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# Mining ZIMBABWE

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*US$12 Billion,*
*PGM performance*

*Invictus Energy signs PEDPA with Zimbabwe*

*Liebherr launches next-generation 600-tonne mining excavator*

## GOLD PRODUCTION PROJECTED TO RISE,

*but current reality is otherwise*

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Mining ZIMBABWE

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# Eureka Gold Mine set to re-open in 12 Days

Eureka Gold Mine in Guruve, which has been closed for over two decades, is set to open in 12 days, with the injection of 60 million dollars into the resumption of the mine, announced the Ministry of Information and Publicity.

By Shantel T Chisango

Speaking on the resuscitation of the mine, His Excellency, President Emmerson Mnangagwa said the injection of the 60 million into the mine bears witness to the fact that investors are hopeful of a bright future for the country's economy.

"This injection of 60 million into the resumption of this mine bears testimony to the confidence that investors have in the bright future of this economy," said Mnangagwa.

The company was, last week, fortunate to conduct its first-ever waste blast in a bid to make way for mining and processing operations.

"The first blast is significant as it represents the commencement of mining activities at Eureka after the site was under care and maintenance for over 20 years. Although this is just a waste blast to allow access to the gold ore it is significant to the team and

represents clear progress on our path to gold production in July 2021, commented the Managing Director, Mr James Beare.
In addition, one of the main projects, along with the building of a massive milling and processing plant at a cost of approximately 17 million US dollars, was a massive dewatering exercise of the open pit at Eureka Gold Mine.

Eureka was developed as a modern gold mine in 1999, designed to produce approximately 70 000 ounces of gold per annum from an open pit before an underground operation was established. The mine was operated during 1999-2000 after which operations were suspended due to the then harsh economic environment.
Eureka Gold Mine is set to produce over one tonne of gold yearly contributing to the 100 tonnes annual gold production target set by the government.

*Disclaimer: 12days mentioned in the article is from 6 April 2021.* ***Images credit: Phibion Chivhanga***

# Scott submits 980 kgs gold to Fidelity in 2021

*Pedzisai "Scott" Sakupwanya*

Despite gold deliveries to Fidelity Printers and Refiners taking a knock in 2021 as compared to the previous five years, Pedzisai Scott Sakupwanya through his Better Brands Jewellery company has already delivered 980 kgs of gold so far into the year.

Rudairo Mapuranga

The revelations were made at the Zimbabwe Miners Federation (ZMF)- Fidelity Printers and Refiners (FPR) gold buyers breakfast meeting where gold buyers met with buyers to deliberate a way forward in regards to reducing leakages and improve miners' gold returns.

Official figures from Fidelity show that gold deliveries continued to decline in 2020 dropping by 31 per cent to 19,052 tonnes due to a host of reasons including smuggling and subdued performance by producers in the sector.

The figures show that deliveries declined to 19,052 tonnes last year from 27,66 tonnes a year earlier, In 2018, the country delivered 33,2 tonnes of the yellow metal.

Gold buyers at the meeting deliberated that it was essential for Fidelity to give buyers at least a 5 per cent RTGS incentive as this was going to capacitate the buyers at the same time reducing competition offered by the black market.

The buyers also agreed to make it illegal for buyers to peg prices above FPR official prices.

# Blanket mine production to increase 37 percent


One of Zimbabwe's biggest gold producer, Caledonia Mining's Blanket mine has recorded a transformational year with record production, attaining a gross revenue of $100 million and gross profit of $46.6 million due to improved gold recoveries.

Rudairo Dickson Mapuranga

According to the financial and operating results for the year and the quarter ended December 31, 2020, released by the company, Blanket mine achieved gross revenue of $100 million equating to a gross profit of $46.6 as compared to $75.8 million gross revenue attained for the year and quarter ended 31 December 2019.

Earnings before interest, taxes, depreciation, and amortization (EBITDA) was up by a margin of 43 per cent with $43.3 million as compared to $29.9mil achieved in 2019 and the total dividend paid of 33.5 cents per share, a 21.8 per cent increase from 2019.

According to the report, Blanket Mine gold recoveries have improved by 93.8 percent following the completion of the upgrade to the oxygen plant in the year 2020, the company said that, the previous year (2019) gold recoveries also improved by 93.4 percent.

The company also recorded 57 899 ounces of gold in the year ended 31 December 2020, a record annual production at Blanket Mine, the mine had produced 55 182 ounces in 2019. Caledonia during the year also entered into option agreements on two properties, Glen Hume and Connemara North, in the Gweru mining district in the Zimbabwe Midlands for the right to explore each property for periods of 15 and 18 months respectively.

Quarterly dividend increased by 10 per cent to 11 cents per share in January 2021, a 60 per cent cumulative increase from the level of 6.875 cents since October 2019. This is due to Caledonia's improved financial and operating performance and the enhanced outlook as the Company approaches the end of the Central Shaft project.

The company's 2021 gold production guidance is pegged between 61,000 - 67,000 ounces. Central Shaft commissioning is expected in the first quarter of 2021 after which production is expected to ramp up to approximately 80,000 ounces in 2022.

According to Steve Curtis, the company's Chief Executive Officer, the year operations were splendid with the company sinking a central shaft for $67 million all funded through internal cash flow.

"Operationally, the last 12 months have been transformational for the business. Central Shaft has been a five-year project costing approximately $67 million, all funded through internal cash flow and I am delighted that equipping was completed in the period and commissioning is on track to be completed in the first quarter of 2021.

"Production in the Year was 57,899 ounces, which was at the top end of the guidance range and was a new record for annual production. The robust operating performance was supported by a rising gold price and gross profit for the year was $46.6 million - almost 50 per cent higher than 2019. Gross profit for the quarter was $14.4 million - almost 27 per cent higher than the comparable quarter. Once Central Shaft is commissioned, we can start to expect further increases in production: guidance for 2021 is a range of 61,000 to 67,000 ounces while from 2022 onwards it is 80,000 ounces - 38 per cent higher than in 2020.

"We also increased the dividend for the fourth time at the start of January to 11 cents a share. This is a 60 per cent cumulative increase from the level of 6.875 cents since October 2019, creating genuine value and returns for our shareholders.

"In trying to minimise the impacts of our operations on the natural environment and in a general drive towards a more sustainable future for our business, Caledonia has entered into a contract to construct a 12MW solar plant at the Blanket Mine. To fund the project, in the third quarter of 2020, the Company issued approximately 600,000 shares to raise $13 million before expenses.

The number of shares issued was lower than the 800,000 new shares that the Company had expected to issue, thereby improving the anticipated returns to shareholders from the project. Around 27 per cent of the Mine's daily electricity demand is expected to be provided by the new solar plant, thereby significantly decreasing our reliance on non-renewable energy sources; it is also expected to yield a modest return to shareholders.

