

CHAMBER OF MINES HAILS 'GAME CHANGING' INVESTMENTS

Zambian Government's New Dawn for Mining initiative gets off to the best possible start

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Southern Africa must be pragmatic about a zero-emission future, As Zambia rise to the helm of Miasa.



*FOLLOWING THE DOLLARS
How will FQM's new investments in the mining sector affect ordinary Zambians?*



Moxico Resources starts construction of its leaching project at the Mimbula Mine in Zambia, Copperbelt, close to the Town Chingola having previously reopened the Mimbula Mine.

July 2021 was the date construction started of the exciting first phase of the Mimbula Leaching Project this which entails a 10kt Leach Pad and Solvent Extraction and an Electrowinning plant, first metal is expected early third quarter 2022. This will be the first of several phases at Mimbula.

Achieved
1.0 million LTI
free hours on
construction.

Mimbula has
started a
**graduation
program**
for geologists.

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has employed
580 employees in
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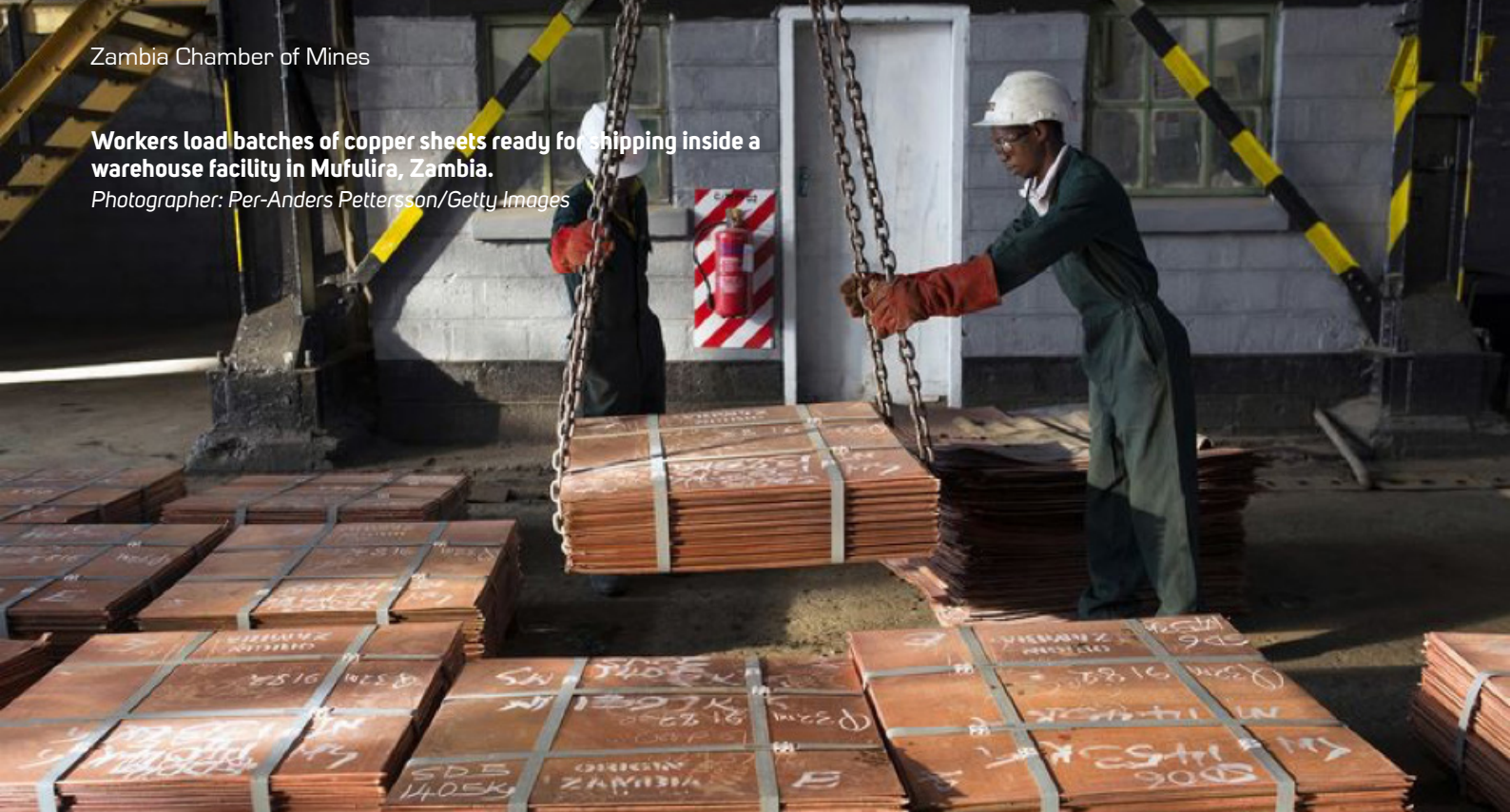
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Workers load batches of copper sheets ready for shipping inside a warehouse facility in Mufulira, Zambia.

