the milling area foundation, and by steel pedestals incorporating the crane’s end-carriages fastened below the crane girders,” the spokesperson concluded. ■

DIAMONDS

First underground production delivered at Venetia mine

DIVERSIFIED miner Anglo American’s diamond mining subsidiary, De Beers Group, has delivered first production from the underground operations at the Venetia mine, in Limpopo, which it built at a cost of \$2.2-billion.

The overall construction of the underground mine is now 70% complete, with construction and production ramp-up to continue over the next few years.

Venetia has long been a leading diamond mine in South Africa; however, it ceased openpit mining operations in December last year, following 30 years of production.

De Beers embarked on the underground expansion in 2012, with the \$2.2-billion project being the biggest single investment in the country’s diamond mining industry in decades.

The highly mechanised underground operation will produce about 4-million

carats a year.

De Beers Group managed operations MD **Moses Madondo** says the investment not only enhances De Beers’ global production for the long term, but also demonstrates the company’s commitment to South Africa, including through bringing profound benefits to the De Beers workforce, host communities and commercial partners.

For example, De Beers built a \$10.5-million training centre in June 2021 as part of its operational-readiness framework to enhance the transformation of people processes and systems for the successful transition from openpit to underground mining.

The underground operations currently employ 4 300 people, with the majority of employees living in the surrounding Musina and Blouberg communities. ■

MARLENY ARNOLDI
SENIOR CONTRIBUTING EDITOR ONLINE

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ELECTRICITY

Off-Grid Power

Eskom launches Swartkopdam microgrid in Northern Cape

DARREN PARKER | CREAMER MEDIA CONTRIBUTING EDITOR ONLINE

State-owned Eskom's distribution business has launched another microgrid, this time at Swartkopdam, about 150 km from Upington, in the Northern Cape.

Microgrids are capable of electrifying geographically challenging areas that are either difficult to access or that would require extensive capital expenditure.

The microgrid technology at Swartkopdam will provide electricity access to 39 households. The electricity networks in the area are constrained and cannot feasibly be extended and connected to the area.

The installation of the microgrid at Swartkopdam follows

the successful installation of two pilot microgrid projects at Lynedoch, in the Western Cape, and Ficksburg, in the Free State.

Swartkopdam was identified by Eskom Distribution as one of the high-priority areas in need of electricity supply, owing to the remoteness of the area, which also has critical facilities embedded in the grid.

The microgrid, with battery energy storage capability developed by Eskom Research, Testing and Development (RT&D), was considered the most suitable solution to provide electricity for the area.

A conventional solution considered was to connect Swartkopdam

by building a 200 km 132 kV transmission line from the Gordonia substation and establishing a substation at Noenieput, which was estimated to cost R250-million. This option was found to be too expensive and was, therefore, not pursued.

"The deployment of the microgrid at Swartkopdam serves as a proof of concept in installing microgrids in remote areas which are difficult to reach or expensive to electrify through the conventional means of electrification.

"Eskom plans to roll out about 100 microgrids across the country by the end March 2024 as part of the distribution business strategy. We will continue to close the gap of energy poverty by giving

everyone a life-changing experience of having electricity," Eskom Distribution group executive **Monde Bala** says.

Apart from the microgrids being cheaper to install in remote areas, they also contribute to reducing carbon emissions because they use renewable energy sources.

"Through innovation and collaborative partnerships, Eskom is able to provide clean and reliable electricity to the people of Swartkopdam," Eskom chairperson **Mpho Makwana** says.

In addition to the installation of the microgrid, Eskom donated two mobile containers and recreational equipment to Swartkopdam Primary School. 

ENERGY

Western Cape to develop low-carbon energy system

WESTERN CAPE Premier **Alan Winde** has highlighted that his administration has assigned R7-billion, over the next three years, to create an "ecosystem" that will facilitate private-sector investment in renewable electricity generation capacity in the province.

He was addressing the inaugural Wesgro Business Outlook conference in Cape Town late last month. Wesgro is the Western Cape's trade, investment and tourism promotion agency.


The Western Cape's energy demand currently totalled 4 000 MW. The provincial government was targeting the creation of new generating capacity totalling 5 700 MW. This was to allow for, and power, economic growth.

"Never waste a crisis! We are definitely not wasting this crisis!" asserted Winde. "The massive opportunity we've got is the carbon footprint we have here . . . is going to change drastically. This crisis is going to be used to the absolute maximum."

A key aim of the provincial

energy initiative was to reduce its carbon footprint (which would also reduce the country's carbon footprint). This would protect its exports from the danger of other countries imposing constraints, based on South Africa's use of greenhouse-gas-creating coal-generated electricity.

Winde reaffirmed his concern about turbine maintenance delays at the Koeberg nuclear power plant, the only major power plant in the province. Should both of Koeberg's generating turbine systems be offline at the same time, it would have serious consequences for the province, as all the country's other baseload electricity generating plants were situated in the north of the country. (There are issues with Koeberg's reactors.)

"Hindsight is the perfect science," he noted, before confessing that, looking back, he now thought there were things, regarding energy sources for the province, that they should have pressed harder on. 

REBECCA CAMPBELL
SENIOR DEPUTY EDITOR



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ESCALATING THREAT

Better resources, collaboration required to tackle mine security as illegal mining spikes

NADINE JAMES | CREAMER MEDIA SENIOR DEPUTY EDITOR FEATURES



FIRE WITH FIRE

There is an escalation in the number and type of firearms and ammunition seized from illegal miners, including semiautomatic rifles, hand grenades and explosives

Illegal mining has grown in scale and complexity, forcing mine security personnel and law enforcement to adapt as traditional security measures become obsolete.

Additionally, the sophistication of illegal mining syndicates requires an exponential increase in cooperation and collaboration among mines, private security companies, law enforcement, the South Africa Revenue Service (Sars), third-party suppliers and various government departments. It also requires a willingness to commit far more resources to tackling the problem.

During the two-day second yearly Mine Security conference, hosted by events company Pinpoint Stewards in June, Directorate for Priority Crime Investigation (DPCI) North West serious organised crime provincial commander Brigadier **Hennie Flynn** explained that illegal mining is an “escalating global threat”.

He cited a session of the Commission for Crime Prevention and Criminal Justice in Vienna, Austria, in May this year, where several countries emphasised that the “theft and subsequent transnational smuggling of precious metals”, especially gold, is surging.

Representatives from Brazil, Mauritania, Chad, Burkina Faso, Niger, Mali, Ghana, Peru, Sudan, the Democratic Republic of Congo and Paraguay all voiced concerns about the proliferation of illegal mining.

Moreover, he noted that illegal mining activities are closely associated with funding terrorists and extremist groups and other illicit flows. Slave labour, human trafficking, land degradation and deforestation, in addition

to the adverse impact on government and business revenue, and thus the long-term sustainability of mines, are also associated with illegal mining.

Flynn suggested that the current socio-economic context – high levels of unemployment, corruption, complicity within affected communities, as well as poor economic outcomes in many countries – facilitates an environment where illegal mining and illicit economies thrive.

“The most effective way to mitigate the threat is to address all levels within the criminal value chain simultaneously.”

To that end, an issue that has emerged of late is a breakdown in communication between refineries and precious metals producers.

Flynn said that the dearth of early-warning intelligence reports from international refineries had had a detrimental impact on the prevention and detection of, specifically, platinum laundering. He commented that international industry organisations should help reignite the processes through which refineries provide reports to producers.

“This will greatly assist mines in backtracking the platinum’s source of origin and determining the modus operandi used to smuggle it out of Africa. It would also help identify emerging smuggling routes and the national role-players involved in the smuggling and theft of the commodity from South Africa.”

He noted that bulk platinum material is typically smuggled from South Africa to Mozambique, where it is packaged and flown into the Eurozone. Material is also occasionally flown out directly from South Africa, with

Flynn noting that the DPCI had intercepted several “misrepresented” consignments at OR Tambo International Airport in recent months.

In terms of gold, he cited the VAT Scam, in which – as reported by investigative media outfit amaBhungane last year – gold suppliers allegedly illegally smelted Krugerrands and illicit gold into bars and claimed that the bars were made using scrap gold from jewellery. This enabled them to fraudulently claim VAT refunds after the gold was exported.

Flynn pointed out that Sars has implemented controls that have been successful in limiting the effectiveness of this specific scam; however, illicit gold from neighbouring countries still finds its way into South Africa. It is seemingly just accepted that some local refineries are using the veil of the second-hand gold industry to, in essence, legitimise illicit gold, selling it to larger refineries which form part of the ‘legitimate’ global supply chain.

Further, in addition to the theft of precious metals, Flynn noted that there has been a notable increase in the theft of chromite ore.

He cited an investigation into a case where R200-million worth of chrome was stolen and transported to Asia before law enforcement intervened. Various role-players were implicated, including landowners, financiers and third parties such as the earthmoving equipment rental company.

He also reported an escalation in the number and type of firearms and ammunition seized from illegal miners, including semiautomatic rifles, hand grenades and explosives.

He cited an operation where the DPCI, in collaboration with mine security, arrested 87 accused people who were in possession of 11 firearms, including assault rifles, and close to 4 000 rounds of ammunition.

“It shows us the extent of their activities and their capabilities to fight off law enforcement . . . we managed to detain them and, ultimately, they were convicted and sentenced to an effective 696 years on aggravated robbery.”

In a different operation, the DPCI arrested 20 individuals as well as one buyer, recovering 14 AK-47s, two shotguns, seven hunting rifles and close to 6 000 rounds of ammunition.

Another conference presenter, University of Pretoria Department of Social Work and Criminology Professor **Christiaan Bezuidenhout**, noted that it was clear that illegal mining syndicates are extremely well resourced, and that the situation is becoming untenable, especially when considering the crime rate in South Africa in general.

“It’s said that the South African Police Service (SAPS) has 190 000 staff. And to be very conservative, [about] 50 000 are just civilians: mechanics, receptionists and so on.”

When considering administrative staff, absenteeism, and corruption, Bezuidenhout estimated that, at any given time, there are roughly “60 000 police officers meant to police a population of roughly 60-million”, which works out to a ratio of 1:1 000.

The United Nations’ recommended police-to-citizen ratio is 1: 220.

Africa Check, in April, stated that, based on SAPS’s 2021/22 annual report and Statistics South Africa’s midyear population estimates, there is one police officer for every 424 people (1:424). However, unlike Bezuidenhout, it did not attempt to account for absenteeism or corruption.

Nevertheless, it is evident that SAPS is understaffed and, therefore, limited in the extent to which it can assist mine security in combating illegal mining.

Procurement Mafia, Copper Syndicates

Anglo American security GM **Wayne Hackart** noted in his presentation that, aside from the more conventional theft of ore by illegal miners, the other pressing threat is the procurement mafia.

He commented that, over the last five years, the procurement mafia has perfected the manipulation of corporate responsibility and enterprise development initiatives to drive extorted procurement programmes.

He cited the “blur” between social economic hardship and the procurement mafia, commenting that, “in giving in to the procurement mafia, we are not adding value to the economy, or to communities – we’re just making one person rich for doing nothing”.

Hackart suggested that, if left unaddressed, the procurement mafia is “going to become one of the single biggest threats to operations; one of the biggest drivers of conflict between businesses and local communities”.

He proposed that companies re-examine procurement strategies and policies to try to reduce the number of loopholes that can be exploited. He also suggested that mine security re-evaluate their strategies to attempt to address the procurement mafia, rather than “passing it off as a procurement issue”.

“We need to work on integration . . . in terms of our function as security. How are we roping in the supply chain, finance controls, procurement policies, social performance, and where is the integration of . . . synergies to start meaningfully addressing more complex loss-prevention areas?”

Another operational and security threat, the theft of copper cables, has moved from disparate “hand-to-mouth” operations to “extremely well-organised, well-structured, financed, dangerous, multimillion-rand syndicates”.

Sibanye-Stillwater South African platinum group metal operations protection services senior manager **Marthinus Taljaard** noted that these syndicates tend to target the mine outcrop to gain access to underground operations.

His presentation outlined that, in his experience, there is significant collusion between syndicates, mine security and production personnel, as syndicates have knowledge of underground operations and many of the suspects are apprehended while in possession of mine security radios.

Taljaard noted that Sibanye’s five-pillar security approach has a keen focus on understanding the syndicates, which they have established through investigation and interviews with accused people.

Generally, copper syndicate leaders would fund the operations and have access to scrap metal dealers. They also have recruiters, incline diggers, workers who collect the stolen copper, and team leaders, who act as “the syndicate leader’s right hand” underground.

The teams are coordinated and equipped with two-way radios and homemade explosives. Moreover, in some instances, the syndicates’ access holes can be spread across a distance of up to 50 km.

“Underground, a base is established with groups of between 20 and 40 individuals. And across a mine operation there can be a total of 10 to 15 groups underground at any given point in time. The base is usually established in nonproduction areas.”

What typically happens is that the sub-station will be targeted and stripped, with the theft generally occurring in the evening over the weekend.

Taljaard noted that the mine has analysed information on previous breaches to help predict where to deploy security staff and how to disrupt the criminal activities.

Further, the mine is collaborating with SAPS and the Department of Mineral Resources and Energy (DMRE) to implode certain sections of the outcrop. “So, instead of tackling this one hole at a time, we’re actually looking at . . . doing controlled blasts to collapse the hole system within a specific area.”

Both he and Hackart stressed the importance of public–private partnerships in tackling mine-related threats, as well as the need for increased collaboration among private security companies, mining houses and law enforcement.

“From where we’re sitting right now, our current mitigations, in both the public and private spaces, through the sheer lack of collaboration, are simply inefficient. We’re not winning this fight,” said Hackart.

Areas for Improvement

In addition to the suggestion that multidisciplinary private–public teams be established to improve overall cooperation, collaboration, and intelligence gathering, there were numerous suggestions to improve the current approach to illegal mining.

Hackart and Bezuidenhout suggested increased uptake of artificial intelligence and increased digitalisation to improve monitoring and predictive capabilities and to aid intelligence and evidence gathering.

Flynn, meanwhile, suggested that an international legal framework for precious metals be tabled, as many countries do not have legislation to deal with the theft, smuggling and possession of commodities.

Similarly, he suggested that the DMRE introduce legislation to regulate the sale and transport of chromite and chromium, and potentially other minerals as well, as the current pieces of legislation – the Diamonds Act and the Precious Metals Act – focus on uncut diamonds and precious metals, and simply cannot address the “uncontrolled flow of chrome”.

Further, he suggested that there needed to be more inspections at inland and other ports, more roadblocks and truck inspections at provincial as well as international borders, and better enforcement of the Second-Hand Goods Act.

Both Flynn and Taljaard suggested that law enforcement treat illegal mining as the threat that it is, asking that law enforcement use existing legislation, such as the Prevention of Organised Crime Act, to ensure perpetrators are dealt with to the full extent of the law, rather than merely facing less stringent charges, such as trespassing. ■■

INTERNET OF THINGS

Leveraging IoT

IoT can help businesses, households streamline energy consumption – Vodacom Business subsidiary

NATASHA ODENDAAL | CREAMER MEDIA SENIOR DEPUTY EDITOR

While the Internet of Things (IoT) is well known for its capabilities in bridging the physical and digital worlds and improving the running of industry and homes, its capacity for energy optimisation can be impactful for South Africa, says Vodacom Business subsidiary IoT.nxt chief product and marketing officer **Lazo Karapanagiotidis**.

Home and business owners are seeking out smarter ways to use, and save, energy, as persistent loadshedding, which is costing the economy about R899-million each day and significantly weighing on business across the country, has forced South Africans to find alternative energy sources.

IoT technology, however, can offer an effective and streamlined way to optimise energy consumption, saving on vital resources and protecting backup generation systems, with further investment in IoT technology bringing enhanced value to South African businesses.

It can help balance the use of different power sources, including solar, grid and generator power, monitor essential items and assist with energy cost-saving initiatives.

“[Worldwide,] increased adoption of fifth-generation networks is driving the need for faster, decentralised and real-time feedback, particularly for organisations promoting the digitalisation agenda.

“Although energy management is a hot topic across the globe, the critical nature of the energy crisis in South Africa makes

this application especially prevalent,” says Karapanagiotidis.

The already rapidly growing solar energy market is expected to increase by 23.31 terawatt-hour units from 2021 to 2026, with the growth momentum accelerating at a compound annual growth rate of 29.74%.

The use of diesel-powered generators has also increased, offering lower startup costs but higher ongoing expenses, he said, pointing out that South Africa now has the largest per capita backup generators in Africa, accounting for about 2.1 backup generators per 100 people in 2019.

“While both [solar and diesel-powered generator] solutions are necessary for business to continue as usual, organisations are in desperate need of energy management tools. This is where the value of IoT solutions becomes clear.”

Managing energy consumption involves balancing several sources of energy, which include solar, grid and generator power, to optimise spend and maintain consistent uptime.

“This means turning off nonessential assets, such as air conditioners, when they are not needed and balancing battery power with on-grid energy consumption and diesel to ensure an efficient mix. Rather than manually turning off nonessential assets, IoT technology can do this automatically, or enable users to do this remotely,” Karapanagiotidis highlights.

IoT technology can also help monitor



HIGH-TECH INTERVENTION

Managing energy consumption involves balancing several sources of energy

essential items, such as tracking battery and diesel levels, switching between different sources and alerting to instances when one or the other is running low, ensuring business continuity.

“Having the ability to manage these levels off site is essential, especially for businesses with facilities in remote areas as every minute of over- or underuse has a cost or revenue association.”

Additionally, IoT solutions and insights can help companies ensure that office space is used efficiently, while real-time monitoring of assets in conjunction with planned loadshedding enables smarter remote monitoring of business operations through key alerts and outcomes.

Meanwhile, the increased use of diesel-run generators – as solar and grid power alone is simply not sufficient to run high-demand facilities – has a negative environmental impact, which, in turn, can impact on businesses’ environmental, social and governance agendas and goals.

However, IoT technology, optimising how different power sources are used, can help businesses minimise diesel use. ■

AUTO INDUSTRY

16 of TiAuto’s stores complete Phase 1 solar conversion

SIXTEEN of TiAuto’s retail stores have completed their conversion to solar power, as part of Phase 1 of a project to reduce the group’s dependence on Eskom and to move to renewable energy.

The company notes that Phase 2 “is now well under way”, with the goal of having all TiAuto’s stores running on solar energy within the next three years.

TiAuto is the holding company of automotive fitment centre brands such as Tiger Wheel & Tyre, Tyres & More and Treads Unlimited.

TiAuto describes the initial results of the

move to solar power as “impressive”.

The group has so far produced an annualised 498 MWh of clean energy, reduced carbon dioxide emissions by 295 t, and saved the equivalent of 42 908 litres of oil.

The group’s investment in solar energy, to date, has reached R10-million.

Phase 1 is defined as solar installations on properties and buildings owned by TiAuto Investments, which encompass 18 premises, including a large installation at the group’s head office.

Phase 2 is the balance of retail properties

that are leased from third-party landlords, where TiAuto needs permission to install solar systems, making it a more complex and time-consuming process.

Should TiAuto be able to convince all the landlords to allow it to fund and install solar solutions, it would expand the group’s solar drive to an additional 73 sites, currently equating to roughly R37-million in investment.

“We will be building and opening around 15 new equity stores in the 2024 financial year (July to June), which would bring total Phase 2 capital expenditure to R45-million,” says the company. ■

IRMA VENTER
SENIOR DEPUTY EDITOR

African Rainbow Minerals (ARM)

Tsundzukani Mhlanga – Finance Director

My job entails overall accountability for financial reporting, governance, risk management, information technology and efficient and optimal capital allocation across the African Rainbow Minerals (ARM) Group. I am responsible for building and maintaining relationships with key stakeholders, which include joint venture partners, bankers, internal and external auditors, insurance providers and investors. As an Executive Director of the ARM board, I actively participate in all strategic discussions and decisions at board, board committee and executive committee meetings. I present the Group's financial performance at results presentations and investor roadshows.

ARM is a dynamic company – never a dull moment and no two days are the same. I love that I am constantly challenged by being involved in all areas of the business and being exposed to colleagues who are experts in their fields. Also, the fact that ARM is committed to investing in our operations' host communities, through local economic development and social and labour plans, makes it a company that I am proud to be a part of.

Words of encouragement: No task is too small or insignificant. Do those tasks diligently and with excellence. If you are faithful with the little, you will eventually be entrusted with much. Also, make sure to carve out time to have fun and rest – very important!

Motto: In all your getting, get understanding.



Dr Busisiwe “Busi” Tshabalala – Group Executive: Human Resources

My role involves driving the Group human capital strategy by integrating five strategic pillars i.e. strategic workforce planning, talent management, learning and development, performance enhancement, and IR 4.0, which serves as an overarching pillar.

Through this comprehensive approach, I ensure that our workforce is fully integrated and engaged through various learning and development programmes and human capital interventions. We celebrate both small and significant achievements to foster a culture that values people and embraces diversity.