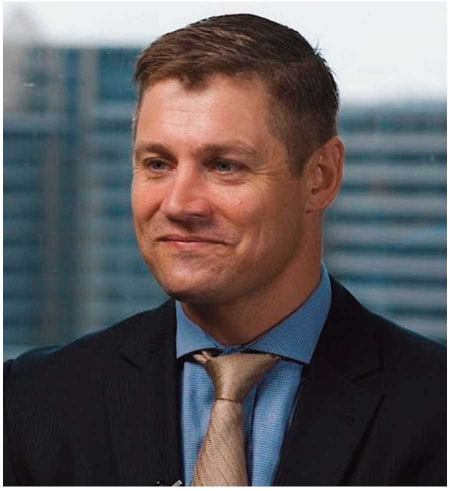
"To further our commitment towards social responsibility, in February 2021, we announced the appointment of Mrs Geralda Wildschutt to serve as a non-executive director with a specific focus on sustainability. Mrs Wildschutt has over 25 years' experience working in social development and stakeholder management in the fields of social performance, community relations in mining operations, financial services and industry bodies focused on responsible mining.

"In December we announced that we had entered into option agreements on two properties, Glen Hume and Connemara North, in the Gweru mining district in the Zimbabwe Midlands which has historically produced significant quantities of gold. These options give the Company the right to explore each property for periods of 15 and 18 months respectively and acquire the mining claims over them. If our exploration is successful these properties will add further impetus to our growth.

"Despite our operational success, 2020 has been a complicated year globally with the Covid-19 pandemic wreaking havoc throughout the world and disrupting many people's lives and livelihoods. The Blanket Mine continued to operate throughout the whole period with strict restrictions of movement put in place in and out of the Mine and local community. The measures to combat the coronavirus are constantly reviewed and monitored in line with WHO and government guidelines, and with our priority always being the safety of our people.

"Caledonia's immediate strategic focus is to complete the Central Shaft project, which is expected to increase production, reduce operating costs and increase the flexibility to undertake further exploration and development, thereby safeguarding and enhancing Blanket's long-term future. We will also conduct exploration activities at Glen Hume and Connemara North while evaluating further investment opportunities in the gold and precious metals sector in Zimbabwe and in other jurisdictions, with our long-term vision of becoming a mid-tier, multi-asset gold producer." He said.

# Prospect appoints Lycopodium to complete Arcadia Feasibility Study



Australia Stock Exchange-listed Prospect Resources, developer of the Arcadia lithium plant in Goromonzi announced that Perth based engineering consulting group, Lycopodium Ltd has been appointed to complete the Feasibility Study at the Arcadia lithium project.

Anerudo Mapuranga

Following the strategy to assess a staged development plan of 1.2Mtpa to 2.4Mpta Prospect is moving swiftly to commence an Optimised Feasibility Study, the Optimised Feasibility Study is expected to be completed during the third quarter of the financial year 2021.

The key aspect to Optimised Feasibility Study is the commencement of construction of the Pilot Plant at Arcadia Lithium Project planned to ship samples during the second quarter of the financial year 2021.

According to the company, the Optimised Feasibility Study will include Substantial Front-End Engineering and Design ("FEED"); evaluation of the modular potential to reduce development and operational risk; review of market pricing for Spodumene and Petalite products; reducing execution schedule risk in providing greater accuracy on key equipment selection and sizing; and, analysis of resultant project economics.

The company is expecting the Optimised Feasibility Study to be complete during the third quarter of the financial year 2021 with civil and mechanical work starting in April; Crushing and DMS installation in May, and most importantly Commissioning Production, and shipment of samples in June of 2021.

According to Prospect's Managing Director Sam Hosack Lycopodium is a good fit to complete the Feasibility Study given its past relationship with the Company and familiarity with the Project, as well as being leaders in Australia and Africa in designing, costing process plants and implementing projects across a wide range of commodities, including lithium.

"We believe that Lycopodium is the perfect partner for Prospect to align with on the Arcadia Project. Their broad capabilities, technical rigour, a team of highly skilled engineers and designers, and track record in Australia, Africa, and Zimbabwe provide a highly valuable service offering to Prospect." He said.

Lycopodium Minerals Africa director Andrew Jakins said his company's relationship with Prospect resources as well as its vision towards achieving sustainable battery powered transport solutions and its experience in Africa gives them the experience needed to complete the feasibility study.

"Our historical relationship with Prospect's management team and global involvement in Lithium projects make Lycopodium a logical fit for the Arcadia Lithium project and one which we are excited to be a part of. It is Lycopodium's strategic intent to focus on battery mineral projects that will contribute to the success of sustainable battery powered transport solutions, and thereby contribute to a greener environment through the reduction of greenhouse gasses," he said.

The Company is in discussions with its existing offtake partners and, as well as institutional financiers for financing pathways for the staged development of Arcadia. It is also in early-stage discussions with multiple strategic partners regarding joint development structures. The Company believes that the use of a tier-one engineering firm for the Optimised Feasibility Study should assist in the process of securing funding for the Project. The company promised that it would continue to retain the ability to go direct to plant capacity of 2.4Mtpa, should market conditions and funding activities allow.

"We are very pleased with the progress that the Company is making towards delivering on its plan to build and operate a Pilot Plant to rapidly move Arcadia through optimised feasibility and into development. Prospect is determined to deliver on a clear development pathway in as short a timeframe as possible, whilst still ensuring that the technical and economic risks are fully understood and addressed.

"The staged development plan of 1.2Mtpa to 2.4Mtpa reduces time to production by leveraging lower capital expenditure and funding requirements. It also enables clear expansion in line with market growth. This development strategy allows project execution and market integration risks to be minimised whilst accelerating the pathway to first cashflow. Critically, Prospect maintains the ability to go direct to a plant capacity of 2.4Mtpa should market conditions and funding activities allow. We look forward to providing regular market updates on the progress of the Optimised Feasibility Study over the coming months." Hosack said.

# Invictus energy signs PEDPA with Zimbabwe

Invictus Energy has signed the Petroleum Exploration Development and Production Agreement ( PEDPA) with the Republic of Zimbabwe.

Shantel Tyne Chisango

PEDPA provides the licence holder the right to enter into a 25-year production licence following exploration periods and also provides for Special Economic Zone Status for Cabora Bassa Project.

Following approval from His Excellency President E.D. Mnangagwa, the PEPDA between Invictus's 80% owned subsidiary, Geo Associates and the Republic of Zimbabwe has been executed. The agreement was signed on behalf of the Government of the Republic of Zimbabwe by the Minister for Mines and Mining Development, Hon. Winston Chitando at a signing ceremony at State House in Harare on Friday 26 March 2021.

Commenting on the signing of the PEDPA, His Excellency President Mnangagwa said that, "The signing of the (PEDPA) agreement represents major strides in our efforts to tap into our oil and gas deposits, which is a new territory in the country's mining sector."

He further stated that other potential benefits of an oil and gas discovery included electricity generation, production of liquid petroleum, liquefied petroleum gas (LPG), fertiliser production and petrochemicals. President Mnangagwa said the signing of the PEDPA with Geo-Associates, (Invictus' 80% owned subsidiary), was testimony to the Government's commitment to open up the economy to investment as well as engage and reengage the global community to do business in Zimbabwe.