Photographer: Per-Anders Pettersson/Getty Images



ONCE-FORSAKEN COPPER COUNTRY IS BACK IN THE SPOTLIGHT

For years, Western mining companies have largely avoided the Central African Copperbelt

Mining investors are stampeding back into a region many had seemed determined to leave.

Straddling the border of Zambia and the Democratic Republic of Congo, a vast forested area roughly the size of Portugal contains one of the world's richest caches of minerals: copper for wires and cables, and cobalt for rechargeable batteries. At the intersection of the two African nations, trucks queue for about 53 kilometers (33 miles) along a cratered road snaking past giant mounds of mining residue and villagers selling stacks of watermelons — most of them carrying metals vital to the global energy transition.

But despite the lucrative resources, western mining companies have for years put more effort into trying to get out of, than into, the central African copperbelt, increasingly frustrated by a litany of policy u-turns and cash grabs.

Suddenly that's no longer the case.

Existing investors are doubling down, and others — like giant BHP Group — are sniffing around the region for the first time in years. First Quantum Minerals Ltd. finally approved a billion-dollar expansion in Zambia, while Barrick Gold Corp., which considered selling its Zambian mine and is an outspoken critic of the Congolese government, is hunting for new projects in both countries. Anglo American Plc announced a new joint venture in Zambia on Thursday.

What's changed? In Zambia, new President Hakainde



A miner works during copper ore excavations in an underground tunnel at the Nchanga copper mine in Chingola, Zambia.

Photographer: Waldo Swiegers/Bloomberg

Hichilema is going out of his way to woo investors and repair relations damaged by his predecessor. He says he wants to triple copper output in the next decade, an ambitious target that would require \$30 billion of investments, according to analysts at BMO Capital Markets.

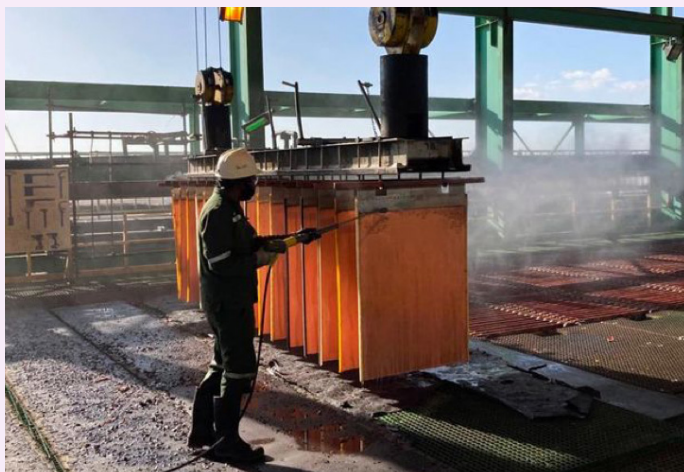
More broadly, there's a growing awareness that copper and cobalt are central to the world's shift toward renewable energy, and security of supply will become crucial in the coming decades. The global copper market is already tight and new mines are difficult to find. In cobalt, Congo is so dominant that it's impossible to ignore.

At the same time, other copper-rich countries like Peru and especially Chile — long viewed by the

industry as a “safe” place to build — are looking less friendly.

“You can’t ask people to invest in your country without giving them comfort,” Barrick Chief Executive Officer Mark Bristow said in an interview. “Money is a very panicky commodity and it runs away quickly from stress.”