As the custodian of people management and the entire human resources function, I oversee an integrated human resources data management system that utilises predictive analytics to map and manage our talent. This system helps identify each employee's profile for career advancement, succession planning and individual development.

Working closely with the executive team, I address day-to-day operational challenges and ensure compliance with legislative processes. I also provide regular reports to relevant internal committees, keeping leadership informed on human capital trends and best practices, thereby ensuring our competitiveness and upholding governance to mitigate human capital risks.

To secure top talent, we have established professional partnerships and collaborations with various bodies and education institutions for talent acquisition, sourcing and attraction. Personally, I recognise the significance of learning and development in my own success and achievements. Embracing opportunities to learn and being open to new knowledge and advocating for others

to do the same is invaluable for making a positive impact and reaching personal and professional goals.

Words of encouragement: Maintaining authenticity and embracing our identity as women in the mining industry is crucial. We should never feel the need to conform or change who we are to fit into a predominantly male-dominated environment. Instead, we should be proud of our gender and the unique perspectives and strengths we bring to the table. Embracing our gender and acknowledging the value of our diverse viewpoints can result in more innovative solutions and a richer work environment for everyone involved.

Motto: Be your own authentic self and focus on the bigger picture.



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AUTO INDUSTRY - 1

High-Water Mark

Ford's Silverton plant achieves record daily production volume

IRMA VENTER | CREAMER MEDIA SENIOR DEPUTY EDITOR

Ford South Africa's Silverton assembly plant, in Pretoria, has achieved its highest daily production number yet – 704 vehicles.

Based on three-shift 24-hour production, the plant is capable of producing up to 720 vehicles a day, or 200 000 vehicles a year.

The facility assembles the new Ranger, as well as Volkswagen pick-ups, as part of the global Ford-Volkswagen strategic alliance.

“We started production of the next-gen Ranger in the middle of November last year, and have steadily implemented our scheduled rate of climb as we kicked off with the Ranger double-cab models, and followed this up with the single-cab and super-cab derivatives early this year,” says Ford South Africa operations VP **Ockert Berry**.

“We recently achieved our highest daily production number yet of 704 vehicles. We are delighted with the volumes and, crucially, the exceptional quality of the vehicles coming out of the plant.

“There's been a major improvement in



RAMPING UP

More than 33 500 new Rangers had been produced by the end of June

first-time-through, which is a measure of the quality of production components and processes without having to do any repairs or reworks on the line,” notes Berry.

“This contributes to the efficiency of our vehicle production and is vital to achieving the required volumes, and, ultimately, means the best quality products for our customers.”

A total of 33 841 new Rangers had been produced at Silverton by the end of June, with total domestic Ranger sales sitting at 9 258 vehicles over the same period.

This excludes 1 973 new Ranger Raptors, which are fully imported.

In terms of exports, 24 583 Rangers had been shipped to export markets by the end of June, with the largest destination being Europe, where the bakkie leads its segment.

Vehicles are exported to more than 100 global markets through the roll-on/roll-off terminals at the Durban and Port Elizabeth ports.

Sustainability

“We are stepping up our commitment to reducing our impact on the environment by building a new scrapyards which will allow us to increase the amount of scrap that is sorted on site and recycled,” says Berry.

The new R15-million facility will include undercover areas to protect paper waste from rain, while it will also enable the baling of waste paper for recycling.

Cardboard and plastic waste generated as part of the manufacturing operations are also recycled, while recycling bins are located throughout the plant to promote employee participation in responsible waste management.

The new scrapyards has been designed to allow for future expansion as the site continues to grow and further recycling initiatives are implemented. ■

AUTO INDUSTRY - 2

Mercedes, Super Group unveil blueprint for luxury dealerships

MERCEDES-BENZ South Africa (MBSA) has unveiled the second of its local dealerships to have adopted the German carmaker's new 'luxury' retail brand appearance, launched globally in 2018, and in South Africa the following year.

The first dealership to carry the identity was in Sandton. However, the domestic roll-out of the new identity was halted by Covid-19, but has now again gained momentum.

The Mercedes-Benz Constantiaberg dealership in Cape Town is owned by Super Group, which has invested R40-million in the facility.

The central theme for the new-look dealerships is the feeling of luxury in every consumer interaction and/or every touch point.

It also merges the physical and online channels to create more convenience, such

as through the digitalisation of the entire customer journey when engaging with the dealership.

In addition, the Constantiaberg facility fully caters for the shift towards electric mobility, both in equipment specifications and staff training.

“With the ever-changing consumer landscape, futureproofing our operations to meet the needs of our customers is crucial,” says MBSA co-CEO and Mercedes-Benz Cars executive director **Mark Raine**.

“As a luxury brand, modernising our retail operations is about focusing on our customers' growing needs, with the goal to create a fascinating brand experience at every touch point.

“This dealership serves as a testament to our vision for the future of luxury where convenience, personalised services and

unforgettable experience converge,” stated Raine.

Construction work on the Mercedes-Benz Constantiaberg dealership started in September last year and was completed in June.

The facility occupies an area of about 7 400 m², and forms part of the Blue Route Mall property.

The building structure has been designed to accommodate the future installation of solar energy.

“Our relocation from Claremont to Tokai is a strategic move to further strengthen existing relationships and build new ones,” says Super Group Dealerships CEO **Graeme Watson**.

He says the next step for the group in its relationship with MBSA is to roll out a premium outlet at the V&A Waterfront in the fourth quarter of this year. ■

IRMA VENTER
SENIOR DEPUTY EDITOR

AUTO INDUSTRY

Made in Durban

Toyota SA targets 2024 introduction of hybrid Hilux produced at Prospecton plant

IRMA VENTER | CREAMER MEDIA SENIOR DEPUTY EDITOR

Toyota South Africa Motors (TSAM) has confirmed that it is targeting the introduction of a mild-hybrid Hilux bakkie into the South African market next year.

TSAM says the hybrid version of South Africa's best-selling vehicle will be produced at its Prospecton plant, in Durban, alongside the rest of the Hilux range.

The hybrid Hilux will add to the Corolla Cross hybrid, also assembled at the Durban plant.

The new addition will take the domestic automotive industry's hybrid production to five models by the end of 2024 – the Hilux and Corolla Cross mild hybrids, the Mercedes-Benz C-Class plug-in hybrid (PHEV), and the forthcoming Mercedes-Benz C63 AMG PHEV and the



DEMO MODEL

Toyota in June conducted a demonstration run of the Hilux mild hybrid concept in Kenya

BMW X3 PHEV.

Toyota in June conducted a demonstration

run of the Hilux mild hybrid electric vehicle (MHEV) concept model at Kasarani, Kenya, during the seventh round of the World Rally Championship (WRC).

The concept vehicle was driven by four-time WRC champion and former Toyota world-title winner **Juha Kankkunen** from Finland, with co-driver **Jimmi Gathu**, a local Kenyan media personality and actor.

"I'm 100% sure that this type of car will fit in Africa very well because there are still long-distance drives and it's very difficult to charge electric cars," said Kankkunen following the drive. "You can save fuel, which means less carbon dioxide. Africa is a good market for this kind of car . . . That is the future."

Toyota earlier this year announced that it will take a multi-pathway approach to carbon neutrality, presenting various options that are fit-for-purpose to each region, under the policy of 'leaving no one behind'.

In light of the often unstable electricity supply in Africa, the Japanese carmaker believes that MHEVs are the continent's most viable entry point into the electric vehicle market, as they do not require charging infrastructure,

while also making use of existing refuelling infrastructure. ■

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Metal export restrictions

For many years, I have spent Friday afternoons ‘eagerly’ scrutinising the Government Gazette. I contend that most of the gazettes are published simply for landfill and recycling purposes, as they hardly qualify as favourite reading material. However, I can assure you that, in all my years of scrutinising the gazettes, there has never been a dull moment.

Take the editions of July 25 and July 26 as cases in point. When picking up the two gazettes, I thought for a moment that I was partaking in one of those ‘spot the difference’ games where one has to find a set number of differences between two similar images.

Both gazettes were seven pages long, both were from the Department of Trade, Industry and Competition (DTIC) and both shared the same title: ‘Request for Comments from Interested Parties on the Proposal to Further Restrict the Export of Copper Semi-Finished Products, Temporarily Prohibit the Export of Used or Second-Hand Rails, and Subject Rails to Export Control’.

The only difference, other than the dates, that I could find was the different gazette numbers – R.3703 and R.3706 – which means the closing dates for comment are also different, being August 15 and August 16.

Two product categories are dealt with – copper semfinished products and rails – with the 11-page ‘Implementation Actions on Measures to Restrict and Regulate Trade in Ferrous and Non-Ferrous Metals Waste, Scrap and Semi-Finished Ferrous and Non-Ferrous Metal Products to Limit Damage to Infrastructure and the Economy’, which was published in the Government Gazette of November 30, 2022, providing background information. The policy was formulated by the DTIC after having taken account of research by independent experts,

including those from Trade and Industrial Policy Strategies and Genesis Analytics, as well as comments from State-owned enterprises (SOEs) and the public. The policy identified the export of copper semfinished products as a major avenue for the export of copper waste and scrap and therefore a major avenue that is open for the monetisation of stolen copper.

In the latest proposed amendment of the policy relating to copper semfinished products, the Minister proposed that, to address this persistent problem, the sources of copper which could be used to produce copper semfinished products for export be limited. Until December 15, the International Trade Administration Commission of South Africa (Itac) will only issue export permits for semfinished copper products (unrefined copper, copper anodes for electrolytic refining, refined copper and copper alloys, unwrought copper, master alloys of copper, and copper powders and flakes) after it has determined that the products are manufactured from raw copper ore, copper waste and scrap generated in the ordinary course of business as a by-product of a manufacturing process, or used infrastructure disposed of by SOEs. This limitation will enable Itac to more easily verify the source of the copper used to produce copper semfinished products. Export permits issued prior to the date of publication of the trade policy directive will continue to be valid.



Riaan de Lange

With respect to rails, it is alluded it has come to Itac’s attention that that exporters were exporting ferrous scrap rails (that may consist of stolen infrastructure), including ‘rails’. The exportation of ‘rails’ is not currently subject to Itac’s export control measures, which creates a loophole for the exportation of ferrous rail scrap without any control or regulation. As a consequence, the Minister proposes to prohibit the export of used or second-hand ‘rails’ until December 15; to bring ‘rails’ under Itac’s export permit control; and to direct Itac not to issue export permits for used and second-hand ‘rails’ until December 15, although it may issue export permits for new ‘rails’. After December 15, Itac may issue export permits for new, used and second-hand ‘rails’.

Comments must be submitted by the deadline to the director-general of the DTIC by e-mail on scrapmetalpolicy2023@thedtic.gov.za or hand-delivered to 77 Meintjies Street, Block A, First Floor, Sunnyside, Pretoria, 0002.

● This economic and trade-focused column is prepared by Riaan de Lange – riaan@tariffandtrade.co.za. The views expressed in this column are the author’s personal views

CYBERSECURITY

Cost of data breaches rising, says IBM Security

CYBERSECURITY company IBM Security’s ‘Cost of a Data Breach 2023’ report shows that the average total cost of a data breach for South African organisations increased by 8% over the past three years, reaching R49.45-million this year, which is an all-time high.

The average cost of a data breach has also increased by 73% since the report series started studying South Africa’s data eight years ago.

The average total cost of data breaches per record reached an all-time high at R2 750, which is a 20% increase from

R2 300 in 2021, said IBM South Africa GM and technology leader **Ria Pinto**.

The financial sector experienced the highest average total costs of data breaches at R73.1-million. The industrial sector saw average total costs of data breaches at R71.37-million and the services sector reached R58.78-million.

The bulk of cyber threats were the results of stolen or compromised credentials constituting 14% of the initial attack vectors and phishing scams constituting 14% of the initial attack vectors. Attacks through compromised business emails were second at

12%, and attacks owing to cloud misconfiguration were third at 11%, she highlighted.

Further, detection and escalation costs reached R20.88-million, which is the highest portion of breach costs and indicates a shift towards more complex breach investigations. This was followed by costs associated with lost business at R13.56-million, post-breach responses at R13.29-million and notifying relevant stakeholders at R1.72-million.

Globally, the study also found that 95% of studied organisations, including South African organisations, have experienced more than one breach.

Further, breached organisations were more likely to pass incident costs on to consumers (57%) than to increase security investments (51%).

AFRICA BEAT

Bizarre obesity premium

A couple of weeks back, I disclosed in this column how a nutritionist-designed diet and engaging in physical exercise daily had helped me shed tens of kilos, in the process taming my rampant blood cholesterol to within a healthy range. Sadly, owing to a lack of enlightenment, some still put a premium on obesity, despite its link to noncommunicable diseases, which, we are told, are responsible for about 70% of all deaths globally.

This lack of enlightenment sometimes manifests among the most unlikely groups of people. If a recent study conducted in Uganda is anything to go by, bank officials in that country, who should know better, fall within this category.

The study, conducted by an economics professor from the US-based Brown University, canvassed 230 loan officers at 146 banks and other credit-granting institutions in the Ugandan capital of Kampala about the criteria they use to approve or reject loan applications.

The researcher discovered that, owing to poor information gathering mechanisms, Ugandan loan officers often resort to whatever evidence they can find to help them make critical decisions. This includes ‘wealth signals’ such as the body weight of the potential borrower.

The study methodology entailed the economics professor submitting to the loan officers applications from fictionalised potential borrowers accompanied by photographs that were manipulated so that the borrowers appeared thin or fat. She discovered that the loan officers were more likely to rate the loan applicants as more creditworthy or more financially sound when the obese version of the photograph accompanied the application.

Following publication of the study’s results last month, the researcher told the New York

Times: “The obesity premium is large, equivalent to the effect of a 60% increase in borrower self-reported income in the experiment or an additional asset like ownership of a car.”

But it’s not just the Ugandans who regard obesity as a sign of wealth or a cultural ideal. This is a belief shared by many Africans from across the continent. Research conducted in South Africa and published in the International Journal of Environmental Research and Public Health last October revealed that many of the participants believe that older men with pot bellies are wealthy, that overweight people generally are healthy and that their weight is attributable to their happiness in life.

Moreover, some of the participants – especially those with a level of education that informs them about the benefits of losing weight – stated that being obese was acceptable in their culture, even though they themselves might not embrace this belief.

Obesity has become an increasingly worrisome health risk on the continent, owing in part to the easy availability of cheap, highly processed food with little nutritional value that allows people to satisfy hunger without promoting overall health. A more sedentary lifestyle is also a contributory factor. Experts also finger the rapid pace of urbanisation on the continent, with urban planning in towns and cities not favouring walking or cycling.



Martin Zhuwakinyu

Instead, many of our urban centres are developing along the lines of car-centric American cities where pavements are often an afterthought outside affluent areas.

According to World Health Organisation (WHO) estimates, one in five adults in major African countries will be obese by the end of this year, with the prevalence among children and teenagers being one in ten.

Reflecting on these statistics, WHO Africa director Dr **Matshidiso Moeti** said: “Africa is facing a growing problem of obesity and overweight, and the trends are rising. This is a ticking time bomb. If unchecked, millions of people, including children, risk living shorter lives under the burden of poor health.”

But, as I said in my previous article, it is possible to tackle obesity – and by extension life-shortening noncommunicable diseases – through healthy eating and physical exercise.

● Dr Zhuwakinyu, who holds a PhD in communication (media studies) from the University of South Africa, is Creamer Media senior deputy editor – martinz@engineeringnews.co.za

More than 51% of data breaches studied resulted in data loss across multiple environments, including public cloud, private cloud and on-premises, showing that attackers could compromise multiple environments while avoiding detection.

Data breaches impacting multiple environments also led to higher costs, of R51.49-million on average.

Additionally, organisations across all industries that had a high-level incident response (IR) team saw the average cost of a data breach of R2.96-million and those that had a robust IR plan with regular testing in place saw the average cost of a data breach of R2.92-million, which are lower than those studied with a low level or no use of an IR approach.

“The financial sector is the most targeted. Organisations should look to modernise their perimeter security strategies to enhance protection of their financial data by using zero-trust security solutions, underpinned by artificial intelligence (AI) and automation, to increase their cyber resiliency, manage the risks and comply with strict data privacy policies such as the Protection of Personal Information Act,” she advised.

Further, AI and automation had the biggest impact on speed of breach identification and containment for studied organisations. In South Africa, organisations with extensive use of both AI and automation experienced a data breach lifecycle that was 95 days shorter compared with studied organisations that did not deploy these technol-

ogies, or 190 days using AI and automation versus 285 days without, and only 28% of studied organisations have extensively implemented security AI and automation.

“Organisations in the report that deployed security AI and automation extensively saw, on average, nearly R10.49-million lower data breach costs than organisations that did not deploy these technologies, which is the biggest cost saver identified in the report. Further, with nearly 29% of organisations not yet deploying security AI and automation and 43% using them sparingly, most organisations still have a considerable opportunity to boost detection and response speeds,” Pinto noted. ■

SCHALK BURGER
SENIOR DEPUTY EDITOR

ENERGY MINERALS

Robust Market

Global coal demand, supply set to remain at all-time high in 2023

CAMERON MACKAY | CREAMER MEDIA SENIOR ONLINE WRITER

The International Energy Agency (IEA) expects coal demand to remain at an all-time high this year.

This follows after global coal demand reached an all-time high in 2022, rising above 8.3-billion tonnes, the IEA points out in its 'Coal Market Update' report for July 2023.

"We expect coal demand grew by about 1.5% in the first half of this year to a total of about 4.67-billion tonnes, backed by both an increase of 1% in power generation and 2% in non-power.

"We observed continued increases in China, India and Indonesia, which more than offset declines in the US, the European Union (EU) and Japan," the IEA says.

It points out that the agency expects global coal-fired power generation to decrease in the second half of this year.

"For the whole year, we expect demand from the power sector to be 0.4% lower at about 5.6-billion tonnes. In the non-power sector, we expect growth to continue, reaching 2.79-billion tonnes for the full year."

As a result of this growth, overall global coal demand is expected to remain flat at about 8.39-billion tonnes (+0.4%) this year.

Whether coal demand grows or declines this year will depend on weather conditions



RECORD LEVEL

Coal demand reached an all-time high of 8.3-billion tonnes in 2022

and on the economies of large coal-consuming nations, the IEA adds.

It points out that markets have returned to more recognisable patterns this year following the Covid-19-induced shock in 2020, the strong postpandemic recovery in 2021 and the first truly global energy crisis as a result of Russia's invasion of Ukraine in 2022.

These patterns included declines in coal demand in the US and the EU and continued growth in Asia.

The US and EU declines are driven by the

power sector, with a combination of weak electricity demand and renewable energy expansion. For the US, cheap gas is also weighing on coal demand.

"We estimate that China's coal demand increased by about 5.5% in the first half of this year. This is driven by a comparison effect with the first half of last year when Covid-related lockdowns weighed on the economy, and very low hydro output in the first quarter of this year, which pushed up reliance on coal-fired power generation.

"In the second half of this year, growth is expected to slow slightly, mainly owing to recovering hydropower availability after last year's drought. We expect China's coal demand this year to grow by about 3.5% to 4.68-billion tonnes, with demand from the power sector up 4.5% and demand from non-power uses growing by 2%."

Owing to strong economic growth and coal reliance, India's coal demand grew by about 5.5% in the first half of this year. With growth in the power sector slowing down a bit in the second half, the IEA expects a total increase of 5% for the year, totalling 1.21-billion tonnes.

Indonesia is set to remain the fifth-largest coal consumer this year, as economic perspectives are positive, and the power sector, the smelting sector and other industries are all expected to require more coal.

The IEA, however, adds that, in the US, coal demand is continuing to decline, driven by the power sector.

After contracting by about 24% in the first half of this year, a slower decrease in coal demand is expected in the second half.

"Total coal demand this year is expected to drop to 357-million tonnes. Coal demand

Regarding the area's major gold mining history, Spencer added: "The West Rand has produced over 2 000 tof gold from the numerous deep underground shafts and tunnels. Some mines in this area are over three-and-a-half kilometres deep."

Largely the same internal teams that completed Pan African's previous three quick-return tailings retreatment projects are undertaking the Mogale project, which is once again characterised by fast payback, low costs, big production uplift, long life and high ungeared return.

Loots estimates an all-in sustaining cost of \$1 000/oz and a payback of three to four years.

The proven technology that will be deployed involves low-unit-cost hydro mining with low

GOLD RECOVERY

Mogale gold-from-dumps project takes off on West Rand

THE OFFICIAL sod-turning ceremony for the Mogale Tailings Retreatment project on Gauteng's West Rand took place on Tuesday, July 25.

The R2.5-billion project, near Krugersdorp and Kagiso, received an eyes-on-the-prize send-off from the London- and Johannesburg-listed Africa-focused midtier gold producer.