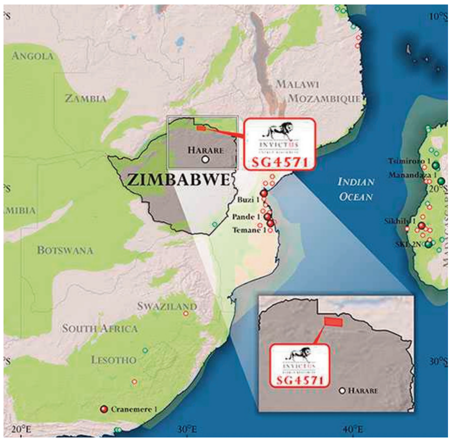
Moreso, Vice President Constantino Chiwenga stated that "the exploration and development of oil and gas resources is a game-changer in making the Zimbabwe energy sector self-sufficient which is key in realising our national vision."

INVICTUS

Furthermore, Minister for Mines and Mining Development Hon. Winston Chitando stated, "one of the early engagements we had, as the Second Republic was to engage with Geo-Associates and Invictus to work together to ensure that we work on the development programme of this asset."

In addition, Invictus Energy Managing Director, Scott Macmillan commented that "We are extremely pleased to have executed the PEDPA with the Republic in Zimbabwe following extensive negotiation and collaboration with the various Ministries, government bodies and the Zimbabwe Investment Development Authority (ZIDA).

"We are grateful for the collaborative and constructive efforts by the Government to put the PEDPA in place which provides a robust framework to facilitate long term investment into the oil and gas sector with confidence. "This is a significant milestone for the project which provides the security of tenure and the confidence for the significant future investment ahead. The PEDPA and the provision for the creation of a Special Economic Zone for the project layout the pathway for rapid development of the project on exploration success."




Mr. Macmillan added that "This project is a potential game-changer for the country and if successful will change the energy landscape and place Zimbabwe on a path to an energy-independent future."

Invictus Energy Ltd is an independent oil and gas exploration company focused on high impact energy resources in sub-Saharan Africa, with an assets portfolio consisting of a highly prospective 250,000 acres within the Cabora Bassa Basin in Zimbabwe.

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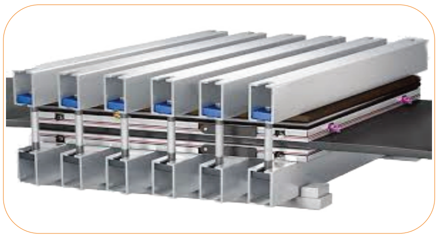

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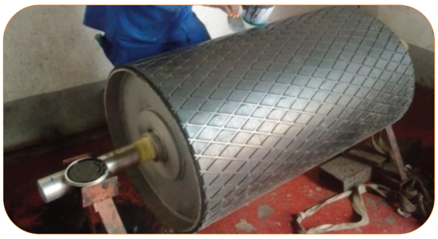

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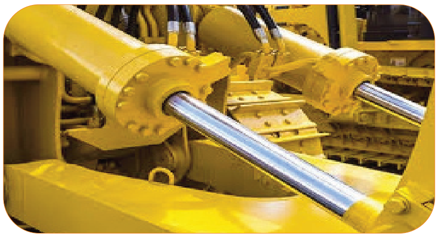

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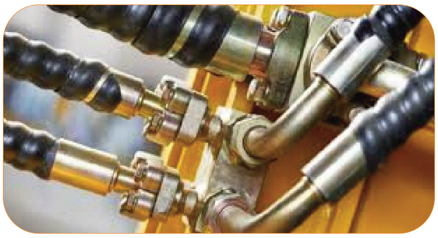

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# Global oil price turbulence of less impact on Southern Africa: Invictus

The impact of global oil price turbulence has been to a lesser extent felt in Africa just because of the mineral consumption particularly for oil products, said Invictus Managing Director Scott Macmillan.

In an interview with Corporate Analyst, Peter Strachan, Macmillan said the global oil price increase has been of less effect on Africa due to the fact that Southern Africa is not a larger consumer, but he expressed his concerns on the issue of Africa's inability to have reliable and affordable power.

"The impact has been to a lesser extent felt in Africa just because of the mineral consumption particularly for oil products so it hasn't had any impact just because it's not a big consumer, but what Southern Africa is facing now is a retirement of quite a substantial proportion of power generation." Mr. Macmillan proposed that the solution to crisis power in industrialized economics is embracing baseload power.

Baseload power refers to the minimum amount of electric power needed to be supplied to the electrical grid at any given time. Day-to-day trends of power usage need to be met by power plants, however, it is not optimal for power plants to produce the maximum needed power at all times.

"Electricity crisis is already in that part of the world but it's going to get more acute and these countries and industrialized economies need reliable and affordable baseload power and with an already heavy mix of renewables in the form of hydro adding additional renewable energy capacity to the group."

Adding on, Macmillan said his company is embracing baseload power because it's affordable, cleaner and can be built more rapidly.

"To take up a substantial proportion of baseload power looks ambitious so the most excellent solution looking forward is baseload power, it's cheaper, it's cleaner and it can be built and scaled and can be built more rapidly."

Following their project in the country, Macmillan said that they are aiming to shoot a memoir of around 400 kilometres of 2D seismic and that the group has been fortunate enough to be able to reduce service costs and equipment for the last 12 months, and the company has been engaging in contract negotiations, so the group will be ready on the ground in the second quarter of this year.

"We are looking to shoot a memoir of around 400kilometeres of 2D seismic. Over the last 12 months, service costs have reduced dramatically and it freed up supply and equipment and we have been very fortunate to have negotiated a seismic contract.

"We are just about finished with the contract negotiations and we are ready to be on the ground in Q2 of this year so we are ready to shoot," said Scott.

Invictus Energy Ltd is an independent oil and gas exploration company focused on high-impact energy resources in sub-Saharan Africa.


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# US$12 Billion, PGM performance

Through President Emmerson Dambudzo Mnangagwa's vision for the mining sector contributing US$12 billion annually by 2023, the Platinum Group of Metals subsector is expected to contribute US$3 billion with performances so far proving that the subsector has all it takes to reach the mark.

Rudairo Mapuranga

Zimbabwe has the world's second-biggest platinum reserves after South Africa. In 2019 the platinum group metals (PGMs) contributed about 43 percent of the country's total mineral exports, up from 35,93 percent recorded the previous year.

The performances of Platinum mines, Zimplats, Unki and Mimosa mines in 2020 despite the threats and dangers posed by the coronavirus disease of 2019, the COVID-19 pandemic is a clear indication that the Platinum Group of Metals subsector can push to become one of the most important sectors in the country.

In 2020 according to national statistics Platinum also fetched higher than gold becoming Zimbabwe's biggest foreign currency earner in two straight two years, despite the President suggesting that the gold sector can fetch US$4 BILLION by 2023 through his US$12 BILLION mining roadmap.

**PGM mines performance**

Zimbabwe's biggest platinum producer, Zimplats Holdings Limited recorded a 79 percent increase in sales revenue for the half-year ended December 31, 2020, after receipting close to US$675 million.

While Anglo American Platinum Limited (Amplats)'s local unit, Unki Mine's PGM production increased by 7 percent to 55 800 ounces during the fourth quarter to December 31, 2020, compared to the same period in the prior year.

At the same time, Mimosa Mining Company produced more than 123 000 ounces of platinum in the financial year surpassing its annual production target.

Although the performance of the metals is promising and encouraging, it should, however, be noted that the platinum sector still has a long way in achieving the President's vision.