While most US, European and Australian mining companies backed away from the copperbelt over the last decade — Glencore Plc is the one major exception that has invested heavily in two giant Congolese copper and cobalt mines — China’s resource giants have dug in.



A worker sprays down copper cathode at the Kamoto Copper Company’s mine and processing plant in Kolwezi, Congo.

Photographer: Thomas Biesheuvel/Bloomberg

That’s nowhere more apparent than the Congolese city of Kolwezi, which owes its very existence to mining — founded in the 1930s to exploit the giant mineral deposits.

On a drive through its main street today, the cultural influence is everywhere: billboards for Zijin cement sit on nearly every corner, while Chinese karaoke bars and casinos flank the road.

Now, other mining companies are again increasing their presence and activity. In Congo, a new mine spearheaded by billionaire Robert Friedland is rapidly ramping up production under a plan that would make it the world’s third-largest producer by 2024. BHP, the world’s biggest mining company, has held talks about buying into another of Friedland’s Congo copper projects that neighbors the new Kamoakakula mine, Bloomberg reported last year.

The African copperbelt and its role in supplying critical minerals is also getting increased attention at a government level. US Under Secretary for Economic Growth, Energy and the Environment Jose W. Fernandez traveled this week to speak at the annual gathering of the continent’s mining industry in Cape Town, where critical mineral supply chains formed a

central theme of his remarks. His next stop: two days in the Zambian capital to meet with Hichilema.



Jose W. Fernandez, at the Investing in African Mining Indaba in Cape Town, South Africa, on May 10

Photographer: Thomas Biesheuvel/Bloomberg

“We think the mining sector in Africa has huge potential,” Fernandez said on a call with reporters. “We also know that in the clean energy future, critical minerals will be an important part of the solution and that African nations have a lot of the critical minerals, be it cobalt, manganese, lithium, and others, a lot of the — a lot of the critical minerals that will be needed to power turbines, to power electric batteries.”

Zambia will need to attract as much as \$180 million yearly in searching for and proving new reserves alone if it is to reach the government’s ambitious production targets, Sokwani Chilemba, chief executive at the country’s mines lobby group, said in an interview last week.

The increase in copper prices over the past few years is “the major tailwind,” he said. “It really has given everyone’s ambitions a boost.”

The country is making a concerted effort across agencies and departments to provide an attractive environment for investors, Finance Minister Situmbeko Musokotwane said in an interview in his Lusaka office on May 5.

The government sees copper as “the new oil” and wants to benefit from the growing demand for electrification in the way that oil-rich countries capitalized on energy booms, he said. That means growing production levels.

“The oil of Zambia — namely copper — is going to bring the benefits that we’ve seen elsewhere,” Musokotwane said. “Of course, it’s our responsibility that when this money comes through, it must be used properly.”

Article by Thomas Biesheuvel, Felix Njini, and Taonga Clifford Mitimangi with assistance by Matthew Hill, James Attwood, and Liezel Hill



CHAMBER OF MINES HAILS 'GAME CHANGING' INVESTMENTS

Zambian Government's New Dawn for Mining initiative gets off to the best possible start

The dual investments announced by First Quantum Minerals Ltd, totalling \$ 1.35 billion, will have a transformative effect on the mining industry and the wider economy, according to the Chamber of Mines.

First Quantum has announced that it will inject \$1.25 billion into expanding production at its flagship Kansanshi mine, extending the life of mine until well into the 2040s. It has also approved a final investment of \$100 million, on top of \$150 million already spent, to get its Enterprise nickel mine into production within 12 months.

The announcement provided an exciting start to the African Mining Indaba – the continent's premier mining event held annually in Cape Town – which kicked off this morning, and has seen Zambia take centre stage so far.

His Excellency President Hichilema addressed the opening morning of the Indaba, in which he not only opened the Government's New Dawn for Mining initiative, but also announced these two investments as its first successes. He was then followed to the podium by Tristan Pascall, the new CEO of First Quantum, who gave further details of the investments and assured the assembled investors of the sincerity of the Government's appeal, and the friendly reception they would receive in Zambia.