"Where we stand today, 12 months from today, we'll have a brand-new processing plant," Pan African Resources CEO **Cobus Loots** highlighted as he spoke to *Engineering News & Mining Weekly* on site in a one-on-

one interview.

This is Pan African's fourth large-scale tailings plant in a project that is scheduled to be fully commissioned by December next year.

"With the support of government, the communities surrounding this area and all of you, Pan African has the opportunity of transforming this site into a shining example of what modern mining can be," Pan African chairperson **Keith Spencer** said in his address to attending representatives of government, technical institutions, finance houses, law firms, analysts and media.

is also again on a downward trajectory in the EU and Japan, as well as Korea. In the first half of 2023, coal demand dropped by about 16% in the EU, and for the full year it is expected to decline by about 17% to about 372-million tonnes.

“The decrease is driven by weaker economic prospects, lower gas prices, nuclear recovery and ample power production by renewable resources. In Japan and Korea, these effects are limited, resulting in an expected demand of 179-million tonnes (-1.9%) in Japan and 117-million tonnes (-2.8%) in Korea.”

Coal Supply

The IEA also expects global coal production to grow further this year, after global supplies expanded by 8% last year to a record 8.63-billion tonnes.

This further growth is driven by an expected strong ramp-up of production in China, India and Indonesia in the first six months, offsetting declines in the US and the EU. Russian coal production is estimated to have recovered in the first half of this year.

“In March this year, China reached another monthly record of 417-million tonnes, surpassing the previous record set in December last year. We expect China’s production to increase by 3.3% to 4.63-billion tonnes for the full year 2023.

“In the first half of this year, India’s supply rose by about 10%, reaching a new single-month production record of 107-million tonnes in March, according to India’s Coal Ministry, surpassing 100-million tonnes in a single month for the first time. For the entire year, we expect an increase in coal production to about 989-million tonnes (+7%), close to the Indian government’s one-billion-tonne target.”

The IEA adds that Indonesia’s coal production grew by an estimated 16% to 353-million tonnes in the first six months of this year. Growth is expected to slow down

in the second half, and an increase of about 8%, to about 695-million tonnes for the full year, is expected.

Owing to ongoing demand destruction as a result of wide unavailability of coal power plants after years of poor maintenance and severe infrastructure issues, South Africa’s coal production is expected to decline by about 4.2% to 220-million tonnes this year. In the first half, production is estimated to have decreased by an even faster 10%.

“In the US, coal production turns downward again. Although production is expected to have increased by about 0.8% in the first half of the year, for the full year we forecast a 4.2% drop to 519-million tonnes, compared to a 22% decline in demand. Higher exports and stock building at power plants explain the gap.

“In the first six months of this year, coal production in the US plummeted by an estimated 17%, driven by falling demand from the power sector. In total, we forecast EU production to fall by about 8% to 321-million tonnes.”

The IEA adds that coal production is expected to slightly decrease by 2.9% to 429-million tonnes in 2023, after an estimated 1.4% increase in the first six months. Any forecasts for Russia are difficult under the current wartime circumstances, the IEA stresses.

Australia’s coal production is set to increase by 2%, as weather conditions enable producers to significantly expand production after they had been severely hit by La Niña weather conditions last year. The IEA anticipates coal production to rise to 460-million tonnes.

Coal Trade in 2023

Despite no new large-scale projects coming on line, the IEA adds that high prices last year have left coal miners with stronger balance sheets, providing them with an opportunity to invest in sustaining as well as some

expansive capital expenditure (capex).

This, together with the end of La Niña weather conditions, which hampered production in Australia, has strengthened the coal supply outlook for this year despite coal prices retreating from their highs.

“Stronger coal supply and lower gas prices sent coal prices steeply downward towards the end of last year. The drops attracted price-sensitive buyers such as China and India, although the price declines were partially offset by the depreciation of the Chinese renminbi and the Indian rupee against the dollar. China and India ramped up imports at the beginning of this year, with China even ending its unofficial ban on coal from Australia. Until April, imports from China and India amounted to about 50% of global coal imports, as the two largest coal producers and consumers are also the largest importers.”

The IEA notes that, during the first half of this year, the EU temporarily turned into an exporter of thermal coal owing to ample inventories accumulated during the previous year and reduced coal-fired power generation.

In April this year, EU countries exported close to one-million tonnes. Export destinations included, among others, Morocco, India and China.

The IEA, however, stresses that elevated global demand for thermal coal imports is projected to be predominantly covered by Indonesian exports, expected to rise by 12% to about 525-million tonnes for the full year.

“Similarly, the elevated demand for metallurgical coal is anticipated to be mainly covered by additional exports from Mongolia, more than doubling to well over 40-million tonnes. Total exports of thermal coal are expected to increase to 1.1-billion tonnes (+5.2%), while metallurgical coal exports are forecast to reach 340-million tonnes (+11%) this year, with total coal trade expected to approach the record volumes seen in 2019. ■■

project execution risk at 800 000 t a month through a carbon-in-leach plant, which translates into a roughly 50 000 oz/y boost for a company with a 200 000 oz/y asset portfolio.

Mogale will consume some 10 MW to 20 MW of electricity, which has been allocated from State power utility Eskom at this point. But with significant success in generating renewable energy at its Evander and Barberton operations, the company will be looking to generate solar power for Mogale on site as quickly as it can.

As material from the dumps is processed, the land recovered will be cleaned up and rehabilitated over the 20-year life-of-mine.

Regarding the benefits the mine will bring to the people of Krugersdorp and Kagiso,

Loots said: “We believe the project is going to change this area for the better. Certainly, it will create economic opportunity, employment and uplift the environment.

“The project now enjoys full support of all of our stakeholders, and we will not let them down,” Loots affirmed.

The project’s engineering, procurement, construction management contractor is SGS Bateman. ■■

To watch a video in which Pan African CEO Cobus Loots is interviewed by *Engineering News & Mining Weekly’s* Martin Creamer, scan the barcode or visit www.miningweekly.com



MARTIN CREAMER
PUBLISHING EDITOR



BREAKING GROUND

Department of Mineral Resources and Energy regional manager Siyabonga Vezi (left) and Pan African Resources CEO Cobus Loots at the official sod-turning ceremony

Baker nickel project



Name of the Project

Baker nickel project.

Location

In the heart of Kambalda, in Western Australia.

Project Owner/s

Lunnon Metals.

Project Description

A prefeasibility study (PFS) completed in May 2023 confirmed that the Baker project is a commercially robust high-grade nickel sulphide orebody that will produce a premium nickel concentrate over a life-of-mine of 35 months.

Initial probable ore reserves have been estimated at 612 000 t, averaging 2.86% nickel for 17 500 t of contained nickel.

Nickel contained in concentrate is estimated at 15 970 t.

The PFS leaves significant future upside potential, with a depth of mining of less than 200 m below surface and the deposit remaining open down plunge.

Potential Job Creation

Not stated.

Net Present Value/Internal Rate of Return

The project has an estimated pretax net present value, at an 8% discount rate, of A\$164-million and 324% internal rate of return, with a payback of seven months.

Capital Expenditure

Preproduction capital is estimated at A\$30-million.

Planned Start/End Date

Lunnon has indicated that the results of the PFS will allow for detailed offtake discussions for the project.

Lunnon plans to continue further studies, as it looks to build on its initial ore reserve for the Kambalda nickel project, which comes less than two years since listing and 18 months after the Baker discovery.

Latest Developments

None stated.

Key Contracts, Suppliers and Consultants

None stated.

Contact Details for Project Information

Lunnon Metals, tel +61 8 6424 8848 or email info@lunnonmetals.com.au.

Devon gold project



Name of the Project

Devon gold project (DGP).

Location

South of Laverton, in the north-eastern goldfields of Western Australia.

Project Owner/s

Devon Joint Venture (JV), a collaboration between between Matsa (50%) and Linden Gold Alliance (50%).

Under the terms of the JV, Matsa is free carried on a nonrecourse basis for all costs associated with permitting, financing, development and mining of the Devon pit, with Linden required to meet certain milestones.

Project Description

An updated scoping study completed in

May 2023 has estimated that the project could produce 39 000 oz of gold over 16 months.

The project envisions the development of a traditional openpit operation, with ore processed at the St Barbara-owned Gwalia processing plant, in Leonora.

Potential Job Creation

Not stated.

Net Present Value/Internal Rate of Return

The project has an internal rate of return of 479%. Payback is estimated at nine months.

Capital Expenditure

Capital expenditure is estimated at \$5-million.

Planned Start/End Date

DGP is on track to deliver a definitive feasibility study by August 31, 2023, with proof of funding by September 30, 2023, and a final investment decision expected in late 2023.

Latest Developments

None stated.

Key Contracts, Suppliers and Consultants

None stated.

Contact Details for Project Information

Matsa Resources, tel +61 8 9230 3555 or email reception@matsa.com.au.

Kalgoorlie nickel project Goongarrie Hub



Name of the Project

Kalgoorlie nickel project (KNP) Goongarrie Hub.

Location

City of Kalgoorlie-Boulder, Australia.

Project Owner/s

Ardea Resources.

Project Description

KNP has an ore reserve of 194.1-million tonnes at 0.70% nickel and 0.05% cobalt for 1.36-million tonnes of contained nickel and 99 000 t of contained cobalt.

The July 2023 prefeasibility study envisages the use of conventional low-cost openpit mining methods, with mine optimisation studies projecting production of about 30 000 t/y of nickel and 2 000 t/y of cobalt for more than 40 years.

Potential Job Creation

Not stated.

Net Present Value/Internal Rate of Return

The project generates a pretax net present value, at a 7% discount rate, of A\$7.63-billion and an internal rate of return of 30%, with a payback of 3.1 years.

Capital Expenditure

A\$3.12-billion.

Planned Start/End Date

The project execution phase is tentatively targeted for the third quarter of 2025, allowing for production by early 2028.

Latest Developments

Ardea is progressing with the definitive feasibility study, which is expected to take 12 to 15 months to complete, and is scheduled for the first quarter of 2025.

Key Contracts, Suppliers and Consultants

None stated.

Contact Details for Project Information

Ardea Resources, tel +61 8 6244 5136 or email ardea@ardearesources.com.au.

Limondale battery energy storage system



Name of the Project

Limondale battery energy storage system (BESS).

Location

Balranald, Australia.

Project Owner/s

RWE Renewables Europe & Australia.

Project Description

RWE plans to build a BESS, with a planned installed capacity of 50 MW and 400 MWh, next to RWE's existing 249 MWac Limondale solar farm. The project will take advantage of existing grid infrastructure at the solar farm.

Potential Job Creation

Not stated.

Capital Expenditure

Not stated.

Planned Start/End Date

The project is working towards a final investment decision in the next 12 months.

Latest Developments

None stated.

Key Contracts, Suppliers and Consultants

None stated.

Contact Details for Project Information

RWE Renewables Europe & Australia, tel +49 201 5179-5008 or email communications@rwe.com.

Micro modular reactor project



Name of the Project

Micro modular reactor (MMR) project.

Location

The site of the proposed MMR demonstration reactor is currently a staff parking lot at the Chalk River Laboratories, in Ontario, Canada, which will be repurposed to accommodate the new facility. The site is owned by Atomic Energy of Canada Limited (AECL), and managed by Canadian Nuclear Laboratories (CNL).

Project Owner/s

Global First Power (GFP).

Project Description

The project involves the construction of Canada's first small modular reactor (SMR). GFP is proposing to build and operate a 15 MW thermal (about 5 MW electrical) MMR plant that will serve as a model for future SMR deployments to support remote and industrial applications.

Potential Job Creation

Not stated.

Capital Expenditure

Not stated

Planned Start/End Date

Operations are expected to start in 2027.

Latest Developments

GFP's proposal is subject to regulatory processes and requirements, which are independent of CNL's rigorous review and evaluation process. GFP has submitted an application for a Licence to Prepare Site to the Canadian Nuclear Safety Commission, and an environmental-impact assessment for the project is under way.

Key Contracts, Suppliers and Consultants

Ultra Safe Nuclear Corporation (demonstration reactor technology).

Contact Details for Project Information

GFP, tel +1 800 892 9504.
CNL, email communications@cnl.ca.
AECL, TEL +1 888 220 2465 or
email communications@aecl.ca.

Ammonia production plan

Name of the Project

Ammonia production plant.

Location

Bontang, Indonesia.

Project Owner/s

Copenhagen Atomics, Alfa Laval, Aalborg CSP and Topsoe, and two Indonesian State-owned companies, Pupuk Kaltim and Pertamina New & Renewable Energy.

Project Description

The partners plan to establish an ultralow-emission (pink) ammonia production plant that will combine next-generation electrolysis technology with state-of-the-art nuclear technology.

The proposed project will use ammonia synthesis technology, coupled with next-generation solid oxide electrolyser cells, which makes the production of hydrogen up to 30% more efficient than competing technologies.

The 1 GW electrolyser plant will comprise 25 small modular (thorium) reactors.

The hydrogen will be converted to one-million tons of ultralow-emission ammonia a year.

The plant will avoid the emission of 1.7-million tonnes a year of carbon dioxide, compared with natural gas-based fertiliser production.

Potential Job Creation

Not stated.

Capital Expenditure

Not stated.

Planned Start/End Date

Not stated.

Latest Developments

Not stated.

Key Contracts, Suppliers and Consultants

Not stated.

Contact Details for Project Information

Copenhagen Atomics,

email info@copenhagenatomics.com.

Alfa Laval, tel +46 46 36 65 00.

Aalborg CSP, tel +45 88 16 88 36 or

email info@aalborgcsp.com.

Topsoe, tel +45 4527 2000.

Pupuk Kaltim, tel +62153654900.

Pertamina New & Renewable Energy,

tel +62 21-3815111 ext 2172.

Jugan gold project



Name of the Project

Jugan gold project.

Location

Bau Gold Field corridor, Malaysia.

Project Owner/s

Besra Gold.

Project Description

The project includes the construction of a pilot plant with an initial nominal throughput capacity of 50 t/d, although it could be expanded to 400 t/d. This throughput range will ensure, as far as possible, valid commercial scalability of the processing results, which will be incorporated into the final feasibility study for Jugan.

Potential Job Creation

Not stated.

Net Present Value/Internal Rate of Return

Not stated.

Capital Expenditure

Not stated.

Planned Start/End Date

Not stated.

Latest Developments

Until formal approval is received, Besra is continuing with preliminary activities under the Early Commencement Works approval granted in December 2022.

Key Contracts, Suppliers and Consultants

None stated.

Contact Details for Project Information

Besra Gold, email info@besra.com.

Mannar Island heavy mineral sands project



Name of the Project

Mannar Island heavy mineral sands project.

Location

North-west Sri Lanka.

Project Owner/s

Titanium Sands.

Project Description

Mannar Island is an ilmenite feedstock project, with minor credits from other mineral components. This zone contains 82-million tonnes at 6.03% total heavy minerals (THM) on a lower-grade cutoff of 3% out of the total current mineral resource estimate of 187-million tonnes at 5.36% THM on a 3% THM lower cutoff.

A scoping study published in May 2023 envisages a single dredge continuously mining a 10 km × 1 km wide zone at four-million tonnes a year over 20 years (Stage 1).

Expansion opportunities for a second and, possibly, a third dredge exist to increase production to between 8-million tonnes and 12-million tonnes respectively, and indicate further studies into expanded processing capacities are warranted.

Potential Job Creation

Not stated.

Net Present Value/Internal Rate of Return

The scoping study has an estimated net present value at a 10% discount rate of A\$545-million,

based on the Stage 1 scenario, and an internal rate of return of 52%, with a potential capital payback of within two years.

Capital Expenditure

A\$122-million.

Planned Start/End Date

Construction could start in 2024, subject to regulatory approvals, financing, market conditions and other factors, the project could start operating in 2025.

Latest Developments

None stated.

Key Contracts, Suppliers and Consultants

None stated.

Contact Details for Project Information

Titanium Sands MD Dr James Searle,

tel +61 8 9481 0389 or

email james.searle@titaniumsands.com.au.

Radioisotope-powered satellite programme



Name of the Project

Radioisotope-powered satellite (RPS) programme.

Location

US.

Project Owner/s

Developer of commercial radioisotope power systems Zeno Power.

Project Description

The project aims to develop and build a flight-ready, RPS system-enabled satellite, unlocking new technological capabilities for the US Department of Defence (DoD).

An RPS is a compact device that converts heat from decaying radioisotopes into a constant supply of clean energy. RPSs using Plutonium-238 have long been used on marquee government space missions, such as the National Aeronautics and Space Administration's New Horizons and the recent Mars 2020 mission. The programme will provide a satellite capable of persistent manoeuvrability, flexible orbital profiles and other capabilities that will enable the space force to conduct first-of-a-kind mission types and drive change to operational architectures with future missions and payloads.

Potential Job Creation

Not stated.

Capital Expenditure

\$30-million – \$15-million from the DoD and \$15-million from private investors.

Planned Start/End Date

Zeno hopes to have the satellite operational by 2025.

Latest Developments

None stated.

Key Contracts, Suppliers and Consultants

None stated.

Contact Details for Project Information

Zeno Power, email jonathan@zenopower.com.

COMING UP

- Lepelle Northern Water plans to upgrade the Olifantspoort and Ebenezer bulk water supply scheme, in Limpopo, in three phases of a seven-year period. The project will include the upgrade and refurbishment of the scheme, which will mostly benefit consumers within the Capricorn District municipal area

- Rio Tinto plans to build a seawater desalination plant with an initial nominal capacity of 4 Gℓ/y at its existing iron-ore port operations at Parker Point, in the Pilbara, in Western Australia. The plant will be built on previously reclaimed land and will use reverse osmosis to filter salt and other impurities from ocean water

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Compiled by SABRINA JARDIM

Blending facility boosts capacity

SABRINA JARDIM | CREAMER MEDIA WRITER

CHANGES AFOOT

AGL is finalising and appointing some distributors to represent the ExxonMobil product range

Despite setbacks on account of Covid-19 lockdowns and economic downturns in South Africa, lubricants distributor African Group Lubricants (AGL) has boosted its operational capacity by 500% through the acquisition of the CERA blending facility in Boksburg, in Gauteng.

The acquisition follows a long-term commitment with global market leaders ExxonMobil Lubricants and Quaker Houghton, and has secured future growth opportunities for AGL.

“The long-term commitment from our principals cemented the investment case for the acquisition of the CERA plant,” says AGL MD **Mark Kerwan**.

The facility has enabled AGL to embark on more projects and

has made manufacturing processes more efficient, with the plant being one of ten ExxonMobil globally certified independent blending facilities. The advanced lubricant blending facility is independently owned, ISO 9001:2015- and ISO 14001:2015-certified, and is accredited according to ExxonMobil’s global quality standards, with Kerwan noting that ExxonMobil is “stringent” regarding quality and processes

concerning safety in the blending of their products.

Hence, AGL sales manager **LR Botha** assures that the lubricants produced by AGL meet global industry standards.

“A lot of work was done by AGL to ensure that the blending facility was up to standard to get it ready to embark on local blending of ExxonMobil’s products. Quality and safety are crucial aspects of our operation,” says Kerwan.

The CERA plant has also enabled AGL to increase its product portfolio by manufacturing lubricants locally, which has, in turn, allowed for an increase in employment and workforce numbers.

Kerwan says the company aims to further boost its workforce by 10% in the next year.


In addition to being awarded the rights to manufacture automotive lubricants in South Africa by ExxonMobil, AGL has also been granted local blending rights on certain product ranges for the mining, construction and agricultural sectors, into which the company plans to expand.

Therefore, AGL plans to stimulate local economies by creating employment opportunities and further cementing its position as a “leading player” in the lubricants industry, locally and across Southern Africa.

With a “proven track record”, a growing market share and the capabilities to expand its operations, the company is well positioned to achieve its growth objectives, Kerwan enthuses.

He notes that increased capacity, skills and products position AGL as one of the leading suppliers of premium lubricants, greases and industrial fluids in Southern Africa.

Kerwan says that AGL will expand into new territories in Africa to supply ExxonMobil products into countries such as Mozambique, Botswana and the Democratic Republic of Congo, with Quaker Houghton also looking to expand its reach.

“We are finalising and appointing some distributors in these areas that will represent the ExxonMobil product range, with Quaker Houghton potentially doing the same,” says Kerwan. 