**Complimentary production**

Through Kuvimba owned and posed to be Zimbabwean's biggest PGM producer, Great Dyke Mining Investment's Darwendale Mine in Norton, the government is optimistic that platinum will reach the US$3 billion target by 2023.

Great Dyke Investments has opened two box cuts at its site in Darwendale and would be operational by 2023.

Bravura Zimbabwe is working on resource confirmation at its platinum project in Mashonaland West province. It is unearthing investment compelling data that is expected to give impetus to the mining venture. Bravura is expected also to add in the PGM production by 2023.

The stats and outlook prove that the PGM subsector will achieve the President's vision even surpassing it by 2023.

## Maisha Health Fund medical insurance for Zim Miners

Maisha Health Fund a medical insurance company under Cassava Smartech Group is now a partner to the Zimbabwe Miners Federation (ZMF). This is a timely partnership to provide medical cover as mining poses a great risk to the health and safety of the miner. The medical aid will cover sudden illnesses, accidents and it comes with an ambulance for emergencies.

Maisha Health Fund offers medical insurance covers with no shortfalls and no co-payment, giving members access to a wide network of medical services providers nationwide. Miners can join the medical aid scheme individually and add their families/ dependents. The medical aid gives them access to doctor's consultation, admission at public and private hospitals, labs, x-rays and well as pharmacies. The medical plans are affordable, members will contribute from as low as USD8 per month, with the flexibility of joining in any town nationwide.

Speaking at the launch of the agreement, Maisha Health Fund Managing Director Mrs Hazel Banza highlighted that they are capacitated to cover miners nationwide. "Mining is an integral part of the economy and as a medical aid company we will provide insurance to minimise the treatment cost burden to the miner in the event of an injury or sickness," she said. "Medical emergencies come unexpectedly, and we are here to help miners plan for the unseen and give them peace of mind while they work," she added.

Maisha Health Fund in a renowned medical aid company and has the capacity to tailor medical aid packages for corporates, schools and colleges. Members enjoy a wide range of benefits such as no shortfalls and no co-payments, ambulance cover, Covid-19 cover, video consultations at Maisha Telehealth Centres as well as on the Maisha Medik App, Healthy living Tips and prescription medication deliveries.

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***Telephone +263 4 486121/6***

# Zim attracts investors as global copper demand surges

Several investors have expressed interest to resuscitate the Zimbabwe copper industry amidst revelations that the sector has become an important asset in the world's clean energy drive, the Deputy Minister of Mines and Mining Development Hon Polite Kambamura has said.

Rudairo Dickson Mapuranga

According to commodities trader Trafigura Group as usage increases due to its role in wiring and pipes to batteries and motors the world will need 10 million tonnes more copper to meet demand by 2030.

Estimates from the commodity market analysis group, CRU group suggests that the copper industry needs to spend upwards of US$100 billion to close what could be an annual supply deficit of 4,7 million tonnes by 2030 as the clean power and transport sectors take off.

International Copper Study Group said for the first 12 months of the year, the market was in a 559,000 tonnes deficit compared with a 383,000 tonnes deficit in the same period a year earlier, at the same time world refined copper output in December was 2,11 million tonnes, while consumption was 2,09 million tonnes.

The closing of this huge gap to satisfy copper consumption would require the building of huge copper projects with Zimbabwe have the potential to shape one of the world's biggest copper mines.

According to the Deputy Minister of Mines and Mining Development Hon Polite

*Hon Polite Kambamura*

Kambamura, some investors have expressed plans to rebuild Zimbabwe's shutdown copper mines like Mhangura and exploration companies are also keen to explore copper fields.

"Currently there are several investors who have expressed interest to resuscitate some of our copper mines and ZMDC is working on the issue. Plans are also underway to explore our reserved areas for copper," Kambamura said.

Copper is both an economic bellwether and a key ingredient in the push toward renewable power and electric vehicles. If producers fail to address the deficit, prices will keep rising and present a challenge to a worldwide energy transition to fight climate change.

The Parliamentary Portfolio Chairperson on Mines and Mining Development Hon Edmond Mkaratigwa said investors were welcome to invest in the country in the effort to see the growth and development of the mining sector in the near future as clean minerals are increasing in popularity.

"Investment in the mining sector is driven by market prospects as perceived by investors be, they local or foreign. Zimbabwe is open for business and that's business in all sectors and we will be happier to have forthcoming investors with a particular interest in the area." Hon Mkaratigwa said.

Projections have it that, higher copper prices will lead to more recycling and substitution of copper with cheaper alternatives such as aluminium, a development that will ease shortfalls.

Although projections appear to be on the right track it must not be forgotten that those producers are wary of repeating oversupply mistakes of past cycles by accelerating plans at a time that mines are getting a lot trickier and pricier to build, one reason why copper prices are near decade highs at above US$4 a pound. It should however be noted that according to the International Copper Study Group global world refined copper market showed a 24,000 tonnes surplus in December, compared with a 93,000 tonnes deficit in November.

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# Strengthening mining development and development through mining

*Hon Edmond Mkaratigwa*

Zimbabwe's mining sector should continue to balance between strengthening mining development and development through the mining sector.

By Edmond Mkaratigwa and Dr Albert Maipisi

This implies a two-pronged approach that straddles the two sides of the national development agenda. The first thrust of the country in the New Dispensation was developing the mining sector and supporting its growth. That resonates with the general acknowledgement that you cannot put the cart before the horses. One has to plant first, weed and then of course reap. The focus has been on the extraction of the physical mineral and there is a need to develop the support infrastructure for both small-scale and artisanal mining development, as well as national development through the same. It is very clear that the mining sector and that refers to both small-scale and artisanal mines plus the large-scale mines, depend vastly on the international markets in terms of all the relevant machinery, equipment and other smaller technological supplies. In addition to that large magnitude of dependence, the country is taking longer and longer to realize the potential advantages of investing in local mining sector industrial development beyond extraction of the minerals alone.

Zimbabwe still has investors in the mineral value addition chain although they are becoming smaller and smaller a number due to lack of support. Some of these local investors have a huge understanding of the processes, systems and markets for the minerals or stones they are involved in. A closer look at their machinery and equipment reveals that they are neglected although they are still adapting to ensure their continued survival. Among them, are those who still have pre-independence machinery and equipment, and some even possess equipment they bought in the early post-independent Zimbabwe. Today, they go to other countries and buy the machinery and equipment from there, then breakdown the machines or equipment, take off the parts they need, and then use those parts to replace old worn-out equipment parts. The main old equipment and machinery components are still quite useable and those in that category always say, "Locally made equipment and machinery are more durable". A closer look reveals that some equipment being imported are not very durable, lack guarantees and warrantees, have no easily accessible after-sales services, and their prices are almost many times more than what they can actually net if manufactured locally. In that respect, it means Zimbabwe is in a triple tragedy of losing money on many fronts, chiefly from the mining sector. These fronts are failure to fully enjoy the mineral value since it is exported in its raw form, money lost in procuring equipment from far away lands, as well as money that goes back to our important investors in the form of their entitled return on investment which the country has no control over in line with the business principles. In that regard, the entitlement of returns on investment is not a matter of debate in this write-up.