According to Sokwani Chilemba, Chief Executive of the Zambia Chamber of Mines, the two investments are game changing for Zambia, on three levels.

"Firstly, the investment secures an ever-brighter future for Kansanshi and the copper industry in Northwestern province, and establishes a whole new level of excellence there with the advent of Enterprise as a global top 10 nickel mine.

Secondly, this is not just a success for First Quantum and the Government, it's a massive success for Zambian businesses and Zambian jobs. The multiplier of mining means this is likely to translate into tens of thousands of jobs created throughout the economy. This is just what we need to help dig the economy out of the hole it is in.

Thirdly, what we have seen today is an extraordinary and welcome example of the Government and its private sector partners working in close co-ordination to deliver the maximum possible benefit for the country.

I haven't had much to smile about since I became Chief Executive of the Chamber, but today I'm smiling."

PHOTOS FROM THE INDABA





ALLTERAIN SERVICES (ATS) BANANA PROJECT IN KALUMBILA

Supporting Local Business Development in the host community is a key objective of ATS Legacy. In the first month of this quarter, the community of Chovwe and Kabombu located over 50km from the Sentinel mining administration center were reached out for the purpose of mobilizing local banana farmers into cooperatives that will be linked to Trident Foundation for a possible supply of local Bana to ATS. The Swamps of Kabompo river around these two communities are predominantly occupied with banana plantations whose ready market is located over 190km in Solwezi.

On Tuesday 5th April 2022, Allterain Services (ATS) in Kalumbila-working together with the Trident Foundation Limited (TFL) has been pressing on increasing local-local business and encourage local participation in the supply chain.

Four (4) women's groups consisting of five members each have been identified to participate in the supply of local bananas to ATS. A Total of 20 women have been mentored on how to Season their local-bananas and grade them for the ready market at ATS located less than 60km. Issues of Quality Health Safety and Environmental (QHSE) management were facilitated

to farmers. This included how to weigh and package their produce for the ready market.

The Agricultural extension officer John Phiri from the ministry of Agriculture in charge for the block appreciated the gesture by ATS and TFL in promoting local business development among the locals within the mining catchment zone.

All mobilized community members have progress to make in the path towards sustainable supply of bananas and faces unique challenges to achieving the quantities of bananas required at ATS. The common challenge however was identified to be that of ripening the bananas. The process of ripening the bananas is natural and very slow to meet the demands. However, the groups were encouraged to create a bulking center for the purpose of aggregating ripped bananas.

Once successful with this local business development, ATS is offering 1500kg banana market share on monthly standing orders.



Sokwani Chilembo - CEO Zambia Chamber of Mines and MIASA President.

SOUTHERN AFRICA MUST BE PRAGMATIC ABOUT A ZERO-EMISSION FUTURE, AS ZAMBIA RISE TO THE HELM OF MIASA.

While the Mining Industry Association of Southern Africa (Miasa) supports the just transition to clean energy, the region must ensure it is pragmatic in its approach, says newly elected president Sokwani Chilembo.

Chilembo is also the CEO of the Zambia Chamber of Mines.

Speaking at an Investing in African Mining Indaba media conference, Chilembo noted that there was a need to ensure the protection of communities' livelihoods, and that the upscaling of renewable energy had to be *"pragmatic"* and *"carefully considered"*.

"We must not leave any of our regional citizens behind."

Chilembo said the region had recently seen a *"very hard stop approach"* from the world in its consideration of coal and gas projects – this during a time when Southern Africa's endowment of the latter was growing.

"This is concerning to us. Access to energy is a key component in improving the quality of life of our citizens. In the absence of energy, people may do what they can, leading to deforestation."

"It is really important that, as a region, we do not lose out on the opportunity to lift enough people out of poverty to a reasonable standard of living, and then become more custodial in our way of thinking."

Hydrocarbons had to continue to be a key component of energy resilience in the region, emphasised Chilembo.

"As you know, when one area in the region is affected,

the Southern African power pool is affected. If we pull a hard stop now, the consequences will be felt across the entire region."

Chilembo noted that another area of concern for Miasa was persistent allegations around illegal financial flows from, and within the mining industry, and the participation of the corporate mining sector – to the detriment of casting a spotlight on *"outright illegal mining"*.