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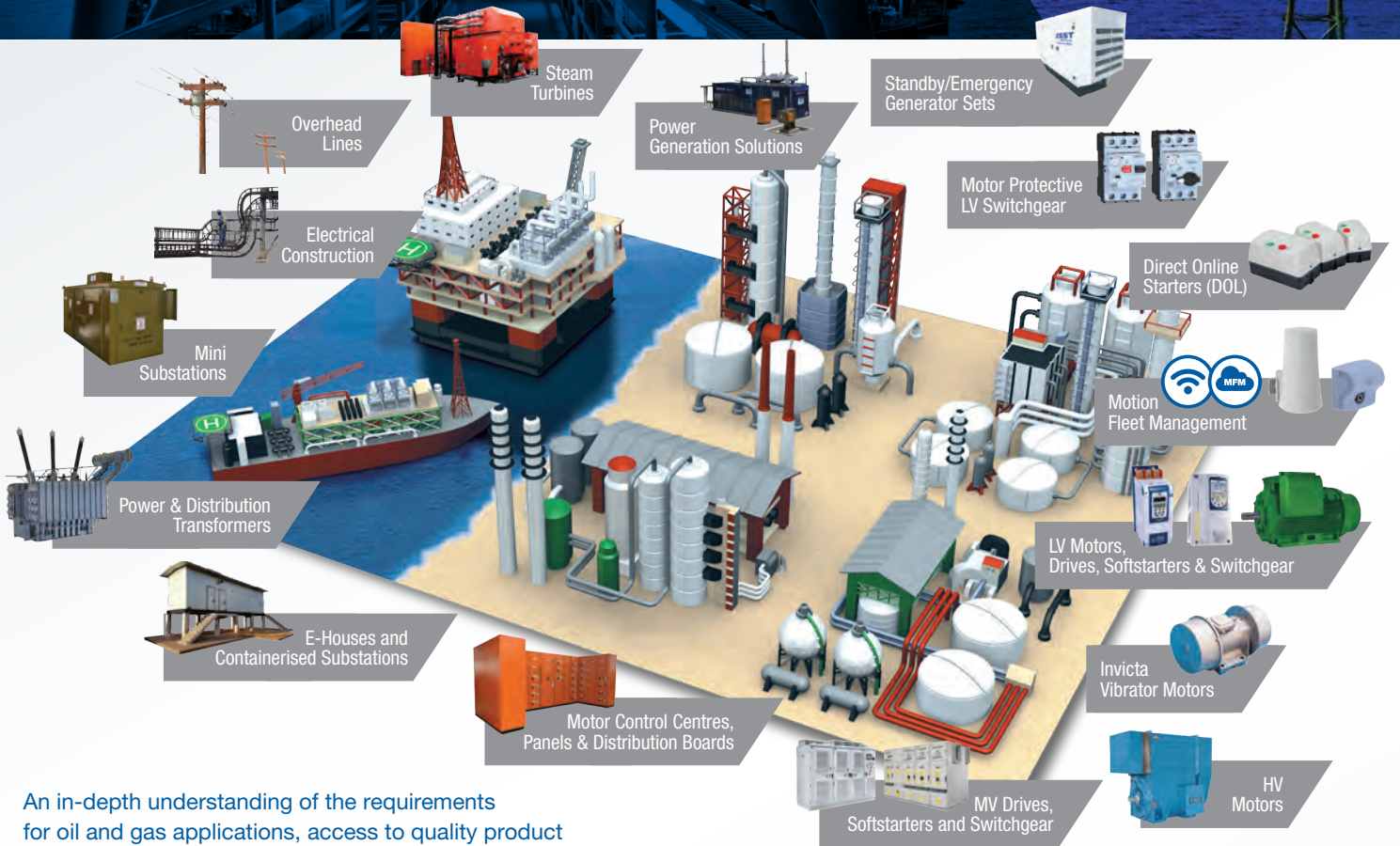
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Fire protection for industry

With many highly flammable substances being processed and the varying risks of fire hazards and explosive potential on chemical and petrochemical plants, fire protection has become a major challenge in the industry, states Mike Feldon, MD of South African fire protection supplier DoseTech Fire, a supplier for German fire-suppression systems developer FireDos.

From a fire protection perspective, three areas at petrochemical plants require special protection, namely the production area, the

tank farm and the material/bulk goods/high-rack storage area.

While traditional fire prevention systems, such as sprinklers,

are often used on older plants, foam has become the preferred system. Hence, FireDos offers its stationary proportioning systems, or proportioners, as a key element for industrial systems.

The operating principle of stationary FireDos proportioners is purely mechanical as they are driven solely by the flow of extinguishing water tanks.

“Operators worldwide rely on our purely mechanical equipment – which is independent of electricity and emergency power supply – if it is about precise and reliable foam agent proportioning into the extinguishing water,” the company notes.

The proportioner comprises a proportioning pump and a water motor. When the extinguishing water pump is switched on, the water flows through the water motor of the proportioner, prompting it to rotate. This way, the water motor drives the proportioning pump.

All foam agent types can be mixed and a constant proportioning rate across a wide operating range guarantees automatic adaptation to variable firefighting scenarios.

The cost-effective and eco-friendly proportioning rate testing method works completely without producing foam or premix.

The proportioners are suitable for high-viscosity foam agents for water flow rates of between 70 l/min to 25 000 l/min and for proportioning rates of 0.5%, 1%, 3%, 3+3% and 6%.

Further, FireDos proportioners can deliver premix over large distances with high flow rates, owing to its “low-pressure loss”, which refers to the fact that only a small portion of the pressure in the extinguishing water line is consumed as an energy source.

The water flow rate through the water motor is controlled through the valves to the sprinklers or the fire monitor.

The volumetric flowmeter shows the current water flow rate passing through the motor. The proportioning pump sucks in the foam agent, doses it and injects it into the extinguishing water pipework.

Additionally, the proportioners

are efficient and offer significant cost savings over other systems.

FireDos proportioners also deliver high-viscosity foam agents and allow testing without generating foam or premix. FireDos also offers its Fire Trailers for effective firefighting. Factory fire brigades at petrochemical plants increasingly use mobile extinguishing units, such as fire trailers that are versatile and flexible in application, as backup to fixed systems. Fire trailers are designed for rapid deployment and are simple to operate.

25 000

The maximum flow rate, in litres per minute, that the proportioners can accommodate


Equipped with a proportioner, a monitor or a combination of both, fire trailers help to reduce the demand for personnel in a risk area. Proportioners are installed in fire extinguishing systems or available as portable systems for firefighting.

Long-Life, Maximum Reach

In petrochemical production areas, fixed monitors or deluge systems are used. Monitors can be more cost-effective, owing to pipework being minimised. A monitor’s nozzle is decisive in the success of extinguishing regardless of wind conditions.

Owing to the flow-optimised oval flat design of the FireDos monitors, pressure loss through the monitor is minimal, allowing the monitors to achieve the greatest reach.

In addition, FireDos monitors are manufactured in seawater-resistant materials and can be used as ATEX, or atmosphere explosive, versions in areas with explosion risks. In high-risk areas, integrating the monitors into automated fire extinguishing systems is recommended, and all FireDos monitors can be manually operated or using remote control.

DoseTech Fire is the exclusive local supplier of FireDos products. 

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Fuel type key to success

SABRINA JARDIM | CREAMER MEDIA WRITER

Amid ongoing power outages and energy constraints, new approaches to fuel selection and efficiency among chemical plants have become necessary, says boiler and energy plant operations and maintenance service provider Associated Energy Services (AES) commercial director Dennis Williams.

Any opportunity to manage the efficient generation and supply of energy carriers, such as steam or thermal oil, presents an opportunity to improve efficiencies in a chemical plant's main production process, as chemical plants are energy intensive.

He adds that existing facilities have often been established around plant and equipment, which have either been adjusted, updated or morphed from an original plant.

Owing to time or cost constraints, the evolution of energy use has not facilitated an overall review of energy stream integration and best practice.

While South Africa's large thermal energy users have traditionally relied on coal or heavy residual fuels, owing to cost and availability, Williams advises that there is an opportunity to optimise these systems and enable them to reduce carbon intensity and improve efficiency.

Hence, AES facilitates the application of plant management methodologies and oversight to create benefits for clients.

"Optimising the plant and providing efficiently generated thermal energy allows for process plant improvement opportunities, particularly in terms of the stable thermal energy quality afforded and the reliability of energy supply from AES.

"Availability of plant and reliability of thermal energy supply can be achieved only with significant focus and expertise. This is what AES does and guarantees under its service level agreements

(SLA)," says Williams.

AES's operating, design and technology experience in providing alternative energy solutions for chemical plant clients includes emission optimisation, fuel switching and novel thermal energy plant configurations to streamline and update thermal energy plants.

"The overall strategic objectives that a client wishes to address are the main criteria when it comes to defining an approach. AES can tailor project and operational solutions to best support these objectives by providing workable and deliverable outcomes with performance guarantees."

What to Consider

Williams posits that the client's strategic goals and objectives for the plant must be considered when selecting the fuel type.

As a result, AES assesses various technology solutions, fuel options and plant configurations.

"Once a review has established the most suitable options, we can really leverage the maximum benefits from the plant configuration and operational approach to maximise efficiency of the system," he says.

Williams assures that having AES as an expert ensures cost and availability deliverables.

The company has achieved ISO 9001, 14001 and 45001 certification.

"AES is, therefore, able to focus on the plant in a way that most clients would simply not have the time or skills to do," he enthuses.

Williams warns, however, that incorrect fuel selection poses

three potential risks: supply interruption, cost management, and incompatibility between the energy plant and a particular fuel.

Hence, various factors need to be considered when selecting the appropriate fuel type.

Firstly, clients need to establish pricing mechanisms and have suitably defined and appropriate pricing adjustment mechanisms included in their supply contract.

In this way, companies can reduce the risk of dealing with issues pertaining to the potential development of a monopoly of fuel supply, owing to uncontrolled price adjustments, Williams says.

Clients are encouraged to ensure a continual supply guarantee by having access to alternative energy sources and fuel types to avoid supply constraints.

Lastly, technological solutions must be suited to the relevant fuel type, with Williams warning that incorrect fuel specification definition upfront can lead to efficiency and reliability issues, as well as complete plant failure, in a worst case scenario.


Hence, the fuel must be carefully analysed and the plant must be selected or modified to match the typical plant specifications and any expected variances which may occur during plant operations.

Williams states that AES's business model focuses on energy operations and supply, as well as the energy plant, including steam and power projects, and aims to mitigate risk and provide the desired client outcomes.

"We provide a full-circle opportunity for a project specified and executed by AES, with performance guarantees to be taken over for operation by AES, with the associated efficiency and performance-related guarantees built into the operational SLA."

Williams says this is a significant benefit over a standard project execution, where the contractor leaves site post project completion, and it is left to the client to achieve the ongoing plant performance promised by the project entity. **EN**

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Additives offer substantial cost savings

Industrial equipment supplier BMG has teamed up with global leaders in additives, motor, transmissions and hydraulic oils Liqui Moly to offer cost-saving solutions to the local generator market.

As South Africa continues to face the exasperating challenges of daily loadshedding and unplanned power outages, many companies are investing in alternative sources of power supply to maintain operations.

“Although emergency power generators are a popular choice to keep businesses running, the costs associated with running and maintaining these systems are often overlooked,” states BMG agricultural, automotive and lubrication division business development manager **Carlo Beukes**.

He adds that generators often operate at low efficiency rates, resulting in “exorbitant” diesel consumption and a significant erosion of company profitability.

There are many reasons generators have a high oil consumption at times, he notes, including the use of incorrect or poor quality oil, which causes deposits to form on the piston and oil scraper rings that then seize.

This means the crankcase chamber can no longer be sealed against the combustion chamber and as a result, fuel contaminates the oil that enters the combustion chamber, where it is also burned.

Liqui Moly lubricants and additives, which have been specially developed to reduce wear and extend maintenance intervals, ensure generators function perfectly and remain operational at all times.

The additional use of additives makes fuels more stable and more ignitable, achieving greater efficiency, particularly with lower fuel quality. In addition, the use of additives reduces pollutant emissions and fuel consumption.

Additives in the fuel can also improve the cetane number, clean the system and keep it clean. This means that less fuel is needed and there are fewer defective parts.

As a result, there is less generator downtime. Liqui Moly additives also protect the entire fuel system from corrosion.

BMG and Liqui Moly specialists have collaborated to offer the local generator market a dependable solution that yields major savings in generator running costs.

The costs of diesel and maintenance for generators can amount to up to five times more than the cost of electricity from State-owned power utility Eskom.

For example, an average-sized generator can consume up to 60 ℓ of diesel an hour. Considering that loadshedding cycles sometimes last for up to four hours and occur three times a day, a single generator can easily consume 720 ℓ of diesel a day.

“Over the past three months, we have conducted accurate tests on site at BMG World in Johannesburg.

Results show a reduction in diesel consumption, ranging between 11% and 18% across the five generators used in the trial. When you consider the high daily volume of diesel consumed, these cost savings quickly accumulate. And by reducing diesel costs, a company’s earnings are boosted significantly,” says Beukes.

Benefits

Liqui Moly’s Super Diesel Additive – which has been specially formulated for modern engines, fuels and demanding running conditions – contains a mixture of agents with cleaning, dispersing, material-protection and cetane-number increasing properties.

According to the BMG and Liqui Moly team, Super Diesel Additive has many benefits, including optimising engine performance, reducing fuel consumption, and increasing the lubricating properties of the fuel.

Super Diesel Additive, which offers high wear resistance and corrosion protection, has also been formulated to boost the cetane number and to clean the entire injection system, by preventing the build-up of deposits and maintaining clean injection nozzles.

A clean combustion is important because it protects the diesel particulate filter and prevents premature clogging. The Super Diesel Additive also improves cold-start properties, reduces injector failures, ensures smooth operation and reduces the risk of engine failures from oil dilution.

The injection pumps and injectors in ‘state-of-the-art’ engines, with high system pressures and tight-fitting tolerances, are lubricated only by diesel fuel and sulphur-free or contaminated diesel fuels cannot always ensure the required lubrication.

The effective combination of lubrication improves in Super Diesel Additive optimises lubricating characteristics of the fuel,

protecting the sensitive components in the fuel system.

Owing to greater ignition performance, the fuel shows improved combustion behaviour when the engine is cold and pollution from odours in the exhaust are significantly reduced.

Super Diesel Additive contains ingredients to increase the cetane number, facilitating combustion of the fuel and ensuring easy starting, smooth engine operation, better acceleration response and improved fuel economy. Low cetane numbers make it difficult to start the engine and reduce fuel economy.

During operation with standard fuels, deposits that form on the injectors have a negative effect on the function of the injector needle, leading to decreased fuel economy, oil dilution and increased contamination in the entire engine, as well as higher emissions.

Regular use of Super Diesel Additive dissolves existing deposits and prevents new deposits from forming.

The additive forms a molecular protective coating on the metallic surfaces in the injection system, to effectively prevent corrosion damage.

Results

These tests at BMG World also included the use of Liqui Moly Cera Tec, where the recommended 6% ratio of Cera Tec was added to the oil.


The immediate results were carefully documented, and analysts observed significant benefits in engine performance – the most important of which was a notable decrease in the operating temperature, by about 7 °C.

In addition, the Scania generator alone exhibited a reduction in diesel consumption, resulting in a decrease from 52 ℓ/h to 44.6 ℓ/h. This translates to fuel savings of nearly 16%.

Cera Tec is a microceramic solid lubricant suspension based on hexagonal boron nitride in selected base oils, with exceptional resistance to high temperature and pressure.

The product reduces friction and protects the engine and transmission against wear, thereby extending the service life of assemblies. It also improves reliability of industrial equipment, lowers engine and transmission noise, minimises maintenance requirements and reduces downtime.

Cera Tec is miscible with all industrial oils. It’s inclusion alongside Super Diesel Additive has enabled the provision of a comprehensive overview, with additional information enhancing the benefits and effectiveness of both products.

“The BMG team works closely with key players in diverse sectors to extend the service life of critical systems at every plant,” Beukes concludes. 

COUPON ON PAGE 16 E652140



ENERGYValves' new premises, in Kyalami Business Park, is close to parent company EMVAfrica

ENERGYValves leaves the EMVAfrica fold and finds a new home

EMVAfrica stands as a prominent and trailblazing entity in Southern Africa, proudly holding the distinction of being a leading ISO 9001:2015 accredited supplier of world-class quality industrial stainless steel, special alloys and valves.

ENERGYValves, one of the organisation's three divisions together with ENERGYMetals and Multi Alloys, has seen excellent growth over the past few years. This subsequently led to ENERGYValves relocating to its very own facility in May 2023 to accommodate increased stock holding as well as resources.

EMVAfrica has 30 years of industry experience, a well-established supply chain and a wide network of reliable suppliers, earning customers' trust. With the advantage of tapping into this vast pool of knowledge and expertise, and continued support from EMVAfrica, the ENERGYValves brand can stand on its own and

continue to provide quality products and excellent customer service.

"Our new facility provides improved access to infrastructure, transportation networks and utilities, enhancing operational efficiency," says ENERGYValves Valves Business Unit Manager **Anesh Prithilall**.

"This investment also enables the company to adopt modern technologies and equipment, with increased productivity and competitiveness as a result. Our much larger valve stock holding capabilities give us market flexibility while the additional space enables us to greatly diversify our valve product holding. The provision of a wider variety of valves will give us the ability to handle large valve enquiries for different valve types, materials and pressure ratings, opening up more avenues of supply to a broader base of potential customers."

In addition to a complete range of top-quality globe, ball, gate, butterfly, check, safety relief and diaphragm valves, ENERGYValves' scope of supply also extends to control, pinch, needle, pressure reducing and solenoid units for more specialised applications.

Customers who operate in industries including oil and gas, water and wastewater, mining, power generation, chemical processing, manufacturing and construction, can count on ENERGYValves for their complete valve solutions.

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AGRICULTURAL ENGINEERING, IRRIGATION & PLANT PROPAGATION

Compiled by SIMONE LIEDTKE

Company expands agri presence through Nampo Cape Show

SIMONE LIEDTKE | CREAMER MEDIA SOCIAL MEDIA EDITOR & SENIOR WRITER



EVENT SHOWCASE

BMG will also showcase new products, including Liqui Moly oil kits and additives

Following a successful Nampo 2023 show in Bothaville, in the Free State, in May, industrial machinery manufacturer Bearing Man Group (BMG) will exhibit at the Nampo Cape Show, in Cape Town, in September, for the first time.

“It is an ideal opportunity to connect with our current customers, as well as introducing BMG to potential farmers and the current agricultural business fraternity,” says BMG agricultural, automotive and lubrications business development manager **Carlo Beukes**.

BMG has been approached by several agricultural original-equipment manufacturer (agri-OEM) customers from the Western and Eastern Cape regions, who have shifted their product sourcing with high-volume requirements from international markets to BMG.

“This change enables them to avoid significant capital expenses,” he notes, highlighting that the Western Cape has always been “a strong area” for BMG, which has multiple branches supporting its customer network from the agri-OEM and reseller to the end-user.

The Nampo Cape Show, which attracted

nearly 33 000 visitors last year, will be “the perfect forum to launch new BMG agricultural products to the Cape region”, says Beukes.

The BMG site, located outside at Stand 90, will display the company’s recently upgraded BTC bearing block unit and housing products, which are manufactured exclusively for BMG to stringent quality and safety specifications.

“Originally, the BTC range was developed for light to medium rotating-equipment applications, including packhouses and small conveyors in general industry and the agriculture sector. However, with important upgrades, these robust BTC bearings and components are also perfectly suited to heavy-duty applications in mining, for example crushers and overland incline conveyor systems,” he explains.

The latest BTC pillow block’s biodegrada-

ble packaging excludes any plastic material, resulting in a saving equivalent of about 300 000 plastic bags a year.

BMG will also introduce two new agriculture-specific lubricants at the show – corn head grease and a transmission flow grease – both of which form part of BMG’s BoerSlim/Smart Farming portfolio.

Further, the distinctive range of BoerSlim clothing reflects BMG’s BoerSlim/Smart Farming programme, where the team assists farmers to embrace advancements in agricultural machinery.

Through this initiative, BMG offers sustainable solutions that focus on effective food production, the correct use of suitable equipment for specific tasks and the efficient application of the latest technologies.

“A BoerSlim/Smart Farming product is always a premium product that offers huge benefits in terms of efficiencies, quality of material that ultimately improves product, and

• To page 38

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BUSINESS SOLUTIONS

• From page 36

equipment operational lifetime,” Beukes says.

In addition, BMG will highlight its online shopping platform, which is gaining popularity with farmers as a convenient way of procuring engineering and agricultural products.

“This service is especially important for farmers who are located a great distance from the nearest BMG branch,” Beukes says.

The online shopping platform’s offtake was initially slow, though the company has seen a “huge uptake” from outlying areas.

“Considering that the belief is that farmers are more conservative, the young and upcoming [farming fraternity] is supporting the BMG online facility much more than before. It’s not just a trading portal but also a source of knowledge, as all our technical catalogues are available,” Beukes says, highlighting that the platform is easy and convenient, with almost 90 000 products available to buy.

Working displays at Nampo will include components for agricultural fruit packhouses, such as food-grade conveyor belts, pneumatics and variable-speed drives.

BMG will also showcase new products, including Liqui Moly oil kits and additives, designed specifically for new bakkies, such as the Hilux GD-6, Land Cruiser and Ranger brands.



SMART FARMING


The distinctive range of BoerSlim clothing reflects BMG’s BoerSlim/Smart Farming programme

The Liqui Moly products were specifically selected and designed for the local bakkie market, Beukes comments.