On the other hand, there are local investors in the country who are working hard to develop mining equipment and most of their equipment still needs improvement and to a larger extent depend on foreign parts due to several reasons. Unfortunately, still, some of these machineries and equipment are predominantly for medium scale mining operations and their prices are also generally higher to be easily accessible by the small-scale miners. The option that follows is that the small-scale mining machinery and equipment dominating the industry are predominantly imported. Their purchase cost varies, but, ranges from US$3 500 to US$4 000 and above. Basically, that means a lot of undeserved foreign currency losses which can be prevented, are happening in the sector throughout the country. The net effect is delayed realization of growth particularly by the small-scale and artisanal miners in Zimbabwe. Some of these mining equipment and technologies are not very complicated in terms of having them developed locally, for example through closely working with local universities and technical colleges in line with the Higher Education 5.0 thinking lens.

Development starts when we decide to be real with ourselves and when we decide to courageously start from whatever position we are at, instead of postponing starting our journey, by transferring our innovative responsibility to other countries, which will reap all fruits that we would have tried to amass, leaving us at a weaker position of an increased dependence cycle, instead of self-reliance.

The mining sector requires a deliberate investment into its supply chain and instead of only digging the natural mineral resources, the mineral extraction process requires innovation and it is a market quite virgin and minimally tapped into.

Zimbabwe has focused on large scale mining, yet, the country can step-by-step start at levels its people can afford considering the existing capacities. That can be among others, focusing on supporting local small and medium scale equipment and machinery manufacturing. Otherwise, in the meantime, the government may have to take the initiative to supply the equipment into the country and revive the role of the Ministry of Mines and Mining Development in supplying some key machinery, equipment and other accessories necessary for mining. That would save unnecessary loss of money on the part of the small-scale miner and improve the build-up of the much-needed riches including gold and the money earned from mineral sales to continue circulating in the country, and to a greater extent that will contribute to local wealth building and distribution. Investment in developing local mining sector supply and value chains further put the country and its citizens in control and towards ownership of their production processes through market-based initiatives, which can strengthen operational sustainability and reduce production process risks. This sustainability can be ensured through easy access to necessary supplies while as we produce whatever we can locally, our local innovative prowess improves through continuous research. Feedback received from those who would have experienced using the relevant equipment in practice, thereby, can further strengthen local research and development, starting from where the country is at.

Some of the leakages experienced in the gold sector are a justifiable result of realistic reflection by the miners and in particular the small-scale miners. These as rational beings consider the pros and cons of using the formal mineral market systems for gathering money that they will use to buy products found outside the country. Formalization, and particularly of some unregistered miners, is the first step. The government is already embarking on many initiatives to improve the mining sector production, wealth creation, distribution and such related developments locally. That should neither stop investment directed at the other key yet neglected aspects of the sector with the potential to add value to the whole process, including outcomes related to the level of overall national mineral production. The mining sector has huge potential to unlock the economic growth of Zimbabwe. The challenge is also with the current local mining machinery and accessories suppliers and producers' regime. Some of their prices are not commensurate with the realities in some foreign countries and, other products can lack aesthetics associated with expected top-class and competitive workmanship. Those are minor issues sometimes, but they are also key for economic growth and market decisions. People would rather purchase a low-quality product than a good quality product that does not appear new when purchased due to poor workmanship. Such will cause people to continue going to the less durable yet aesthetically better. Government can look at making these investors in the mining supply chain start to dream bigger as they are among the pillars that hold the national destiny. In-deed, they cannot be endlessly small and medium-scale in a country that is a potential mining giant.

*[Edmond Mkaratigwa (Ph.D. Candidate of Energy, Innovation and Sustainable Technologies and Chairperson of the Parliamentary Portfolio Committee on Mines and Mining Development) & Albert Maipisi (Ph.D. in Disaster Management and Public Administration)]. Published ideas are entirely the views of authors and can not be attributed to their current positions.*

# Transferring the Benefits of Mining Resource Windfalls to Local Communities

In lieu of the drive by the Government of Zimbabwe to accelerate the country's mining sector towards a 12 billion dollar industry by 2023, it is pertinent to intensify discussions on how the increase in mining activity and mineral exports may be channelled towards the realisation of real socio-economic benefits to the communities within which the mining activities are concentrated.

By: Daniel Nhepera - **Minerals Economics, Economic Research Unit**

Commendably, Government has made valiant efforts to set in motion several mining projects in pursuit of its 2023. Green-field developments such as the platinum projects by Great Dyke Investments, Bravura and Karo Resources, as well as the oil and gas project by Invictus Energy, harbour much promise. Similarly, brownfield projects such as the reopening of the Shamva and Eureka gold mines, among others, also buttress Government's efforts at reinvigorating the mining sector.

As a dampener, however, findings from an array of aggregated country-level studies somewhat unanimously conclude that there is a negative correlation between mineral endowments/resource windfalls and country-level Gross Domestic Project (GDP). This is to say that the more mineral reserves and mineral exports a country enjoys, the less its national income, as measured by GDP, is likely to be. This being the phenomenon infamously known across the mining circles as the "Resource Curse." Conversely, and to the relief of Governments in resource-rich countries, more recent studies have disaggregated the resource windfalls – economic growth relationship, from a national to a subnational (province, district, town and village) analysis. In a departure from the conventional Resource Curse school of thought, results from these studies have shown that there are in fact gains to be had from mining activities and resource windfalls in resource-rich countries at a sub-national level.

On this basis, it is imperative that there be an understanding of the two main mechanisms by which resource windfalls may translate to greater economic prospects for the inhabitants of mining communities. This is particularly so in Zimbabwe, as we are set on a journey to quadruple our mining output in three years, a feat from which we seek to realise economic and welfare benefits at the house-hold level. An understanding of these mechanisms would prime both the inhabitants of mining communities and the policymakers to take necessary action, allowing for the optimal transfer and absorption of these economic and welfare gains from mining. The avenues of transfer in mention, therefore, are that of an Effective Fiscal Appropriation and good Market Development for the Harnessing of Local Demand Shocks.

**Effective Fiscal Appropriation**

Fiscal Appropriation relates to the means by which the Government (National and Local) makes use of the fiscal revenues obtained from the mining sector in investing towards the provision of public goods and services to the betterment of its citizenry in mining areas. Mining fiscal revenues may be collected via direct taxes (income, profit, property), indirect taxes (value-added-tax, sales tax, excise, import/export duties, pay-roll tax), surtaxes, licensing and user fees.

# Transferring the Benefits of Mining Resource Windfalls to Local Communities

corporate taxes and royalties. The fiscal revenues are accumulated at the central Government level, which then distributed to local Governments across the country via the budget process. Because of this, there is an apparent misappropriation of fiscal revenues to the localities in which the mines are present and from which the revenues are drawn. The local authorities, therefore, see little respite in budget constraint, regardless of the opening or reopening of mining projects in their localities. This strains public spending, suppressing investments in the provision of public goods such as schools, clinics and roads.