“This is also the only market in the world where Liqui Moly has branded a product according to the local terminology, which is ‘bakkie’. In essence, it’s the same product, just in larger containers to ensure better cost effectiveness and higher product concentration of the additive in the fuel or oil,” Beukes explains.

The oil has also been designed for and approved by the relevant manufacturers.

Also on display at the September event will be the Rat-Ban Silencer Cleaner and ceramic-based Ceratec from Liqui Moly, as well as Cummins individual filters and kits for bakkies and large agricultural implements, including John Deere, Case and New Holland.

BMG’s stand will be manned by a team of specialists throughout the show. 

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Company driving innovation in agricultural sector

SIMONE LIEDTKE | CREAMER MEDIA SOCIAL MEDIA EDITOR & SENIOR WRITER

South Africa's agricultural sector plays a vital role in the country's economy, contributing significantly to employment, food security and export revenue. The industry, therefore, stands to benefit immensely from industrial solutions supplier Bearings International's (BI's) expertise in supplying and servicing "high-quality interconnected consumables", the company says.

It explains that, by enhancing efficiency, supporting precision agriculture and addressing sustainability challenges, "BI can catalyse transformative change within the sector" and, in turn, unlock the full potential of South Africa's agriculture sector.

However, to ensure sustainable

growth and maximise productivity, BI says the industry must embrace innovative solutions and technological advancements, such as the use of advanced bearings and power transmission solutions that can significantly reduce downtime, minimise equipment failure, and maximise



TRANSFORMATIVE TECH

Precision agriculture, which is driven by technology, is transforming the industry

overall operational efficiency.

"By employing BI's products, farmers and agricultural businesses can optimise their machinery and increase output, ultimately driving economic growth," the company says, adding that its product range is "at the forefront of technological advancements catering for the changing needs of mechanical parts

within the agricultural industry".

For example, precision agriculture, which is driven by technology, is transforming the industry.

The integration of precision agriculture techniques also empowers farmers to reduce resource wastage, precisely apply fertilisers and pesticides, and closely monitor crop health, which leads to improved yields



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OPTIMISATION

By employing BI's products, farmers and agricultural businesses can optimise their machinery and increase output

and a diminished environmental impact.

BI notes that the significance of sustainable farming practices to ensuring the long-term viability of the agricultural sector cannot be overstated. In this vein, BI is addressing sustainability challenges by providing ecofriendly bearings solutions, which are specially designed to effectively reduce friction, resulting in minimised energy consumption

and extended machinery life span. Consequently, carbon emissions are lowered, and maintenance costs are reduced.

“By offering world class, quality consumable products, BI aims to limit breakdowns and downtime and offer products such as electric motors, which are known for reducing carbon emissions,” the company says.

Additionally, BI services local farmers through technical



VITAL ROLE

South Africa's agricultural sector plays a vital role in the country's economy, contributing significantly to employment, food security and export revenue

support, equipping them to effectively use modern bearing technologies.

With a vast distribution network, BI's products are easily accessible, even in remote areas, the company says.

With over 40 branches nationwide, BI provides round-the-clock technical expertise, assistance, and maintenance services.

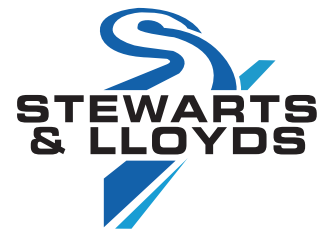
However, meeting the agricultural industry's evolving

needs requires constant innovation and research.

“Through collaboration with global leading manufacturers and original-equipment manufacturers regarding product advancements, we aim to supply improved quality products that adhere to the latest technological specifications, as well as provide a longer life on machines,” the company concludes. 

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FURNACES, KILNS, OVENS & DRYERS

Compiled by BRIDGET LEPERE

Company diversifying its international portfolio

BRIDGET LEPERE | CREAMER MEDIA REPORTER

A RARE SIGHT

Lack of investment is the reason behind the slump in the South African industry, and the resultant lack of capital projects

The Dickinson Group of Companies (DGC) is finalising plans to expand and diversify the product and service offering of its subsidiary, industrial solutions provider DGC Africa, says DGC chairperson Trevor Dickinson.

DGC Africa, based in the Democratic Republic of Congo (DRC), intends to launch fully fledged procurement services to mining clients, in collaboration with a large European company with offices in Asia.

Dickinson notes that DGC Africa is mainly focused on its catalyst handling process services for the management of sulfuric acid

produced during copper operations in copper mines in the DRC.

It has secured several projects, which are currently under way, he adds.

DGC Africa will also focus on maintenance services, with the company providing site-wide services in the DRC and although it will not offer the full range of maintenance

services just yet, it is working towards this goal.

“The one offering we’re paying much attention to is asset integrity management software solutions, in partnership with a tech company. The software and technologies will assist large mining and manufacturing companies in monitoring their assets and allow for . . . better preventive maintenance.”

DGC and its subsidiaries realise that technology can enhance its offering: “. . . we want to provide a fully integrated multidisciplinary

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Companies collaborate on voltage solutions for large EAFs

Global solutions provider Tenova and leading power conversion company GE Power Conversion signed a Cooperation Agreement in June, combining their efforts on target projects that are aimed at offering and implementing innovative power feeding solutions based on medium-voltage power converters, for electric arc furnace (EAF) or submerged arc furnace (SAF) technologies.

Tenova and GE's collaboration was formed to jointly design and market tailored medium-voltage power feeding systems for EAFs and SAFs, allowing the effective use of high electric power even on constrained grids, while reducing both operating costs and the environmental impact of new and pre-existing furnaces.

It was formed in response to steelmakers increasingly exploring technological solutions to transform their existing ironmaking lines and reduce their carbon footprint.

GE has developed Direct Feed, an advanced power supply solution dedicated to EAFs.

The Direct Feed system controls the EAF voltage and arc current accurately at variable frequency. Its digital control system enables a qualitative monitoring of the electrical arc, offering improved process stability, better operating expenditure (opex) and enhanced grid power quality performance.

The innovative alternating current-direct current solution based on scalable patented back-to-back hybrid Modular Multilevel Converter topology, is directly connected to the grid feeding up to 60 kV.

It addresses increasingly challenging constraints imposed by grid, codes which

conventional solutions cannot meet.

This growing demand for very large, highly productive electric furnaces poses substantial challenges to the stability of energy distribution grids, often causing the active power required to meet productivity targets to not reach its users with conventional energy supply schemes.

"It's the union of two companies sharing a common culture of transparency in business and passion for technology, joining forces to meet the ever-increasing expectations of a market in tumultuous development and bring the steelmaking industry one step further towards decarbonisation," comments Tenova Stream Business Unit executive VP **Paolo Argenta**.

"The vast experience of our companies in the respective technical fields, together with the expertise of our end-users allows us to bring to the market an effective, flexible and reliable solution to EAF and SAF operators."

GE CEO **Edgardo Torres** adds that being trusted by an important player in the steel market such as Tenova confirms that the Direct Feed technology is the "right answer" to the growing challenges faced by the industrials.

"We propose an innovative solution to the steelmakers that will not only allow them to increase their performances but also support them on their decarbonisation journey while providing a much better opex." ■

COUPON ON PAGE 16 E652029

service and form strategic partnerships with our clients by helping them monitor their assets," says Dickinson.

Meanwhile, DGC is also in talks with a company looking to leverage the localisation partnership business model to potentially create another franchise in Madagascar.

The company would trade as DGC Madagascar, taking advantage of the DGC's well-known and trusted brand.

The localisation model aims to benefit from local expertise and resources by partnering with well-established and -connected franchisees, with a strong customer base to customise services that meet market needs.

"The target countries we're looking at have large amounts of mining and mineral processing and investments in large asset and manufacturing industries," adds Dickinson.

DGC has also established DGC LATAM as a joint venture with a Brazilian company. The company is targeting large mining and mineral processing countries in the region, such as Brazil and Argentina, to entrench itself in the iron and steel industries.

"We're also looking at other industries, such as cement and glass manufacturing, as well as copper and metal smelting, which are big in Brazil, as well as Chile, Peru and Colombia," he adds.

Shortage of Skills, Development

Dickinson notes that while the availability of skilled people is a global concern, and particularly problematic in the DRC, DGC Africa is in discussions with various institutions and mining companies to establish training facilities.

He points out that DGC's workforce in Zambia mostly comprises locals and that it intends to adopt the same business model in the DRC, prioritising the upliftment and training of local personnel rather than employing expatriates. He does not regard government as a proponent of skills development, as the regulation of work permits limits the access or availability of the appropriate skills, making it difficult for companies to appoint technically competent people.

"I find that outside South Africa it is generally easier, as the business landscape is fairly different. In countries such as Zambia and the DRC, there are a lot more Indian and Chinese companies supplying their skilled people . . . However, the challenge lies in these countries not being able to bring about transformation or enable the upliftment of locals through skills development."

Trends in the Manufacturing Industry

The South African manufacturing industry is experiencing a dip and has been shrinking

progressively, amid less investment in large industrial manufacturing for steel, glass and metals companies, says Dickinson.

This outcome has forced companies to shift their focus to ensure the maintenance of existing facilities to extend their longevity, rather than implementing capital expenditure projects.

In addition, electricity supply challenges are impacting on productivity, placing significant pressure on manufacturing companies in the country, and resulting in businesses exploring growth options outside the country.

The DGC's diverse multidisciplinary approach is what makes the company unique, compared with its predominantly furnace-service-providing counterparts, adding that it aims to provide a more holistic offering, a "one-stop solution shop", for clients.

Artificial intelligence is slowly increasing in the heavy manufacturing industry and the inclusion of technology will proliferate in future, he adds.

"It will help large manufacturing companies improve their efficiency, monitor their production facilities and ensure that they manage their assets better by enabling proper equipment diagnostics," Dickinson concludes. ■

COUPON ON PAGE 16 E652061

Furnace upgrades enhance productivity

BRIDGET LEPERE | CREAMER MEDIA REPORTER

Heat induction specialist firm *Electroheat Induction* recently undertook an induction melting furnace upgrade project at a steel plant located in New Jersey to improve its efficiency, performance, and productivity within a period of six months.

Electroheat Induction used advanced simulations, monitoring and data analytics, to enable precise tuning of the induction coils, optimising energy efficiency and reducing heat loss.

The undertaking encompassed design, procurement, control systems fabrication, and the enabling of accurate temperature regulation as well as commissioning. The installation of advanced heating coils optimised the furnace for lower energy consumption, while the company's technical assistance ensured seamless integration into the client's production process.

Electroheat Induction manager **Charlie Parsana** states that the upgrades "dramatically" reduced the power consumption by 15%, improving the furnace's energy efficiency. He says the steel plant has since reported increased production output and consistent product quality.

Parsana notes: "Lessons learned from this project, such as efficient temperature control and seamless integration with existing infrastructure, will soon be incorporated into future upgrades, reinforcing the company's position as a reliable and innovative solution provider in the induction melting furnace industry."

He points out that the team encountered challenges while adapting the new control system to the existing infrastructure, however, the problem was averted by closely collaborating with the plant's engineers and conducting thorough testing and simulations to identify and address potential issues, ultimately resulting in smooth execution and minimal downtime.

State of Play

The volatile industrial landscape is easily affected by technological advancements, shifts in customer preferences and market disruptions, all impacting on demand for products or services, says Parsana.

He emphasises that economic fluctuations, such as recessions and interest rate hikes, as well as competitiveness and innovation in product and service offerings, the push for

sustainability, geopolitics, natural disasters, and the impact of Covid-19, disrupted economic activities and the supply chain, impacting on industrial activity, and creating demand for industrial equipment and services.

He indicates that the industry might go through significant changes and advancements in line with broader technological trends, such as Industry 4.0., which is fast changing the face of manufacturing through the incorporation of advanced sensors and the adoption of "smart factories" and artificial intelligence.

Technological Advancement

Parsana notes that predictive maintenance, real-time monitoring and control, improved energy efficiency and the industry's commitment to sustainability and environment, social and governance (ESG) compliance are driving the development of eco-friendly technologies.

Parsana says that advancement in electromagnetic simulation and modeling software is transforming the design and optimisation of induction heating processes and enabling engineers to accurately predict heating patterns, temperature distributions and other key parameters before physical trials are conducted, not only saving time and resources but also allowing for the fine-tuning of furnace designs for specific applications.

"Researchers and manufacturers are developing more energy efficient induction heating technologies to reduce energy consumption and these innovations may include better coil designs, improved power electronics and enhanced cooling systems to limit the environmental impact."

The introduction of advanced materials and alloys, such as high-strength steels, super alloys, and lightweight composites to industries such as aerospace and automotive, is further driving the need for advanced induction melting techniques to effectively handle such materials.

Moreover, the increase and prevalence of automation and robotics is reducing human intervention and streamlining materials loading and unloading, while green initiatives,



TAKING THE HEAT

Induction melting produces minimal greenhouse-gas emissions, compared with traditional melting method, lowering a plant's carbon footprint

ESG compliance, the inclusion of renewable-energy resources and the adoption of more sustainable manufacturing practices to minimise waste and conserve resources necessitate technical innovation.

Benefits of Induction Melting

Induction melting has huge environmental benefits in terms of resource consumption as it produces minimal greenhouse-gas emissions, compared with traditional melting method, lowering a plant's carbon footprint, and helping industries align with sustainable practices to combat climate change, says Parsana. Moreso, electromagnetic induction heating furnaces eliminate the need for the combustion processes, resulting in lower emissions of harmful pollutants, such as sulphur dioxide and nitrogen oxides.


"Induction furnaces offer a compelling suite of benefits, making them a sustainable choice for industries aiming to align with ESG principles.

"They also contribute to safer workplaces, prioritising safety by reducing exposure to open flames, and improving operational efficiency," he says.

Additionally, these furnaces produce lower levels of noise pollution, which contributes to a "more pleasant" environment for workers and neighbouring communities.

Their versatility and adaptability allow for diverse applications such as foundries, metalworking and recycling, among others.

While the firm serves various industries, Parsana notes that the automotive sector is the company's most lucrative industry, given its substantial market share, and the automotive sector's potential for growth. The aerospace and defence sectors are next, owing to their specialised demands and constant technological advancements.

Additionally, the global shift towards renewable energy demonstrates that the solar industry offers significant potential for Electroheat Induction's continued success and expansion. 

COUPON ON PAGE 16 E652225

Green steel producer receives clean audit on low emissions

After officially releasing its steel plants' carbon dioxide (CO₂) emissions results, special steel products producer Swiss Steel Holding AG commissioned assurance and risk management provider DNV Business Assurance Germany to perform an independent audit for the 2021 financial year.

DNV carried out onsite audits at 12 of the steel producer's most significant plants across Europe and one in America.

The audit statement stated, among other things, that, based on tests performed at the plants, the evidence obtained showed no indication that the selected information had not been prepared, "in all material respects in accordance with the criteria".

Swiss Steel Group CEO **Frank Koch** commented: "Sustainable steelmaking is in the DNA of Swiss Steel Group; we are strongly committed to decarbonisation and green steel. The audit statement now available from [DNV]

will further enhance our sustainability rating, transparency and credibility as a leader in green steel and will already help the group to meet the new legal reporting requirements in the future."

As Europe's largest steel producer using electric arc furnaces, the Swiss Steel Group performs up to 80% better from a CO₂ emissions perspective than its peers that use blast furnaces, a good starting point for market leadership, but not sufficient for the group's long-term ambitions, says Koch.

The group operations exclusively produce steel from scrap, an important prerequisite




FRANK KOCH

The clean audit on low CO₂ emissions reinforces Swiss Steel Holding as a leader in green steel manufacturing

to produce "green steel" resulting in a tremendous reduction of the CO₂ footprint, in comparison to traditional production of steel based on iron-ore and coke.

The Swiss Steel Group has launched "Green Steel", an offensive for low-CO₂ steel, a decisive factor for customers and the public ensuring that all measures and publicly traceable.

Koch concludes: "Green Steel is, therefore, not just a tool to help reduce the emissions of the entire group [. . .] it is intended to support the customers and partners in reducing their Scope 3 emissions and to encourage them to do more for climate protection." 

COUPON ON PAGE 16 E652225



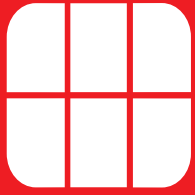
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WOMEN IN MINING

Compiled by HALIMA FROST

Women-centric mine contracting company launched

HALIMA FROST | CREAMER MEDIA WRITER

MARIA MOGANEDI

Moganedi has gone from being one of the first ladies to complete a blasting training certificate in the mining sector to being the CEO of a women-centric mine contracting company



With a clear goal to become a reputable service provider to pre-selected blue chip mining companies, black woman-led and women-centric mine contracting company TseboKgadi has been launched.

TseboKgadi – which means “women with knowledge” in Sotho – has been established by mining advisory company Ukwazi to not only serve current industry needs and requirements, but also drive the representation and advancement of women in the mining sector.

“The inception of TseboKgadi was motivated by Ukwazi’s internal business growth and diversity strategies to tap into the contract mining space and to support small, medium-sized and microenterprises in the communities where it operates,” says senior mining engineer and CEO **Maria Moganedi**.

TseboKgadi has already submitted some tenders for mine rehabilitation and tailings dump re-mining projects.

“We are also in exclusive negotiations with a client to set up a demonstration site for the unique mining equipment that we intend to introduce to the market,” she enthuses. The equipment is suitable for topsoil stripping, sand mining, rehabilitation and closure projects. It is an innovative solution that saves costs and delivers great efficiency, compared with truck or shovel operations.

Moganedi stresses that TseboKgadi is the vehicle through which Ukwazi will play an

impactful and niche role in the contract mining space by introducing alternatives to traditional truck-and-shovel mining methods and drill-and-blast techniques.

The scope of TseboKgadi’s offerings include rehabilitation projects, surface mining, the maintenance of haul roads and stockpiles, and crushing and screening projects, as well as in-pit dewatering.

Startup Challenges

Moganedi says that, similar to a new employee entering the job market, a new company entering a sector faces the question of having enough experience and track record, so the first market opportunity, with the right client, will mean a critical breakthrough.

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Empowering women in the South African mining industry

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International Day of Woman in Mining celebrated

HALIMA FROST | CREAMER MEDIA WRITER

Minerals Council South Africa hosted a breakfast celebrating the International Day of Women in Mining on June 15, at The Country Club Johannesburg in Rosebank, Gauteng, themed *Equity in Mining is Everyone's Responsibility*.

Minerals Council president **Nolitha Fakude**, who opened the breakfast, applauded the progress the sector had already made to ensure gender diversity and equality.

However, she did suggest that reflection was needed on the journey that still lay ahead.

"The mining sector is a historically male-dominated one and to this day we need to continue to push the agenda in an industry that employs 72 000 women out of a workforce of 475 000," she said.

She stressed that education was key to empowerment of women and communities, adding that the mining sector spent more than R5-billion on human resources development in 2022, with a further R1.7-billion paid through the skills development levy.

Additionally, the mining sector is a driver of transformation and social upliftment in the current troubled local economy, where, on average, one-in-three adults cannot find a job.

"We need to come up with actionable, sustainable initiatives that make an impact to ensure we continue #MakingMiningMatter across our communities," she said.

Fakude pointed out that through the South African mining sector's social and labour plans, which underpinned mining rights, the mining sector could be the change it wished to see in the world.

"We have the potential to deliver maximum impact by consolidating our efforts, not only between mining companies, but with labour, communities, nongovernmental organisations, academia, and government structures at local and national levels," said Fakude.

In relation to the academic aspect, she referenced a study by The International Institute for Sustainable Development released in 2022, which found more women and girls were entering, and completing community colleges and technical and vocational education and training college. Additionally, the increase was noted in university studies in technical and science, technology, engineering, and mathematics-based learning streams, with more female applicants than males.

The research, titled "Gendered Analysis of Employment and Skills in the Large-Scale

“The mining industry remains critical to the country's resolve to bring about employment-creating growth”

— ZAMA KHANYILE

Mining Sector in South Africa”, noted that although there were more women and girls entering these streams, the entrance or retention of women in the mining industry was low.

The Way Forward

"For the sake of a more just, equitable and sustainable society, our work must extend beyond our employees and be felt in our host communities, our suppliers and service providers," said Fakude. "Gender equality is a human right and a business imperative," she stressed, adding that "... there are no longer any debates about the need to transform, nor the urgency to implement policies and procedures, that will move the needle significantly towards a fully transformed mining industry".

The event saw financial provider National Empowerment Fund divisional executive: venture capital and corporate finance **Zama Khanyile** address the attendees as the keynote speaker. "The mining industry remains critical to the country's resolve to bring about employment-creating growth," she highlighted.

Khanyile added that she believed the conversation about women in mining should not be limited to one day only, and that these were conversations that women should not have among themselves.

"We need supportive men as our allies to create opportunities in the boardroom, and in business as well," she stressed.

The International Day of Women in Mining event also played host to panel discussions that offered a strategic outlook on the topic of equity being everyone's responsibility, as well as a discussion about achievements, challenges and opportunities in the sector.

Minerals Council South Africa chief economist **Henk Langenhoven** offered a summary of the event as well as some key takeaways for the attendees and participants.

Fakude concluded by saying that equity in mining was everyone's responsibility and it was a responsibility Minerals Council South Africa took seriously. 🇷🇺

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New colliery promotes women's empowerment

HALIMA FROST | CREAMER MEDIA WRITER

Within the first few months of operating, coal miner Canyon Coal's R600-million Gugulethu colliery, in Mpumalanga, has employed 21 women, with the intention of increasing that number going forward, says Gugulethu mine GM Jarmi Steyn.

Canyon Coal is a subsidiary of private investment company Menar.

The women are employed as articulated dump truck operators and site administrators, as well as blasting and mechanical assistants.

Steyn says senior team members include Gugulethu stakeholder relations superintendent **Thobeka Mahlangu**, who comes from the local community and has 12 years of experience in her field, which has been valuable in creating strategic relationships.

Further, Gugulethu environmental officer **Faith Masango** ensures that operations remain compliant with all regulations, and its human resource administrator **Mbali Khumalo** has steered the process of recruiting

competent staff.

Gugulethu has also welcomed a woman engineer to the team, who will be arriving on site before the end of the month.

"We would like to see more women being deployed in leadership positions, working as artisans, engineers and generally taking up available opportunities in the sector," Steyn enthuses.

The development of Gugulethu colliery is progressing well, with first coal expected "any day now", she adds.

Work on the box cut is currently under way, and the first phase of operations is expected to produce 200 000 t of run-of-mine coal a month at full production.

The processing plant for the Gugulethu colliery is also progressing to plan and is scheduled for completion by the end of this year.

"We have changed the configuration of the Hakhano processing plant, sourced from our depleted Hakhano mine, to now also produce up to a 50 mm product for the export market, which allows for more flexibility," says Steyn.

The Hakhano processing plant was initially configured to produce a range of sized products in the form of nuts, peas, duff and spiral.

A new filter press plant will also be installed to process the slurry more efficiently, which will offer a better water reticulation and disposal of slurry option.

During the past six months, contractors have been secured and heavy mobile equipment has arrived on site, in addition to a recruitment drive that is still ongoing.

In terms of attracting women to mining jobs, Steyn says if women saw other women in critical mining positions, their interest in a career in mining would be piqued.

Importantly, women empowerment is a significant part of Gugulethu colliery's ongoing efforts to support community development as a mine.

"In April, we hosted a procurement day

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Advancing Women in Mining

The Minerals Council South Africa has an active Women in Mining initiative to ensure gender diversity and inclusion in a traditionally male-dominated industry. Increasing women's representation and ensuring that the mining sector is a safe environment for women to work, realise their career ideals and thrive is a Minerals Council strategic goal.

The Minerals Council's drive for greater diversity and inclusion in mining, has continued yield positive results over the years. In 1998 the number of women in the mining industry was close to zero. Today the sector employs 72,500 women, representing 15% of the workforce. We continue to promote efforts to achieve diversity, inclusion and transformation, and eliminate GBV in the industry.



The Women in Mining initiative's strategy is guided by seven foundational measures:



Reaffirm zero tolerance for GBV through Stop Abuse campaigns



Develop gender diversity and inclusion policies



Provide a reporting system for gender diversity issues



Initiate unconscious bias training to transform culture



Deploy an ongoing company wide pulse check survey



Build an inclusive physical environment



Supply PPE for women specifically

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We believe in the power of authenticity, which is why, on this Women's Day, join us in honoring the achievements of women worldwide. We celebrate your passion, your dedication, and your unwavering spirit. Let Sisi be your trusted companion as you break barriers, shatter stereotypes, and pave the way for a better future. Each pair is designed with the utmost care, tailored specifically to meet the demands of hardworking women. The authentic Sisi Reese remains a tried and trusted local hero, crafted on our shores to ensure consistent quality, service and a commitment to South African manufacturing.



Women-led event to highlight mining opportunities

HALIMA FROST | CREAMER MEDIA WRITER

This year's second yearly *Women and Leadership in Mining 2023* event – themed *Develop, Unite, Empower* – aims to attract over 200 women in various positions across the mining sector to uplift, empower and celebrate women in the sector.

The event, hosted by conferencing and training specialists Pinpoint Stewards, will be held on August 30 and 31 at the Indaba Hotel, in Fourways, Johannesburg. “We currently have 11 talented speakers, sourced from within South Africa, who will address our attendees over the two-day period, and prove that the leaders of tomorrow are right here,” says Pinpoint Stewards co-owner **Ankia Roux**.

She enthuses that the event has garnered a larger-than-expected amount of interest from mining houses, leading the organisers to book a larger venue to accommodate a larger-than-anticipated attendance.

The event is strategically held in Women's Month to boost the relevance of women and the role they play in the sector.

“Women are currently not well represented in the workforce or in top positions, hence the drive to empower women in the sector through mentorship and open conversation.”

The event was conceptualised to bring women together to develop, unite and empower each other, share conversations, talk business and move towards doubling the amount of women in the mining sector by 2025 as per the Minerals Council of South Africa's proposed stretch targets, adds Roux.

She notes that many mining companies are now taking on the challenge of empowering women more seriously by creating organisational structures and policies to fast-track the appointment of competent women to key posi-

tions. “Some mines have committed to reaching a quota of about 30% women in [their] workforce, not as a ‘tick-the-box’ exercise, but a real effort for change and opportunity.”

In this regard, Roux points out that the number of women working in the mining sector has increased significantly over the years, from about 11 400 in 2002 to 56 691 in 2019.

However, studies undertaken and released in 2021 have shown that women represent a mere 12% of South Africa's total mining labour force of 454 861 people.

Getting the Ball Rolling

In a greater effort to attract women to the mining industry, Roux says such efforts start with educating young women at school level about the options and career paths in the sector.

She suggests that the hosting of career days, and/or distribution of information leaflets in schools by mining companies, would advance awareness, but that such actions are currently not undertaken. In general, youth in schools are left to rely on school career councillors, who do not have a clear understanding of the mining industry and its possibilities.

She adds that, generally, human nature dictates that a person will pursue a vocation that they are familiar with, such as wanting to become a doctor, nurse, dentist, teacher or an architect, among others.

“Mining jobs seem invisible, and unless the opportunities for young women are spelt

out, there will be no major influx of new blood into this sector.”

The youth are not provided with enough information to make an informed and long-term vocational choice, but “mining houses can change that mindset”, she says.

As a young public relations graduate, Roux was employed at South African mining company Richards Bay Minerals (RBM) as an intern and was excited to learn that the world of mining existed, where employees were looked after by a financial giant in a small town.

She was employed in the public relations department of RBM that was, at the time, staffed by 21 professionals, mostly women.

Hard Topic in a Hard Sector

Roux stresses that although *Women and Leadership in Mining* will focus on empowering women in the workforce, it also aims to educate mines and the predominantly male-led industry that sexual and gender-based violence (SGBV) must be taken more seriously.

SGBV is a term that encompasses harmful acts perpetrated against a person's will, based on gender norms and unequal power relationships.

“Many employees, and mostly women, are not aware that telling a dirty joke at work constitutes sexual harassment, and unless women are aware of their rights, they can't fight back.”

Roux adds that the new Code of Good Practice on the Prevention and Elimination of Harassment, came into effect on March 18, 2022. The Code, issued in terms of the Employment Equity Act, replaces the previous Code of Good Practice on Handling Sexual Harassment cases in the Workplace.

Harassment in the workplace, specifically in the mining sector, is rife, she states, adding that, unless behaviours change, the law must be enforced at all levels to curb the issue.

Pinpoint Stewards hosts workshops that specifically address the Code of Good Practice on the Prevention and Elimination of Harassment and employers are legally obliged to align company policies with this code. “Companies must align their company policies and procedures with the new Codes of Good Practice for the benefit of men and women and against being litigated themselves,” she concludes. ■■

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“We need to prove our know-how with every project we execute,” she says.

However, this is where support from Ukwazi, as the parent company, is vital.

In this regard, Moganedi says Ukwazi has an impressive and proven record in the South African mining industry built up since 2004, across different commodities and mining methods, thereby enabling TseboKgadi to

benefit from Ukwazi's experience.

Meanwhile, authentic transformation and meaningful inclusion of women in the mining industry are also not going to be achieved through simply ensuring the meeting of scorecard requirements and enforcement policies, she avers.

“I strongly believe that it will take bold and honest leaders, both men and women, and stakeholders in the industry, to make up

their minds that the structural and economic exclusion of women in the industry stops with them, consequently starting the road to transformation.”

With mining stereotypically perceived as more dangerous for women than other sectors, Moganedi believes that, once the perception is dispelled, more women could look at the sector as an attractive future career option. ■■

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Organisation appoints new board

Internationally recognised nonprofit organisation International Women in Mining (IWIM) last month announced its new governance board and advisory council to support the next wave of strategic development for the organisation.

The new board has been appointed following the stepping down of an executive group which had been in place during a five-year tenure that came to an end over the past 12 months.

In addition, IWIM added an advisory council to ensure wider and more comprehensive geographical representation, intersectionality and subject matter expertise.

The council comprises what IWIM says are diverse and passionate ambassadors from the mining industry, as well as policymakers and consultants.

This combined leadership team will build on an already successful programme of growth for IWIM, which is the only organisation of its kind in the natural resources industry, pursuing gender equity internationally.

Newly appointed board directors and areas of expertise include iron-ore major Kumba Iron

Ore CFO **Bothwell Mazarura**, who will lead the finance department for the board.

The business development for the board will be headed up by multinational mining and metals processing group Sibanye-Stillwater business development VP **Nicola Jackson**.

Diversified miner Rio Tinto general counsel corporate head **Scheherazade Walter** has been appointed to address legal aspects for the IWIM board, and multinational gold miner Endeavour Mining secretariat head **Susanna Freeman** will lead the governance division of the IWIM board.

IWIM founder **Barbara Dischinger** will continue to be part of the board as its MD.

“The search for our new board started [in 2022] as our existing board had supported the creation and delivery of a strategic plan

that saw us make significant impact and grow exponentially,” she says.

Dischinger adds that being able to welcome such an array of incredible industry leaders is a testimony to the work and she is both grateful and delighted that IWIM can now look to the next stage of development, with “many exciting plans in store”.

“I want to wholeheartedly thank **Gillian Davidson**, our outgoing chairperson, as well as the board’s outgoing directors, for their contributions, great insight and expertise,” says Dischinger, adding “... IWIM is stronger because of their participation.”

Davidson says that diversity remains a priority for the mining industry, and for her it has been an honour to serve IWIM. “It is exciting to now see the next phase of growth and impact for the organisation. I wish the new board great success.” The search for the new board was conducted pro bono by specialist global executive search firm Granger Reis.

“The advisory council will be pivotal in supporting IWIM’s strategy, long-term vision, and the execution of its projects to increase our impact,” stresses Dischinger. “Overall, this is an incredibly exciting time for IWIM,” she added.

Founded in 2007, IWIM currently has more than 15 000 followers in more than 120 countries and works with over 20 organisations. ■

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Raksha Naidoo

The Particle Group CEO and Women in Mining South Africa chairperson

Main activity of company: My purpose every day is how to help others become the strongest versions of themselves, and in doing so, deliver growth and success to all stakeholders.

Management style: I believe very strongly in servant leadership, which is something that I work hard to master. I also believe in collaborative cultures and building a team that prioritises people.

Personal best achievement: There have been many proud moments in my 40-odd years. Stepping into my leadership role has been a great triumph, being afforded the opportunity to lead the WIMSA team is hugely rewarding as I can see every day the positive impact we make on our society, as well as seeing my match-making efforts pay off when I see happy people together. Seeing people develop professionally and personally, without doubt gives me a great sense of achievement. When I see people in my team buy their first car or first home or go on an overseas trip for the first time, or helping another human being in whatever capacity - knowing that I was able to play a tiny role in those milestones brings me the greatest joy.

Person you would most like to meet: Right now, I would love to meet either Satya Nadella or Sundar Pichai and listen to their debates on AI and its future in our lives. I am so overwhelmed and slightly terrified by AI, and have so many questions. And with the positions that their organisations play in this space, I would love to pick their brains and understand how they intend to positively impact the world with this technology.

Philosophy of life: I have always maintained that life is all about choices, so I choose happiness. Life is filled with challenges, sorrows and stresses, but it is also filled with immense beauty. So I choose, as best as I can, to focus on the positives, to bring positivity into the world, and to ultimately protect my own peace as I choose happiness.

Message for other women leaders in the South African business community: One of the greatest strengths that we have as women, is that we are female. We need to use that superpower, and show up no matter what, no matter where. Life will be difficult, people will disappoint you, and the journey will sometimes have bumps in the road. But it's the choices that we make and how we navigate ourselves, that will always make us better, stronger and more successful. Be bold and speak your truths, be brave and stand up against biases and challenges, and always believe in yourself and in the power that you have.



the particle group
www.theparticlegrp.com

Promoting women in PGMs sector

HALIMA FROST | CREAMER MEDIA WRITER

Platinum group metals miner Impala Platinum (Implats) says it is committed to gender mainstreaming, which is to intentionally advance women in the workplace, and has established plans and policies designed to give effect to this in a sustainable way.

In parallel, Implats' skills development programmes aim to create a pipeline of young diverse talent, with specific focus on increasing female representation, and succession planning to ensure advancement of women within the various career paths.

"Gender diversity is a business priority, ranging from setting targets, to holding leaders accountable for results," says Impala Rustenburg GM **Nonkululeko Mabuza**.

She adds that the main focus is to address all areas where women are underrepresented and to close the gender gaps in retaining women, hiring, promoting and pay-wise.

"We started employing women underground in 2004 and targeted employment of women at entry level with the aim to develop and promote from within," says Mabuza.

Additionally, Implats' training programmes reflect a significant increase in the intake of women at tertiary education level and

in-house training opportunities with the aim of presenting more opportunities for women in core and critical occupations.

She suggests that mentoring is also a good way to build confidence in junior employees and programmes are implemented to upskill women on identified training initiatives, as well as the role succession planning can play in terms of setting career targets.

"Gender inequality will not disappear of its own accord," Mabuza regards, adding that as such, Implats is committed to integrating gender equity into its policies, structures, systems and operations.

Further, she states that conscious strategies and intentional policies are essential to eliminate gender inequality in broader society.

These should take the form of specific measures to recruit, develop and promote women, and to train, develop and support women-owned businesses – with the intent to address inequality



A NEW DAWN

The outlook for women in mining looks ever more promising when mines like Implats offer gender mainstreaming programmes

Making Mabuza

Implats has made significant strides in ensuring women are recognised and supported, and Impala Rustenburg GM **Nonkululeko Mabuza** is a testament to these efforts. She was one of the first appointees to Impala Rustenburg's Gender Equity Forum, designed to promote gender equality to ensure long-term business growth and sustainability in a changing society, the group's first female mine manager, and now the group's first female GM. Mabuza continues to address issues relating to women's health and safety in the mining industry, and she collaborates with women-in-mining structures to ensure mines create an environment

conducive to women's growth and promotion. Reflecting on her journey, Mabuza says it was a challenge finding her own niche and authentic voice in the industry. "But everything changed once I realised, I didn't need to operate in masculinity to succeed," she says. Mabuza adds that when a person is genuine about caring for the wellbeing of others, it becomes apparent in everything that they do, and people will always follow a legitimate leader. "I believe you can learn from everyone on the mine, both those willing to teach and those who are not. It is up to you to determine what you want to get out of each encounter," she concludes.

in the workplace and the broader structure of the economy.

Developing and empowering female students, employees and entrepreneurs, together with eliminating unfair discrimination, practices and stereotyping of

women, should be central goals.

Mabuza concludes that women's full and equal participation at all levels of the economy should be the measure of gender equality. ■■

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for local businesses that are interested in working with us, and it was encouraging to see women business representatives in attendance," she says.

Further, skills development opportunities have been advertised by Gugulethu to attract more women so that they

can eventually be employed at the mine.

"We look forward to employing more women as operations progress and will ensure that they also benefit from skills development programmes like learnerships or internships," Steyn concludes. ■■

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BRIGHT FUTURE

Canyon Coal's Gugulethu colliery looks to hire even more women in various positions as the mine develops

Recognising women in business leadership



LESEDI
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Name: Salome Mokhobo Malema – Lesedi Drilling CEO

Main activity of company: Underground exploration diamond drilling

Date and place of birth: 28 March, in Garankuwa, Pretoria

Education: BComm (UNISA), Financial Certificate (Harvard University Online)

Management style: My management style is people centred. I believe that irrespective of the goods or services you provide, a successful leader must ensure that she or he surrounds themselves with a team of capable and empowered people to ensure positive outcomes. A great leader must be focused and follow daily habits that will support the journey to success. As a black female CEO leading an organisation with over 300 employees, the secret to my success is to understand the people, supporting them and constant communication.

Personal best achievement: Besides being a mother, I believe in being a positive influence on the youth. I feel a sense of achievement when I meet with some of the youth I mentor and support coming to me and saying "thank you, aunt Salome". I remain passionate about youth development.

Persons you would most like to meet: Former President of the US, George Bush, and Graca Machel.

Philosophy of life: Follow your goals. Do not quit. Love thy self.

Message for other women leaders in the South African community:

There is no need to compete with men in the workplace. We need to bring ourselves as we are and make a success of the organisations we lead. Ours is to remain focussed on what needs to be done to achieve the best outcome for all stakeholders – including your employees. It is a reality that our journey will meet challenges. It is even more important to apply knowledge, skill and wisdom to turn them around. Always remember to add value to others because someone did the same for you and that is why today you are called a leader.

Tel: +27 10 591 5032 | Email: s.malema@lesedidrilling.com | www.lesedi.net

African Rainbow Minerals (ARM)

Amu Modau – Operations SHERQ Manager: ARM Platinum and Coal

I am responsible for implementing health, safety and environmental risk strategies to ensure the safe and sustainable production of our operations. My passion lies in preserving lives and ensuring that employees can return home each day without harm and with their health intact. Working in the mining industry, which can be unpredictable and occasionally unsafe, demands that we consistently employ effective strategies to mitigate risks.

Moreover, I firmly believe in mining with a long-term perspective, considering the social and economic impacts on our communities. It is essential that we consider these factors to ensure that the communities we operate in are not negatively affected by our presence.

For me, kindness is of utmost importance. My role provides me with a platform to apply this value in all that I do, especially when it comes to engaging with our employees and promoting a culture of safety, health and environmental consciousness throughout our operations.

Words of encouragement: Be yourself. You do not need to be a man to make it in mining; always pull one sister with you as you climb the ladder.

Motto: Be kind. Breathe in courage because we are all a work in progress.



Rilette Avenant – Executive Logistics: ARM Ferrous

I hold overall accountability and responsibility for the following key areas of bulk logistics, encompassing iron ore export and domestic, manganese ore export and domestic, and manganese alloy.

I am responsible for charting the strategic direction of our bulk logistics operations. These plans are closely aligned to the future production profiles and marketing strategies of the company. My role is also to provide comprehensive operational oversight for all bulk logistics functions, ensuring smooth and efficient execution. This includes monitoring performance, optimising processes, and implementing best practices to enhance overall logistics efficiency.



I actively participate in high-level decision-making and represent the logistics interests of the company as well contractual negotiations to ensure favourable terms and conditions of our logistics requirement. Collaborating with industry peers to address logistics challenges faced by the mining industry is key as it contributes to the development of effective logistics solutions and practices.

At the core of my responsibilities, is ensuring the seamless transportation and delivery of our commodities, supporting the overall success and growth of the ferrous operations.

I find great fulfilment in the fast-paced and highly pressurised nature of my job. In the world of logistics, time is of the essence, and quick decision-making is essential in the face of constantly changing and dynamic environments.

Words of encouragement: Dedication to your craft demonstrates your passion and commitment, earning you the admiration and respect of your peers and colleagues. Embrace challenges as

opportunities for growth and persevere in the face of obstacles especially in the male dominated sectors.

Motto: Energy and persistence conquer all things - never give up.



www.arm.co.za

The women making copper shine

Copper 360 is not only South Africa's emerging copper giant, but is also a business that understands the mutually symbiotic relationship between the success of a company and its human capital.

In recognition of its employees, Copper 360 debuts its first set of accolades to four women that have become highly influential and integral members of the greater team at its operations in Nababeep, in the Northern Cape.

Jacolien Wyethe is Copper 360's Chief Technical Officer. Her expertise in background engineering and as a qualified chemical engineer has made Wyethe a valuable senior member of the executive team.

But it doesn't end there. As they say in the classics, there's more. Wyethe also has extensive experience and expertise in process engineering design through to feasibility specification.