As such, it can be seen how there is a need for an effective fiscal appropriation of mining revenues which would see the improvement of livelihoods in areas from which minerals are being extracted. More so, these are often the rural areas in Zimbabwe, where such investment in public goods and infrastructure is most needed. In fairness, the extractive companies do play a role through Corporate Social Responsibility initiatives. Roads, hospitals, schools and housing have often been provided. These are often once-off initiatives, however, whereas long term developmental investments, quite possibly with a profit motive, would do more to instigate positive spillovers – increasing local income and growth. The companies are, however, only resident in Zimbabwe for the duration of the lives of their mines. Bigger and longer-term developments, such as the building of shopping malls and stadiums, are therefore often left to the Government, which is marred by incapacitation.

In a case where mining revenues are availed to local Governments for investment in public goods, there is a strong requirement for those in political positions to be obligatorily responsive to the needs and demands of the broader population. Well-functioning institutions (road construction, water and electricity supply) are also mandatory. Robust layers of accountability also are necessary so pertinent checks and balances are put in place. Failure to meet these requirements would only lead to a lack of transparency and inevitable corruption. Furthermore, if carte blanche is to be given to local Governments in the deployment of mining fiscal revenues towards public spending, as prescribed in the Devolution Agenda, there will be a need for Government to equip local bureaucracies with the necessary technical skills in management and planning, as well as enforce the use of transparent and real-time digital channels for reportage, to see to an effective and transparent appropriation of the fiscal revenues.

A case can also be made for fiscal decentralisation, being the migration of mining fiscal revenue collection systems from central Government to local Government. It is argued that such a system would cast the revenue collection net wider, increase tax compliance and allow for collections to be made with targeting public spending expenditures in mind. The revenues can then be apportioned to these expenditures without the need for cross-referencing with the central Government. This system would arguably make local Governments accountable for public good provision. Researches on the correlation between fiscal decentralisation and economic growth are inconclusive, however.

Such is the reason that there are several systems of mining revenue distribution being employed across the world. For instance, Tanzania employs the same system used in Zimbabwe, where there is no formal mining revenue redistribution systems in place. Ghana, on the other hand, employs a revenue-sharing system, where 20% of mining royalties are allocated to the Mining Development Fund, which shares it amongst mining sector institutions and the local authorities with mines in their jurisdictions. 10% of the royalties are distributed directly to the local communities where the mines are located. From the mining participation share (a mandatory 10% free carried shareholding in all mineral projects by the Ghanaian Government), 50% is allocated to mining institutions that support the sector at a national level, 30% to district assemblies, 10% to local chieftaincies and 10 percent to traditional authorities. Of note is that about half of Ghana's mining revenues are collected from 2 districts out of about 140 mining districts.

A preferred "best practice" in revenue redistribution, which is now being utilised in more advanced mining economies (Australia and Canada) is that of Impact Benefit Arrangements (IBA). These involve the negotiating and signing of binding agreements between individual mining companies and the custodians of the land upon which a mine intends to be developed. IBAs increase the bargaining power of the local communities, as they can negotiate with the mining company and arrive at a mutually amenable position regarding issues like the provision of education facilities, job training, employment security, business opportunities for the local firms and financial benefits in the form of free carry shares (Royal Bafokeng – Impala Platinum, South Africa), stock options and a share of the mines' profits. This system would be extendable to Zimbabwe, where land rights are customarily (although not legally) bestowed upon the local chieftaincies that oversee the area. It is not unusual for representatives from mining companies to visit the local chief and Svikiro of an area prior to establishing mining operations within it. It is in this setting that discussions may be held regarding the obligations to be bound on each party in lieu of the establish-

**Market Development for the Harnessing of Local Demand Shocks.**

The increase in mineral revenue windfalls is also associated with positive demand shocks, stemming from the increase in demand for locally produced services and intermediate materials by the mine itself, as well as the upsurge in employment rates and the dovetailing nominal wages. Regarding the demand for materials and services, a prerequisite would be strong backward linkages between the mining company and local business outfits, which is unfortunately not often the case in Zimbabwe. This may be achieved, however, by means of Local Content Policies decreed by the Government, as was done in Chile in the year 2000. In the Chilean case, there were ostensible positive spillovers gained, and this has served as a precedence and case in point for Governments worldwide.

Regarding increases in employment rates and nominal wages, the case is much more based on the old economic cliché of 'Ceteris Paribus.' Through economic transferrals, an increase in labour demand on the back of a resource boom would increase nominal wages (as the employers would have to offer higher wages to attract more workers). This would in turn increase aggregate demand for non-traded goods and services, as the employed workers will be able to afford more, which also increases the prices of the said goods and services. As an example, discrepancies in nominal wage rates and disposable incomes between areas can be used to explain variations in prices of non-traded as simple as a haircut. Goods and service providers thereby stand to gain from the resource boom.

Furthermore, there is likely to be migration to areas where new jobs and opportunities have become available, this will have the added benefit of agglomerating industries around the new business hub. Such agglomeration will also carry the benefit of improved productivity, which is a phenomenon associated with the clustering of economic activities.

As a priori, the above effects will stand to present positive spillover effects to workers in industries not directly linked to the extractive activity. This can be quantified by a mining job multiplier, wherein, a study by Sanoh and Coulibaly (2015) established that South Africa enjoys a mining job multiplier of 1.8 – meaning that for every 1 mining job created, 1.8 jobs are created in other industries not directly linked with the mining activity. The effect can be conceptualised by noting that South Africa has over half a million workers in its mining industry, therefore at least 900 000 jobs in other industries may have been created by mining alone. Mali was estimated to enjoy a multiplier of 1.67, which is also robust. This thereby shows that there are economy-wide employment gains to be realised on the back of a resource boom, where market opportunities are liberalised and fair.

In conclusion, it is left to establish what the roles of the Government and the inhabitants of mining communities are in ensuring that the fiscal and market space are ideal for the transfer and absorption of the benefits from resource windfalls. For starters, the relationship between central and local Governments is important in establishing an effective means for mining fiscal revenues to make their way back to the mining communities. Central Government also has to ensure that the quality of governance and administration systems at the local level are robust enough for the effective deployment of fiscal revenues in public spending. There is also room to include the custodians of the land in mining areas (the chiefs in particular) in negotiations with the mining companies towards binding contracts which dictate each party's obligations to the other.

On the market side, a mining sector local content policy is still anticipated. This would strengthen backward linkages between mines and local businesses. The local content policy should be, however, supported by the initiative for the attainment of skills and knowledge on the part of the local businesses, so they may compete with better-established suppliers on the quality and price of their wares. Systematic impediments to labour mobility (cultural and political) also require to be abated by means of Government policy, to allow for free movement of labour to new mining areas, which, in turn, would see to a more efficient allocation of skilled labour. Lastly, it is incumbent on the dwellers of mining communities to be entrepreneurial in identifying present and future business opportunities associated with the opening or reopening of a mine. This is to harness the associated local demand shocks and profit from them.

# Cadastre equipment to be inland by June - Chitando


Mines and Mining Development Minister, Hon Winston Chitando announced that the equipment for the implementation of the cadastre system will be in the country by June 2021.

By Keith Sungiso

Speaking at a Zimbabwe Miners Federation( ZMF) event at Rainbow Towers, Chitando said regardless of the mishap that occoured last year when the cadastre was to be released, there is currently a transparent commitment towards the release of the cadastre system.

"There was a delay but the most important thing is there is a very clear path going into donating towards the cadastre system," the minister said.

Answering the question on mining disputes, the Minister pointed out that the cadastre system will be a solution to the problem of land disputes in the mining sector.

"The cadastre system which is now being worked on will take care of most of the disputes so that there is no double allocation of claims," said Chitando.

Moreso, Chitando mentioned that economic transformation in the country will not happen overnight, rather it is a process that needs total commitment.

"Economic transformation is a journey, a process, but the most important thing is to follow the process. Once started, once followed, we will definitely go there."

A Cadastre is normally a parcel-based, and up-to-date land information system containing a record of interests in land (e.g. rights, restrictions, and responsibilities).

The cadastre is a fundamental source of data in disputes and lawsuits between landowners. Land registration and cadastre are both types of land recording and complement each other. (Jo Henssen, Basic Principles of the Main Cadastral Systems in the World).

## Caledonia Mining Central Shaft fully operational

Caledonia Mining Corporation has announced that its Central Shaft is now operating at its full potential.

By Shantel T Chisango

Commenting on the announcement, Chief Executive Officer, Steven Curtis said he is happy that Central Shaft, being the deepest shaft of any gold mine in the country, is operating fully.

"I am delighted to announce that our new Central Shaft, which is the deepest shaft of any gold mine in Zimbabwe, is fully operational," said Curtis.

Mr Curtis further stated that with the full operation of the Shaft, the company can begin to hoist rock, men, and material daily as well as solve constraints in the company. "We can now start to hoist rock, men, and material on a daily basis, which will solve our hoisting constraints."

The operation of the Shaft will facilitate the planned expansion in mine capacity targeting 80,000 oz of gold production per year.
"Commissioning the Central Shaft has been the culmination of a six-year project costing approximately $67million, all funded through internal cash flow," added the CEO. The CEO further said that the Central Shaft project, "has been an owner-funded and built project by the Blanket team and I would like to thank everyone for their hard work and especially for achieving the completion of the shaft without any serious accidents, recording only two lost-time injuries."

Caledonia Mining is a profitable cash generative gold producer with a strong growth profile, its primary asset is the Blanket Mine in Zimbabwe.

By 2022 the Company plans to increase its annual production by 45%, up to 80,000 ounces.

Caledonia is committed to evaluating investment opportunities in Zimbabwe and has entered into two option agreements to acquire the mining claims over Glen Hume and Connemara North.

# Gold production projected to rise but current reality is otherwise

Gold production and deliveries to the country's sole gold buyer and exporter, Fidelity Printers and Refiners (FPR) has been projected to rise to 100 tonnes through President Emmerson Dambudzo Mnangagwa's vision for the mining industry becoming a US$12 BILLION annual earner by 2023.

Rudairo Dickson Mapuranga

According to the President's mining road map, gold is expected to fetch US$4 BILLION annually for the country an average of 100 tonnes of gold production, however, the reality on the ground is proving otherwise with the whole mining sector failing to reach the US$4 BILLION mark anticipated for gold.

International Crisis Group last year estimated that cash-strapped Zimbabwe is losing at least $1.5 billion a year through the smuggling of gold, mainly to traders in Dubai.

There are fears that gold production is heading towards 2008's 3,579.000 kg deliveries to FPR if smuggling and smuggling concerns are not addressed.

In the past three years, small scale miners contributed 60 tonnes of gold against large scale producers who delivered 42 tonnes during the same period.

**Is smuggling to blame?**

*"The failure by the sole buyer to match the world prices only implies that the gold miner will sell his or her bullion to an alternative market where prices are high.*

Gold deliveries plummeted 31 per cent to record 19.052 tonnes during 2020 from 27.66 tonnes recorded during 2019 due in part to Covid-19 effects, delay in payments and low foreign currency retention levels.

According to Gold Miners Association of

Zimbabwe Chief Executive Officer Mr Irvine Chinyenze FPR's failure to give miners the true value of their gold production is a major catalyst to low deliveries.

"The failure by the sole buyer to match the world prices only implies that the gold miner will sell his or her bullion to an alternative market where prices are high. Till they look into the matter seriously the problem will continue," Chinyenze said.

In a recent mining report, FPR was accused of fueling gold smuggling due to their flawed centralised gold buying scheme. The sole gold buyer and exporter reportedly gains an average us$6 from small-scale miners and over US$10 per every gram from large scale miners who sometimes get their payments late thus prejudicing miners of their hard-earned productions.

**What needs to be done?**

The constraints facing the sector has seen gold losing its top spot as the highest foreign currency earner to platinum in the past two years.

A lot needs to be done to gold deliveries to improve. Zimbabwe at one point was among the top 5 gold producers in Africa but its place has since vanished into the abyss.

*Continued on the next page*

# Gold production projected to rise but current reality is otherwise

The following are points that's needs to be implemented for the country to gain its status in world gold production.

**Incentives**

Recently, Governor of the Reserve Bank of Zimbabwe (RBZ) Dr John Panonetsa Mangudya said the central bank was going to capacitate miners and incentivise them to ramp up production. It is of importance for the government to consider mining as a business, reducing production cost for all the miners has a positive effect on gold deliveries. Miners are justified to look at other markets that recognized the value of their productions. The government should also give large-scale producers incentives on equipment imports.

**Reduce fuel and power costs**

The government must look at the high cost of fuel lubricants and power, the cost of fuel and power is greatly contributing to very high production costs. The price of fuel should match that of other countries in Africa, diesel in Zimbabwe costs US$0.30 more than in Zambia, at the same time the government should also invest in power generation to decrease electricity costs.

**Forex retention**

The 55/45 percent retention threshold for largescale producers coupled with the turnaround payment should be relooked and changed. It is an insult for the Reserve Bank to buy gold so predatorily at the same time delaying greatly in payments, this can lead producers to shut down operations or seek alternative markets.

**Prioritise Formalization**

The government should do more to invest in the formalization and regulation of small-scale and artisanal miners. Zimbabwe Miners Federation (ZMF) has been pushing and seeking a government hand in the formalization of the works of artisanal miners. It is of significance for the government to heed the call of ZMF so that leakages in the industry can be reduced.

Zimbabwe produced 21,44 tonnes of gold in 2016, 24,44 tonnes in 2017, 33,89 tonnes in 2018, 27,589 tonnes in 2019, and 19,05 tonnes last year. Lack of formalisation seriously affected production and deliveries from small and artisanal miners in 2020.

**What the government is doing?**

The Government of Zimbabwe has started the process to privatise the gold refining business which will see, both large and small producers acquiring shares in FPR based on their shares of annual bullion deliveries.

A unit of RBZ, FPR will be unbundled into two business units, gold refinery, and printing and minting.

The RBZ said the unbundling of FPR is designed to partially privatise the gold refining business by allowing private players to acquire a stake therein and in the process secure and endear the private sector's interests in the production and marketing of gold in Zimbabwe.

Accordingly, the central bank shall retain 40 per cent shareholding in FPR and dispose of 60 per cent shareholding to both the large-scale and small-scale gold producers.
Using a three-year average delivery of gold to FPR, the bank will offer 50 per cent shares in FPR to large scale producers, 3 per cent to major FPR gold buying agents and the balance of 7 per cent to small scale producers through their representative bodies.