Colleagues describe her dedication, oversight and process management, from strategy through to implementation, as both exceptional and inspirational.

Presently she has taken charge of overseeing the test work, design and project execution of a new flotation plant currently under construction, while simultaneously providing crucial technical oversight at the company's hydrometallurgical plant.

Jana Van Wyk has been described as a no-nonsense, get the job done kind of person. And as GM of operations, her training as a geologist has provided depth and breadth of knowledge and experience to the business.

Van Wyk's leadership role demands that she directs the production cycle from mining through to copper cathode production. Staff say that they have never seen her without her walkie talkie, and admire the fact that she has no qualms digging in and helping to solve challenges or simply lending a hand. Everyone has felt her presence, and her management approach that combines a measure of empathy with sweat, has endeared her to everyone at the plant.

Senior Plant Metallurgist and Deputy Plant Manager of the Nababeep Hydrometallurgical plant, **Elria Mare**'s philosophy is centred around her work ethic. She leads by example, and never shies away from any challenge within a robust and often complex environment. Tenacity is a lesson she teaches simply by doing, and her passion is infectious.

Mare's line manager at the plant lauds her for her unwavering commitment and hands-on approach to every aspect of her job. It makes her an essential and valued participant winning the respect from her workmates and managers.

Compliance is often a role fraught with hurdles, complexity of regulatory confines and, added to that, the demands of effective communication, vertically and throughout an organisation. **Chriselle Farmer** fulfils this challenging role. She holds a BA in community development, and is dedicated to making a positive impact not only in her job, but in the lives of fellow employees and communities. With her vast experience gained at the Department of Social Development, she is adept at managing compliance-related matters and has demonstrated an invaluable skillset, appreciated by management and workmates alike.



www.copper360.co.za



Jacolien Wyethe



Jana Van Wyk



Elria Mare



Chriselle Farmer

De Beers Group: Empowering women and pursuing gender parity in mining

De Beers Group is deeply committed to developing women in the mining industry and achieving gender parity. The company prioritises initiatives that promote equal opportunities, support women's professional growth and create a diverse and inclusive work environment. Through partnerships, programmes and targeted actions, De Beers Group aims to empower women, recognise their contributions and foster gender diversity within their organisation and the mining sector as a whole. Their steadfast commitment drives their efforts to create a more inclusive and equitable industry for women in mining.

DE BEERS GROUP
www.debeers.com

Violet Molala is the first female section manager for top of mine at Venetia Underground. Her previous role as a miner overseer and experience in leading large shaft sinking projects contributed to her success. Molala's approach involves planning and executing the company's goals, driven by the motivation to see the organisation grow and achieve personal success.



Violet Molala



Lerato Radebe

Lerato Radebe has been the vessel manager for the mV Coral Sea since 2011. She joined De Beers in 2005 as a metallurgist and played a pivotal role in successfully transitioning the Coral Sea from sampling to a fully operational mining vessel. Lerato emphasises the importance of embracing equity and providing women of all races with opportunities to contribute diverse perspectives to the future of the business.

Sherene Salmon works as an electrical engineer at De Beers Marine. She is part of a dynamic team providing engineering support to Debmarine Namibia's offshore mining vessels. Salmon is committed to lifelong learning and seizing opportunities. She takes pride in breaking barriers and honouring the women who have paved the way, while also inspiring future generations of women.



Sherene Salmon

Razia Adam, a research scientist at Ignite SA, is passionate about science and engineering. She believes women bring a unique perspective and skill set to science, technology, engineering and mathematics (STEM) and engineering, which have historically been male-dominated fields. Adam actively promotes awareness of opportunities within STEM and engineering for students from underprivileged universities.

WOMEN IN MINING

Harmony's inspiring women's voices are leading the change

At Harmony, we are committed to addressing important social issues such as gender diversity in our workforce.

As such, women make up 19% of the total workforce in South Africa. Women make up 20% of the board, 20% of senior management, 24% of middle management and 19% of lower management. One of Harmony's targets is for women to make up 28% of junior management.

Below are four of Harmony's shining female employees.



Lipuo Mofokeng grew up in the mining town of Virginia in the Free State. The mines in her community inspired her to become a metallurgist and she eventually studied at Vaal University of Technology, graduating with a Bachelor of Technology in Metallurgical Engineering in 2015.

She is currently a Senior Metallurgist at Harmony in the Central Plant in the Free State province and has more than 14 years of experience. She started working for Harmony in 2006 and is now aiming for a management position after being trained by the gold mining company.

Mofokeng said Harmony's metallurgy department allowed her to prove herself as she was offered development opportunities.



Lipuo Mofokeng



Sheena Pillay

"When women unite, build each other up and support each other, they can achieve a lot," says Harmony Project Manager of Sustainable Development Sheena Pillay.

When she started in mining in 2009, the industry was still rough, remote, and dangerous. Because of her gender, she encountered some obstacles in her career, but believes that a positive attitude is what makes an ambitious person.

When she was frustrated and planning to leave the male-dominated industry, Pillay heeded the advice of a certain professor who said, "If you leave, it will be difficult to make a difference from the outside. It is easier to make a change from within and empower women."

She stayed in the industry, and is now successful and has made a difference in the communities where Harmony works.

The coveted title of Top 35-under-35 chartered accountant 2022 went to Harmony Group Financial Manager and Chairperson of the Investment Committee Mineworkers Provident Fund (MWPF) Mathabo Makhaya.

She also received the Young Leaders Connect 2022 "Lift up Leader in Business" and "IDEAL Authentic Leadership" awards for her consistent demonstration of humble and bold leadership and commitment to transformation in her sphere of influence.

Soweto-born Makhaya is also a founding member of the Asset Owners Forum South Africa, a voluntary association of pension funds in South Africa with the strategic objective of investing in infrastructure projects in South Africa, through the MWPF representative office.



Mathabo Makhaya



Montsheng Mohlatsane

"In my career, I have learnt that mining has more to offer," says Harmony Tshepong South Operations Risk Manager Montsheng Mohlatsane, who holds a Degree in Mining Engineering and a Mine Manager's Certificate of Competency.

"The most important thing I would urge any young person who is interested in the mining sector is to diversify their career portfolio."

Diversifying a career in the mining industry broadens future opportunities and can be the differentiator that helps one climb the career ladder.

The mining industry is embracing digitalisation and smart mining through the fourth industrial revolution (4IR), which is bringing new career opportunities for young people, especially women.

Montsheng is the perfect person to talk about diversifying your career as a miner.

A Virginia native, Montsheng originally wanted to be an electrical engineer when she was in high school, but a lack of finances led her to Harmony, where she was offered a scholarship to study mining engineering and was subsequently hired at Bambanani, one of Harmony's older mines.



Adwoa Pokuaa Issaka

Position: Unit Manager Safety at Gold Fields, South Deep

Date and Place of Birth: 30 May, Thohoyandou, Venda

Education: I enrolled for a BSc in Mining Engineering from 2006 to 2009. Then an MSc in Mining Engineering from 2015 to 2017, and PhD in the same field from 2019 to 2022. I conducted my undergraduate and postgraduate studies at the University of the Witwatersrand. I have a Rock Mechanics certificate of competency, as well as other certifications in occupational health and safety, risk management, and change management.

Management style: My management style varies between autocratic and participative. My primary style is autocratic, but over the years I have developed a strong participative management style.

Personal best achievement: My contribution towards the record low number of Fall of Ground fatalities in the South African Mining Industry in 2022 by facilitating the adoption of MOSH leading practices across the industry. I became the first black South African female to earn a doctorate in Mining Engineering (and the first South African female mining engineer to achieve this).

Philosophy of life: As a woman thinketh, so shall she become.

Message for other women leaders: It's important to invest in your own personal growth and development. This enables one to work towards their God given potential and purpose. Never stop learning and developing yourself no matter how small it may seem. Try your best to contribute towards the development of others.

Position: Section Manager: Mining at Gold Fields, South Deep

Date and Place of Birth: 26 March, Mabopane, North of Pretoria

Education: BSc (Hons) in Mining Engineering - University of the Witwatersrand
Management Development Program (MDP) – University of Stellenbosch Business School
Mine Manager's Certificate of Competency • Mine Overseer's Certificate of Competency

Management style: Situational leadership works for me. It is important for me as a manager to know my team's strengths and weaknesses. This enables me to assist them grow their strengths and improve on their weakness.

Personal best achievement: To have been a mentor and sponsor to numerous individuals that have made a great success of the opportunities awarded to them. I gain personal fulfilment from making a difference in people's lives and careers.

Philosophy of life: To show up in the best version of myself

Message for other women leaders: Women possess a natural gift to nurture. We need more female leaders to grow the business community to greater heights. It remains the responsibility of the current women in leadership to involve other women to ensure a sustainable future.



Ofentse Debete



Tejal Sunker

Position: Group Decarbonisation Lead - at Gold Fields, South Deep

Date and Place of Birth: 30 April, Umkomaas, on the South Coast of Kwa-Zulu Natal

Education: BSc Electrical Engineering – University of Kwa-Zulu Natal Government Certificate of Competency Mines and Works

Management style: I am a democratic manager. I promote a collaborative work environment, enabling my team to make informed decisions together, and I encourage freedom of thought for creativity, initiatives and problem solving.

Personal best achievement: My family. My sons are the reason I work hard to set an example for them.

Philosophy of life: Make time! In a world where there isn't enough, I strive to find time for my family and, importantly, myself.

Message for other women leaders: Be authentic. There is no one else like you. The perspective you have is unique so make your voice heard and make your mark in this competitive world.

Position: Senior Manager: Strategy and Business Development at Gold Fields, South Deep

Date and Place of Birth: 23 April, Johannesburg

Education: Advanced Business Project Management (Wits Business School) • BSc Honours Degree Mining Engineering (Witwatersrand University) • Affiliations: ECSA, AMMSA, SAIMM • Mine Managers Certificate of Competency • Metalliferous Blasting Certificate

Management style: My leadership approach is anchored in a strategic mindset that prioritises consistent motivation and guidance to propel my team towards achieving shared business objectives. However, what truly fuels my passion is the cultivation of a culture that instils a profound sense of purpose and direction among all team members. I place significant emphasis on fostering an environment characterised by openness, curiosity and compassion, wherein individuals can flourish and unleash their fullest potential.

Personal best achievement: My personal best achievement is mastering self-leadership. Time and experience have taught me to experience life with full absorption and learn deep appreciation of basic life experience. Most importantly, knowing that what matters the most is what you do when no one is watching.

Philosophy of life: Live while you are alive and give others that same privilege.

Message for other women leaders: What you were taught to be impossible is possible.



Zandile Cindi



GOLD FIELDS



Carissa Shah

Position: Head of Supply Chain at Gold Fields, South Deep

Date and Place of Birth: Pietermaritzburg, KwaZulu-Natal

Education: Master of Business administration (MBA)

Management style: People centric and transformational.

Personal best achievement: The day I received feedback from an elder who shared the sustainable impact and hope I have provided to her family through the employment, upskilling and career growth of her grandson. This interaction was life changing for me because it made me realise the reach of my actions and the responsibility I have as a leader. I am fully committed to uplifting my environment and the community to which I belong.

Philosophy of life: Leadership is a choice, not a position.

Message for other women leaders: If you are faced with the impossible, and it is hard to know where to begin, start with just one prayer, one action, one choice, or one person.

Position: HR Manager Organisational Effectiveness at Gold Fields, South Deep

Date and Place of Birth: Potchefstroom

Education: Honours Bachelor of Commerce in Business Management: Human Resources Management from UNISA • Bachelor of Commerce in Human Resources Management from NWU • Certified Lean Six Sigma – Green Belt

Management style: My management style can be described as a blend of transformational and servant leadership. I prioritise inspiring and motivating my team through a compelling vision while also focusing on serving and supporting their growth and development. I believe in empowering my team to make decisions and take ownership of their work, fostering a culture of autonomy and innovation. I believe in recognising and appreciating their efforts, creating a positive and engaging work environment.

Personal best achievement: Creating positive change and making a difference by playing an integral role in establishing an Organisational Effectiveness Department within the broader South Deep HR Team, with significant and notable improvements in the talent management, diversity and inclusion, employment equity and employee engagement space.

Philosophy of life: Embrace gratitude, seek growth, and spread kindness.

Message for other women leaders: As women leaders we can shape a brighter tomorrow for generations to come. Keep shining, keep leading, and keep making a difference!



Elzani Bender

Position: Head of Sustainable Development and Environment at Gold Fields, South Deep. Director of South Deep Joint Venture

Date and Place of Birth: 7 November, Maseru, Lesotho

Education: I studied Urban and Regional Planning at National University and went on to study towards a postgraduate in Geography and Geographic Information. I studied a Masters in Public Administration at University of Pretoria. I further studied Executive Preparation in Mining, a programme sponsored by Mining Qualifications and DMRE. I have a Certified Directorship through attending Directors Training through various recognised institutions.

Management style: I am a nurturing manager who leads from behind whilst taking the team along the vision and influencing them to feel part of the vision. I create an enabling environment for team members to actively develop themselves through mentoring them, ensuring they take up further studies while giving them exposure to Thought Leaders sessions, workshops and conferences with CPD points.

Personal best achievement: The mining environment we work in externally is highly volatile, ambiguous, uncertain and very complex. Each day is my personal achievement as I help the team navigate the world we live in. I get a lot of satisfaction when the team shows up again the next day, happy to work and perform at their best.

Philosophy of life: Be a force for good.

Message for other women leaders: We currently live in a world that needs strong, resilient and authentic women leaders. Let's step up and do what we do best for the sake of future generations.



Puseletso Matete

Position: Section Manager Rock Engineering at Gold Fields, South Deep

Date and Place of Birth: 10 July, Harare, Zimbabwe

Education: I have an undergraduate degree (BEng Mining and BEng Honors Technology Management) from the University of Pretoria. I am currently busy with a Masters degree in Mining Engineering at the University of the Witwatersrand. I hold a Metalliferous Rock Engineering Ticket.

Management style: My management style is built on a foundation of collaboration, communication and empowerment.

Personal best achievement: Observing the growth of a junior employee and watching them exceed expectations under my mentorship.

Philosophy of life: My philosophy to life revolves around three core principles: gratitude, growth and meaningful connections.

Message for other women leaders: To all the remarkable women leaders, we stand on the shoulders of strong women who have paved the way before us, let's support and uplift one another. Collaboration and mentorship create a ripple effect of success.



Yolanda Chambati



Dr Sherin Ramparsad

Position and Company Name: Programme Manager: Successful Application of Technology Centred Around People (SATCAP), Mandela Mining Precinct

Main Activity of the Company: Mining research, development and innovation

SATCAP Programme: The main focus of the SATCAP programme is to understand how people relate to each other and with technology in the process of modernisation; as well as to understand the challenges, effects and impacts of modernisation on people in the mining sector. An objective of this people-focused programme is to lend support to the ESG agenda, more specifically the social-related agenda, with the programme's goal of contributing to a productive industry through "sustainable relationships and shared value for people in a modernising minerals sector". SATCAP is intent on taking stakeholders along on the mining modernisation journey, and creates opportunity for awareness, understanding, acceptance and capacity building for mining modernisation.

Date and Place of Birth: 16 April, in KwaZulu-Natal

Education: Doctorate Degree

Management Style:

Situational leadership: It allows me to adapt my leadership style to each unique situation, or task, to meet the needs of my team and the company. This style supports:

- Guiding and directing to create movement and action within my team;
- Coaching to create an understanding of what, where, how, when, and why;
- Collaborating, participating, facilitating to create alignment within my team;
- Delegating and empowering to allow for personal or self-mastery, and task mastery.

Personal Best Achievement: My career has been influenced by purpose. The inspirational words by Jim Collins (from the book *Good to Great*) "it is impossible to have a great life unless it is a meaningful life. And it's difficult to have a meaningful life without meaningful work" resonates. To me this means having a career that is meaningful, has purpose, and makes a difference... with having a positive impact on others.

Philosophy of Life: Make a difference that matters...for the betterment of others! The starfish story relates: A man walking on the beach sees a boy picking up starfish laying on the shore and throwing them back into the ocean. He says to the boy that there are hundreds of starfish on the beach and that the boy cannot make a difference with his actions. The boy throws in another starfish and says, "I made a difference to that one!"

Message for other women leaders in the South African business community: Be mindful of your blind-spots; Introspect; Develop personal mastery acumen, grow your technical and leadership skills; Elevate others and find ways to unlock the potential in others; Stay determined in the face of adversity; Be courageous, and challenge yourself.



Michelle Pienaar

Position and Company Name: Advance Orebody Knowledge (AOK) Programme Manager, Mandela Mining Precinct

Main Activity of the Company: Mining research, development and innovation

AOK Programme: The main focus of the AOK programme is to create the ultimate "Glass Rock" environment which includes improving geological confidence ahead of the face, reduction or identification of risk associated with geology and ultimately to have timeous information. This will contribute to the optimal extraction and "zero harm" objectives.

Date and Place of Birth: 31 January, in Roodepoort, Johannesburg

Education: BSc Hon. Geology, Management Diploma and GDE

Management Style: Coaching Management Style - I enjoy building strong relationships and follow a mentor-mentee approach, trying to keep a balance of support. Constructive feedback has made me an effective manager, that is well respected.

Personal Best Achievement: I have many; however, I am extremely proud of the people that have been part of my team and to see how they have grown and developed. It is extremely satisfying to see those individuals that you mentored/managed being successful and leaders in their own way.

Philosophy of Life: Treat everyone the same and with respect, no matter where they are in life.

Message for other women leaders in the South African business community: Be proud of yourself, be honest with others, live your values, but most of all never stop dreaming and believing.



Cnr Carlow & Rustenburg roads
PO Box 91230, Auckland Park, 2006



+27 11 358 0003



enquiries@mandelaminingprecinct.org.za



MANDELA MINING PRECINCT
MINDS FOR MINES

Breaking barriers: empowering women in mining at Multotec

In the male-dominated world of mining and heavy equipment manufacturing, **Karen Joubert** stands tall as a beacon of leadership and empowerment for women. As the Business Unit Manager for Wedge Wire, Steel & Projects at Multotec, she leads by example, promoting gender diversity, inclusivity and equal opportunities within her team.

Joubert plays a pivotal role in the management of the business unit responsible for the manufacturing of wedge wire screen media and trommels for the mining industry at Multotec. The company strives to provide world-class quality products safely, on time, and at a competitive price.

Multotec prides itself on its work environment, and every individual, from the shop floor to senior management, has a valid voice. This culture of open lines of communication and transparency fosters inclusivity, making all team members feel valued and heard, regardless of gender. The mission directed work teams are used as a vehicle that embraces continuous coaching and mentoring as an integral aspect of daily life, channelling team efforts towards implementing “best practices” on the shop floor, ultimately unleashing the full extent of their potential.

“Empowering the women in my team goes beyond mere representation. My focus is on providing equal opportunities for growth and development,” she says.

“The company’s culture ensures that every team member, irrespective of gender, has the

chance to work towards team goals, provide feedback, and receive mentorship and coaching. This commitment to nurturing talent fosters professional growth and business insight, empowering women to reach their full potential.”

Joubert takes immense pride in highlighting the notable contributions and achievements of the women in her team. She currently leads an overall team of 148 people which includes 15 women, who have made a significant impact within the organisation. Some of the women started their careers at Multotec as learners, contract forklift drivers and apprentices, and are now excelling in office roles and becoming skilled artisans and planning professionals. Their determination and commitment to personal development are evident success stories.

In the pursuit of gender diversity and inclusivity, Multotec is investing in a company-wide diversity training programme. This progressive initiative aims to broaden perspectives, eliminate biases and create an inclusive work environment that celebrates individual skills and strengths.

Obstacles related to physical strength requirements have been thoughtfully addressed through the factory setup. A variety of lifting equipment, manipulators and tools have been incorporated to make any job accessible to both men and women, ensuring a level playing field where gender does not become a barrier to career opportunities.



Karen Joubert

Multotec business unit manager for wedge wire, steel and projects

“I firmly believe in the power of mentorship and coaching for all team members. At Multotec, our mission is to provide ample opportunities for guidance and exposure to various business aspects. This culture of continuous learning and support encourages women, alongside their male counterparts, to thrive and excel in their roles,” says Joubert.

As a leader, Joubert’s management style is collaborative, and her life philosophy revolves around living by Judeo Christian principles, embracing personal growth, and learning from past mistakes. “My message to other women leaders in the South African business community is simple: embrace your uniqueness, stay curious, take responsibility for your growth, and achieve greatness in the face of challenges,” she adds.

In Joubert’s journey and the empowering work environment she fosters at Multotec, we witness an outstanding example of how women in mining can not only overcome obstacles but also thrive and make significant contributions to the industry. By championing inclusivity, equal opportunities and mentorship, she continues to pave the way for a more diverse and successful mining sector in South Africa.