# Hitachi explores opportunities for mine operators to target net-zero emissions

Hitachi Construction Machinery has signed a Memorandum of Understanding with ABB to explore opportunities for mine operators to target net-zero emissions from mining machinery.

This MoU will allow Hitachi Construction Machinery and ABB to collaborate in bringing solutions to market that will reduce the greenhouse gas (GHG) emissions associated with heavy machinery in mining.

The companies will explore opportunities to apply ABB's electrification, automation and digital solutions to mining trucks and excavators provided by Hitachi Construction Machinery, leveraging both companies advanced engineering technologies. The aim of the combined solutions is to enhance the efficiency and flexibility of customer businesses, contributing to the reduction of $CO_2$ and the realization of a sustainable society.

Hitachi Construction Machinery also announced that the company has invested in Australian startup Baraja Pty. Through its investment in Baraja, Hitachi Construction Machinery will use Baraja's Spectrum-Scan LiDAR technology to accelerate the pace of development for improvements to the autonomous haulage system (AHS) for mining dump trucks and autonomous operation of ultra-large hydraulic excavators.

Baraja's Spectrum-Scan LiDAR uses a prism-like optical sensor head to measure distances to objects in all directions with high resolution, and is durable since it has few moving parts in its mechanism. Through this investment, Hitachi Construction Machinery will be able to work closely with Baraja to accelerate the development of Spectrum-Scan LiDAR products with mine site specifications and strengthen local support.

# Liebherr launches next generation 600-tonne mining excavator


The successor of Liebherr's R 996B enters the market after gaining a year of field experience in Australia, the largest market for 600-tonne-class excavators. This new development builds on years of customer-centric research and is based upon the R 9800 800-tonne excavator. A total of 8 units will be operating in Australia by end of 2021. The R 9600 will enter serial production at the end of this year.

## A customer-centric approach

Customer input has played an important and pivotal role in the development of this new machine. Engineering, sales and marketing teams have collected feedback and insights from mine site equipment operators, maintenance personnel and procurement groups as well as executive management to have a clear understanding of the challenges they meet every day. The new R 9600 aims to reach the highest standard in terms of safety, sustainability, performance, lifetime, Total Cost of Ownership (TCO), ease of maintenance and more.

After testing the first prototypes at the factory proving grounds in Colmar, France, in early 2020 the first R 9600 pre-series excavators started operating in iron ore and coal applications in Australia. Liebherr, together with customers BHP and Thiess, started the partnered validation of the first two units in the field. Backed by this validation phase, the R 9600 is ready to enter the global market.

## Diverse offering of powertrains including electric drive

The R 9600 is equipped with two QSK50 Cummins engines with advanced combustion technologies. Understanding that fuel costs form the major portion of the TCO for mining machines, Liebherr has developed and implemented LPE solutions (Liebherr Power Efficiency). These proprietary management systems for the engine and hydraulic system controls substancially reduce fuel consumption without compromising the overall productivity of the machine. These new features grant also an additional step toward the Liebherr emission reduction solutions.

For emission regulated regions, a US EPA Tier 4f / EU Stage V compliant version is available with the latest SCR after-treatment technology. Complying with stringent emission regulations, the SCR system reduces nitrogen oxides by injecting a liquid reductant into the exhaust stream.

An electric drive version will be available soon, a productive choice for mine sites having the required electrical infrastructure.

## Weight-optimized attachment


The R 9600 attachment makes use of smart component design such as the patented "EVO" backhoe bucket, hydraulic cylinders, shift levers, bucket links and attachment pins. The result is an increased overall production rate without compromising component lifetime.

In standard backhoe configuration with a Heavy Duty wear package, the R 9600 comes with a 37.5 m3 / 49.1 yd3 bucket to deliver an ideal truck/shovel match with Liebherr mining trucks. It loads 190t trucks in 3 passes, T 264 240t trucks in 4 passes, T 274 300t trucks in 5 passes and T 284 375t trucks in 6 passes.

The excavator is also available in face shovel configuration equipped with a 37.0 m3 / 48.4 yd3 shovel, as standard with a Heavy Duty wear package.

## Long-lasting performance

Designed to be used in all applications globally, the R 9600 is built to last over 80,000 machine operational hours. Further improving machine reliability, the uppercarriage structure is a completely new development.

The robust undercarriage with a fatigue resistant steel structure, is enhanced with a new hydraulic track tensioning system. The standard sealed for life heavy-duty carrier and track rollers incorporate the patented roller path design and registered track pad design.

### The latest cabin generation

The R 9600 has a brand-new cabin designed by operators for operators - it is a first-class, state of the art 14 m3 / 150 ft3 working space. The cab design reduces vibrations and limits noise to 69 dB, providing a comfortable working environment for the operator.

To allow for the best possible working conditions, Liebherr engineers have placed the cab of the R 996 successor back on the left side, standardizing with other excavators in the range.

The operator's seat has been positioned as far left as possible in order to provide the best operator visibility of the attachment and working area.

Ambient and low-level LED-lights make working at night easier and safer. The operator station is user-friendly and equipped with modern touch screen displays.

The air conditioning system for the cabin is a modular design concept which is easily exchanged as a rotable component, as single or dual air conditioning systems are available. To further enhance the operator comfort, vacuum cleaner, premium cooled seats, HEPA filtration system and much more features are available.

The R 9600 offers a superior machine perimeter visibility system comprising of four cameras at strategic locations on the rotating uppercarriage. The dedicated monitor inside the cabin provides continuous 270° vision around the machine.


### Assistance systems and on-board controls

Setting new standards in the mining industry, the R 9600 is equipped with the Liebherr Assistance Systems. These advanced on-board applications are designed to support the operators in becoming more efficient through analytics and actionable insights from live data.

The Truck Loading Assistant helps the operator attain optimal productivity and efficiency. With 99 percent measurement accuracy, the system measures the instantaneous bucket payload and provides real-time information to the operator. The Truck Loading Assistant strategizes the number of passes required to achieve the target payload of the truck, and also provides a progressive update in achieving the strategy.

In addition, to provide operators and customers with productivity KPIs of the machine performance, the severity of the application and the operational conformance of the machine is realized in real-time on the machine.

The first Liebherr hydraulic excavator (HEX) Automation Product introduced to the mining industry is the Bucket Filling Assistant, an adaptive or semi-autonomous digging product which is available as an option for the backhoe version of machines.

It allows for easier and faster bucket filling with a consistent bucket fill factor, load after load even in the toughest digging conditions. As a result the overall productivity improves while the operator's fatigue level is reduced.

### Designed for safe 24/7 operation and maintenance

Liebherr product development is centered around protecting the customer's most important assets. The R 9600 was designed with respect to global safety standards for operators and maintenance personnel, ensuring that safety remains a top priority at all times.

The uppercarriage of the R 9600 has been designed to allow for quick and easy maintenance activities, and is accessible via a hydraulically controlled ergonomic 45° stairway. Enlarged walkways with handrails and non-slip perforated steps allow for safe and convenient inspections and maintenance at all levels of the machine, including engine and powertrain components. All major parts have been designed and positioned to allow easy access and quicker maintenance.

The central service flap provides fluid and lubricant access to all components and systems, which reduces potential downtimes. Component and system refill and drain points of the R 9600 are accessible from ground level with quick couplings and depressurizing valves.


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