Karen Joubert leads a team of 148 people including 15 women at Multotec. Her message to other women is to embrace their uniqueness, stay curious, take responsibility for their growth, and achieve greatness.



www.multotec.com

Chipping away at glass ceilings

At Northam Platinum Holdings roughly 20% of its workforce comprises women. This is no accident. The group has for years been working at attracting, retaining and developing women in line with its approach to gender diversity. Although the process is not yet complete, in many areas the integration of women into workstreams has now become so commonplace it is difficult to conceive of a time when men were so supremely dominant in the industry.

Against this background, assistant company secretary **Cole Msimanga** quotes **Sheryl Sandberg**, who said, “In future there will be no female leaders, there will just be leaders.” Nevertheless, Msimanga remains conscious of her role as a woman mentor and is not unrealistic about some of the gender disparities that persist in many companies and workplaces. However, with her positive disposition Msimanga urges women to grasp opportunities and to get the best out of education and training - learning new skills, and embracing the networking and mentorship environment they find themselves in.

Msimanga lives her mantra and is always looking for opportunities to learn from her colleagues, broadening her knowledge base, and at the same time acting as the conduit of knowledge and skills so that other women can learn, progress and achieve.

Sharing of knowledge and ideas appears to be an important aspect of women’s leadership styles. Marketing manager **Karen Otto** and plant manager at Booyendal **Mpho Ntokoto** are passionate about listening to new and fresh ideas. Says Otto, “fresh thinking should be given an opportunity to be heard, and we should all aim to work smarter not harder.”

Ntokoto is not afraid to learn from her juniors either. She is quick to add “I like to influence individuals who will take charge.”

Ntokoto, who works in the magical world of platinum beneficiation, says her management style can be described as “hybrid” and she relies on both decisive and assertive conduct on the one hand, and transformational leadership on the other. “In a mining environment safety is a non-negotiable – there simply isn’t the luxury of time to discuss the merits or otherwise of a certain required behaviour on the job.”

Mine overseer **Sessy Sulman** has come a long way since she achieved her B Tech degree in mining engineering. With her sights set on the position of general manager Sulman is already planning on additional studies to equip herself on which is a very ambitious career journey in the mining industry. This is no pipe dream, and with Sulman’s methodical approach she is fully aware of every onerous step along the way.

Cole Msimanga, Karen Otto, Mpho Ntokoto and Sessy Sulman occupy very diverse positions within the group, illustrating that women can prosper at any level or occupation they choose. The key to their success is hard work and a positive attitude, and, as Otto concludes: “Work hard, persevere, and always do your best – this is not negotiable. Do not be side tracked by matters that are not adding value to your career or life. The key is to make good choices.”



Cole Msimanga



Karen Otto



Mpho Ntokoto



Sessy Sulman

Partners in Performance

Position: Director **Date of birth:** 27 February in Cape Town **Education:** BCom, LLB, LLM

Management style:

I believe that a coaching management style brings out the best in people – and the best in me!

Personal best achievement:

I am so excited to have joined Partners in Performance, to make the transition from mergers, acquisitions and financing, into a realm where I can have a far greater impact on our clients' decarbonisation journeys at an operational and implementation level. Actually being part of the process that gives effect to the impact that corporate actions are intended to have, is wonderful!

Philosophy of life:

Right now, it's so easy to be overwhelmed by the negative newsflow. So, without sticking your head in the sand, and ignoring the practical realities around you, focus on the things that you can change.

Message for other women leaders:

We live in such a privileged time, where we are gaining momentum in building agency for women every single day. Let's use that agency to accelerate our influence.



Sandra du Toit

Position: Associate Principal **Date of birth:** 5 September in Cape Town **Education:** Bsc (hons), MSc, BCom

Management style:

Leading through others, giving your team guidance but space to do things their own way. A leader's job is to clear the hurdles and make it easier for others to succeed.

Personal best achievement:

Anything where I was ready to give up and still pushed through to the end. A cycling race jumps to mind – it was cold, pouring with rain and the wind was against me and I was so ready to throw in the towel, but crossing that finish line was a great sense of achievement and reminded me that grit and determination can take you far.

Philosophy of life:

For me, life is about constantly learning and growing. Whether it's through formal studies or experiences or just listening to people with a different viewpoint - the minute we stop learning we stagnate and life becomes boring. If you push yourself outside of your comfort zone to try something new, or attempt something you didn't think was possible, there's growth and learning no matter the outcome.

Message for other women leaders:

We are all unique and we know this, yet often we emulate and compare ourselves against other people. Sure, we should learn from others but know your own strengths and learn to play to them – and then be happy to let others do the things that aren't your forte.



Helen Hill

Position: Manager **Date of birth:** 1985, in Rustenburg **Education:** BEng Metallurgical Engineering

Management style:

My leadership style is a combination of curiosity, openness and a knack for recognising the cold, hard facts. I also believe that a happy team is a winning team and to that end, I take the time to understand what brings contentment to each of my team members, cultivating an environment in which everyone finds their "joy of work".

Personal best achievement:

My greatest personal achievement lies in becoming a beacon of hope and inspiration for young minds in my community. By leading as an example, I've been able to empower those facing challenging circumstances due to their disadvantaged backgrounds. Instead of facing a bleak future with limited prospects, these young individuals now have a guiding light to help them navigate towards a brighter and more promising tomorrow.

Philosophy of life:

My life philosophy centers around recognising your true worth, consistently choosing yourself, and being ready to gracefully walk away from any situation that fails to uplift and empower you.

Message for other women leaders:

The path for women to thrive in the business world involves championing and sponsoring young, high-performing women within their respective industries. Being a sponsor means advocating for them in rooms where they might not have a voice, unlocking doors to opportunities they may not access alone, and providing a shield against the daily barrage of microaggressions that women encounter in the workplace.



Mamokete Konopi

Position: Marketing Specialist for Africa **Date of birth:** 1983 in Johannesburg

Education: Bachelor of Business Administration: Human Resource Management; Post Grad: Certificate in Labour Law

Management style:

I follow the ethos of, "hire for attitude, train for skill", as it leads to teams who work well together while encouraging upskilling across disciplines. I've found my management style promotes effective communication, encourages collaboration and teamwork and brings out the best in my team.

Personal best achievement:

Without a doubt, my son is my best achievement. Being a parent, and watching him grow, learn and achieve his own successes has been the most fulfilling and joyful experience of my life.

Philosophy of life:

Don't settle. You are capable of far more than you can ever imagine. You just need to believe in yourself and be your own biggest supporter.

Message for other women leaders:

In the fast-paced world of business, it is essential to stay true to your values and maintain your integrity. Let your values guide your decisions and actions, even in challenging situations. This will not only earn you respect but also help build a strong personal and professional reputation.



Nicolene Van Vuuren

Unleashing the power of women in mining

Mining has made progress in attracting more women to the sector, but the challenge now lies in retaining and empowering them. **Tarynn Yatras**, head of sales and service – Africa Screening Solutions at Sandvik Rock Processing, emphasises that diversity enhances decision-making and overall outcomes. Many mining companies, including Sandvik Rock Processing, have set targets for increasing gender diversity and are aligned with the goal of raising the proportion of women in managerial positions to one third by 2030.

However, attracting women to the industry requires creating an environment where they feel valued and have opportunities to grow and gain experience. Tarynn believes in developing an inclusive culture at work where women can make meaningful contributions and influence decisions. Small but continuous interventions and initiatives are necessary to establish a foundation for diversity, starting from the hiring process. Adjusting job advertisements to encourage more qualified women to apply can make a significant difference.

The perception of mining as manual labour is a barrier to attracting women, but advancements in technology and mechanisation are gradually addressing this issue. Sandvik Rock Processing's bursary, internship and appren-

ticeship programmes help attract young women to the industry. To ensure their retention, it is crucial to make the workplace more conducive to women.

Sandvik Rock Processing's Africa Screening Solutions team has achieved promising results, with almost 50% of managerial roles occupied by women. Women also hold positions such as sales manager, central services director, human resources manager, legal manager and aftermarket sales support. The progress made serves as an example of leadership.

Part of the evolving work culture for better retention is to provide appropriate support for employees to balance their family roles. She notes that childcare roles are currently often more demanding for women than for men. Sandvik's approach is to find productive and flexible solutions that allow women to return to their careers after childbirth – thereby building on their experience and value to the organisation.

By focusing on retention and empowerment, mining companies can give women a seat at the table, ensuring their voices are heard and their contributions are valued. This not only benefits the women themselves but also enhances the mining sector as a whole by harnessing the full potential of a diverse workforce.



Tarynn Yatras
Head of Sales and Services -
Africa Screening Solutions at
Sandvik Rock Processing

On behalf of Sandvik Rock Processing Solutions South Africa
www.rockprocessing.sandvik



Women fill many roles at Sandvik Rock Processing

From left: **Fregelina Mabotja**, Sales Manager SA; **Refilwe Makge**, Capital Sales Engineer; **Nickey Roe**, Aftermarket Manager, **Ntabeleng Mphahlele**, Capital Sales Engineer; **Minah Shezi**, Aftermarket Assistant Internal Sales and **Tshililo Khameli**, Aftermarket Engineer

Sandvik: Driving female development in the mining industry

Sandvik Mining & Rock Solutions believes in the development of women in the mining sector, and through its gender diversity strategy is committed to bringing more women into this traditionally male-dominated field. Sandvik invests in initiatives and programmes that empower and uplift women, promoting their participation in mining through education, mentorship and skills development. The company's efforts demonstrate a recognition that the future of mining will be shaped by a more diverse workforce, inclusive leadership and equal opportunities for all.

ROFHIWA LIGUDU

SALES ENGINEER

Rofhiwa Ligudu currently works as a sales engineer at Sandvik Mining & Rock Solutions. She holds a Geology degree and a Post Graduate Diploma in Business Administration. Just a year after joining the company, she was promoted to sales engineer and earned her Postgraduate Diploma from GIBS. Ligudu employs a people-centric management style, believing that business thrives when individuals are happy, productive and achieving their highest potential. She emphasises the importance of engaging with her team and being considerate of their needs. She would most like to meet **Malala Yousafzai** and **Michelle Obama**, being fascinated by their courage to defy norms and break new grounds, and she is curious about the mindset they possess to achieve extraordinary results. Ligudu's philosophy of life is "failure is impossible," a quote by **Susan B. Anthony** that encourages her to try regardless of the difficulty of the task or criticism received. Even if things do not go as planned, she sees the opportunity to learn from the experience and encourages a growth mindset. Her Christian faith is a key part of her life and work, stating that it would be impossible for her to achieve what she has without it.



NTOMBANA MABENA

BUSINESS DEVELOPMENT MANAGER



Ntombana Mabena is currently a business development manager at Sandvik Mining & Rock Solutions. She has undergone the programme for management development and is presently enrolled for a Post Graduate Diploma in Management Practice. Ntombana adopts a transformational management style, using knowledge, experience and coaching to run her teams effectively. Her proudest achievement is starting a non-profit organisation that ensures a safe and quality education for 31 high school learners from rural areas, providing mentorship, tutoring and resources for their educational pursuits. She would most like to meet **Oprah Winfrey** and holds the philosophy that each individual, with their unique strengths, is brought onto earth to serve the greater good of families and society. Mabena believes that localisation, through strategic partnerships, is key to market development and business expansion.



www.rocktechnology.sandvik.com

Put your trust in women with Tshepa Basadi

THABILE NKOMO – Tshepa Basadi co-founder and MD

Thabile Nkomo is an enthusiastic advocate for gender equality and an accomplished professional in the fields of engineering and project management. As co-founder and an executive director at project management and technical services consulting company Tshepa Basadi, her authentic leadership has been a driving force in the success of this black women-owned and led organisation that has become a formidable service provider in the mining industry.

The mining sector is an industry driving economic growth and technological advancements. However, beneath the surface lies a persistent issue that requires urgent attention: gender disparities.

“As a director of a 100% female-owned technical business, servicing a male-dominated industry, it is crucial that we embody boldness, courage and a will to be agents of change. If the success of Tshepa Basadi inspires just one woman to resiliently push through discriminative barriers in their quest for success, then our goal of leaving an indelible mark in this industry would have been achieved.”

As we continue to push for gender parity, let us remember that diversity not only strengthens our workforce but drives innovation and enhances productivity. It is through our uniqueness, that we add the most value.

Nkomo is a professionally registered project manager with the Project Management Institute and holds a BSc in Metallurgical Engineering. She is a member of the Institute of Directors of South Africa and is currently pursuing a Masters Degree in Business Administration from the Gordon Institute of Business Science.



MBALI MILANZI – Tshepa Basadi co-founder, commercial and business development director

Tshepa Basadi co-founder and executive director **Mbali Milanzi** is a passionate advocate for women's rights in the workplace. Tshepa Basadi is a 100% black women-owned engineering and project management consulting firm founded in 2017 and servicing the mining industry.

“Our tenacity, resilience and courage as female business owners has seen Tshepa Basadi grow sustainably over the past six years, now categorised as a generic company with over 60 employees.”

Milanzi's visionary leadership has been instrumental in driving business success and setting an example of the formidable force that women can be.

“In the traditionally male-dominated mining industry, we have witnessed an inspiring transformation over the years, as women continue to break barriers and carve a path towards empowerment and equality. As an executive director of Tshepa Basadi, I take immense pride in the strides made towards women empowerment, while appreciating that there is a lot more to be done.”

Tshepa Basadi was born out of a vision of cementing the presence of strong female leadership in business and in the mining industry. Through mentorship programmes and networking opportunities, we have nurtured a strong community of women who support and uplift each other.

“Collaboratively as women, we can engender much needed change in the mining industry.”

Milanzi is a professionally registered project manager with the Project Management Institute and holds an MSc in Project Management, a BSc in Chemical Engineering and is a member of the Institute of Directors of South Africa.



www.tshepabasadi.co.za



Championing women's advancement in mining

Weir Minerals Africa demonstrates a strong commitment to advancing women within its business, recognising their pivotal role in contributing to organisational success. The company actively fosters a culture of inclusivity and equality, investing in programmes that support women's professional development and growth, and ensuring their representation at all levels of the business.



Jennine Lodewyks Osborne

Jennine Lodewyks Osborne holds the position of Process Engineer at the Cape Town branch of Weir Minerals Africa. As an engineer, Osborne's role involves aiding clients in optimising their business performance and utilising data-driven insights to align clients' expectations with actual plant performance. She brings a diverse educational background to her work, with a B.Tech and B.Eng in Chemical Engineering and an MBA, which she achieved before turning 30. Her management style melds democratic, empathetic and agile approaches. As a lifelong learner, Osborne would relish the chance to meet **Marie Curie** or **Natascha Viljoen**. Inspired by **Nelson Mandela**, she embodies the philosophy that "the greatest glory in living lies not in never falling, but in rising every time we fall."



Tiisetso Masekwameng

Tiisetso Masekwameng is the General Manager for Trio® and Enduron® branded crushing and screening products for the Africa and Middle East region at Weir Minerals Africa. Having started her career as an industrial engineering intern from the University of Johannesburg in 2007, Masekwameng later pursued a Communication Science degree with a focus on Economics in 2013 and subsequently secured a Masters in Business Administration degree from the Gordon Institute of Business Science in 2017. Known for her dynamic approach to management, Masekwameng adapts her leadership style to align with individual needs and business cycles, often leveraging a blend of tactical and strategic styles. Among her personal achievements, she treasures raising her two children with a spirit of achievement and fun-seeking attitudes. Masekwameng would love to have an in-depth conversation with **Indra Nooyi** and follows a philosophy of life centred on introspection and self-awareness, particularly in understanding her impact on situations and individuals around her.



Diveshni Govender

Diveshni Govender is a key accounts manager at Weir Minerals Africa. Her role involves building sustainable partnerships with high-value customers, serving as the communication link between them and internal stakeholders. Govender's academic journey spans from matric at Isipingo Secondary School to a Public Relations Diploma with cum laude from Anchorlite College, culminating in a Bachelor of Commerce in Marketing Management from UNISA. Despite being heavily pregnant and later juggling maternal duties with studies, she persevered to obtain her degree, marking her most significant personal achievement. Adopting an organised, goal-driven management style, Govender maintains a long term vision but remains adaptable to situational demands. Although she was fortunate to meet her spiritual master, **Sri Sathya Sai Baba**, twice in India, she wishes she could have experienced his divinity and grace in a family interview. Govender's life philosophy revolves around building a strong foundation based on good morals and values to overcome life's challenges, with spirituality as a crucial element of this foundation.

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Graham Herbert

TEBA (Pty) Ltd

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Full Name: Graham Robert Herbert

Position: MD of TEBA (Pty) Ltd

Main Activity of the Company: Serving mines and mineworkers in the gold and platinum sectors

Year and Place of Birth: 1964, Eshowe, KwaZulu-Natal

Schools and Tertiary Education: Matric, Michaelhouse, 1981; BSc, University of Cape Town (UCT), 1985; MBChB (UCT), 1990; Pew Research Fellowship, Cambridge, 1995 and 1996; AMP, Harvard, 2005

First Job: Medical intern, Ernest Oppenheimer Hospital, Welkom, 1991

Size of First Pay Packet: About R5 400 a month

First Job with Present Group: AngloGold Rural Health Initiative – GPS registration of mineworkers' homes and determination of their families' needs

Career History Prior to Present

Position: Ernest Oppenheimer Hospital, 1991; SAMS, 1992; Anglo American Corporation, 1993 and 1994; AngloGold Rural Health Initiative, 1995 to 1999; TEBA, 2000 to present

Value of Assets under Your Control: TEBA has a turnover of roughly R200-million

Number of People under Your Leadership: 600

Management Style: I try to listen carefully and lead by example. Technically speaking, I am a consultative leader and, secondly, a directive leader, but you should check with my colleagues!

Personal Best Achievement: Marrying Sally Jackson

Professional Best Achievement: Transforming TEBA from a club of the mining industry into a profitable services business

The Biggest Influence on Your Life: My relationship with Jesus Christ

Person Who Has Had the Biggest Influence on Your Career: James Motlatsi

People You Would Most Like to Meet: CS Lewis or any world chess champion

Businessperson Who Impresses You the Most: Any businessperson courageous enough to manage with absolute integrity

Philosophy of Life: To fulfil God's purpose for my life

Biggest Ever Opportunity: The TEBA Black Economic Empowerment deal and the creation of a 25% employee trust with James Motlatsi

Biggest Ever Disappointment: Not getting support in 2001 and 2002 from the mining industry for the TEBA rural development initiative

Hope for the Future: That we pay a sustainable dividend to TEBA employees, use TEBA's resources to help mineworkers (both current and past) and their families to reverse the hardship created by migrancy, and the transformation of the South African economy

Favourite Reading: The Bible, biographies, classics and African literature

Favourite TV Programmes: Sport, wildlife and history

Favourite Food/Drink: Bacon, banana, and chilli pizza/home-brewed Saison Ale

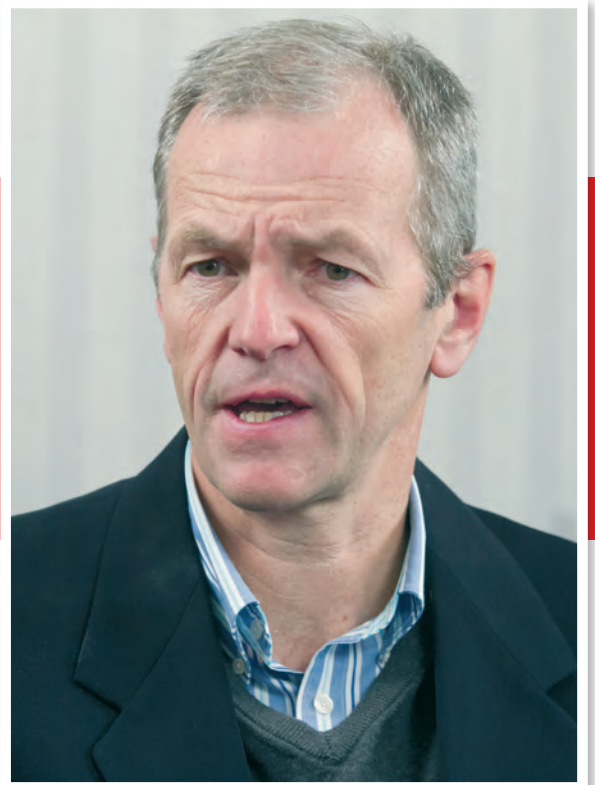
Favourite Music: Classical, jazz, and 80s

Favourite Sport: Playing tennis and padel

Car: Toyota Hilux double-cab (2x4), 2000 model

(Children's) Pets: One Labrador

Dislikes: Greed and dishonesty



Favourite Other South African

Company: Bean There, for its great coffee and fair trade agreements with African farmers

Favourite Foreign Company: Cadbury, for its global role in corporate governance and industrial relations (and for making the best whole-nut chocolate in the world!)

Married: To Sally (née Jackson), since 1993

Children: Three adults

Clubs: Country Club Johannesburg



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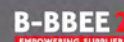
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