"Illegal mining is growing in scale in the region. We are not paying enough attention to this, in preference for the easier story to sell, which is that of persistent corporate malfeasance."

A third and final concern Chilembo raised was around the recently released Fraser Institute's Annual Survey of Mining Companies.

This investment attractiveness index "really gave Africa the short end of the stick", he said, with several African jurisdictions dropping in the ranking, and Morocco, out of left field, popping to almost the top.

Zimbabwe – in Southern Africa – was at the bottom.

Chilembo said Miasa acknowledged the report, but believed that it should be more geographically spread, so that countries which had remained steadfast in their policies were not affected negatively.

He said the report could benefit from being more interactive, cooperative and inclusive, especially as its stature, value and efficacy were highly valued by the mining industry.

**Article by Irma Venter,
Creamer Media Senior Deputy Editor**

STATEMENT BY THE MINING INDUSTRY ASSOCIATION OF SOUTHERN AFRICA AFTER ITS 2022 ANNUAL MEETING IN SOUTH AFRICA



ELECTION OF NEW OFFICE BEARERS

The Mining Industry Association of Southern Africa (MIASA) recently held its general meeting to elect its new President and further deliberate on a number of topics affecting the mining industry in the SADC Region. MIASA is proud to announce that Chief Executive Officer of the Zambia Chamber of Mines Mr. Sokwani Chilembo was elected to succeed the outgoing President, the Chief Executive Officer Minerals Council South Africa, Mr. Roger Baxter. MIASA is confident that Mr. Chilembo will lead its members successfully during his term of office as President. The President of the Chamber of Mines of Madagascar Mr. Jean Luc Marquetoux was elected Vice President of the Association.

MIASA has set itself the objective of meeting with the forum of Ministers of Mines in the SADC region to apprise them of regional mining challenges and to explore ways in which the different mining jurisdictions in the region could collaborate to ensure that industry grows from strength to strength.

CLIMATE CHANGE AND THE PACE OF ENERGY DE-CARBONISATION

MIASA and its members acknowledge and accept the reality that the mining industry needs to transition into alternative energy sources in order to ameliorate climate change impacts in the SADC region. MIASA supports a managed phasing down of coal for energy generation as opposed to an abrupt stop. The SADC region is currently suffering from an electricity deficit to the extent that were coal generated energy was to be stopped immediately, it would have severe implications for growth and development in the region. MIASA fully embraces that each member state in the region has its own unique circumstances but is alive to heavy interdependence in the region that draws on coal generated energy. For this reason, there needs to be a carefully calculated balance between transitioning to alternative energy whilst sustaining growth, development and livelihood. The nucleus of the Mining Industry Climate Change Position is the just energy transition and de-carbonisation. MIASA supports the climate change target of net zero Scope 1 and 2 emissions for the global mining industry by 2050, in alignment with the ICMM. Consequently, there is a need to ensure a secure energy future, the protection of community livelihoods and the upscaling of renewables in a carefully considered and pragmatic just transition towards a low-carbon future.

ILLICIT FINANCIAL FLOW INACCURACIES MASK GREATER RISKS

MIASA takes note with concern that the Ex-President Thabo Mbeki led eminent persons report and the UNCTAD report on IFFs lays most of the blame on the mining industry as drivers of IFFs. The data and conclusions from these reports were accepted especially by various governments in the SADC Region without being challenged and they have dented the image of the mining industry negatively; significantly contributing to poor investment and distrust driven policy instability in the region. MIASA acknowledges that such flows exist but questions the credibility of the methods used to infer that the corporate mining industry is to be blamed for often cited enormous levels of base erosion of profits. MIASA questions the interpretation of open-source trade data in both reports mentioned above. Whilst corporate IFFs do occur it must be noted that damage caused by illegal mining activity and its associated impacts is a growing problem that is being drowned out by such sensationalism. In countries with effective and efficient regulatory and government controls for transfer pricing there is limited room for transfer mispricing so illegality being on the rise should be just as much of a concern. Illicit mining activities and corruption that are not dealt with effectively by regulators actually erode tax revenue and revenue for formal mining and communities that would have benefited more from the proceeds of mining.

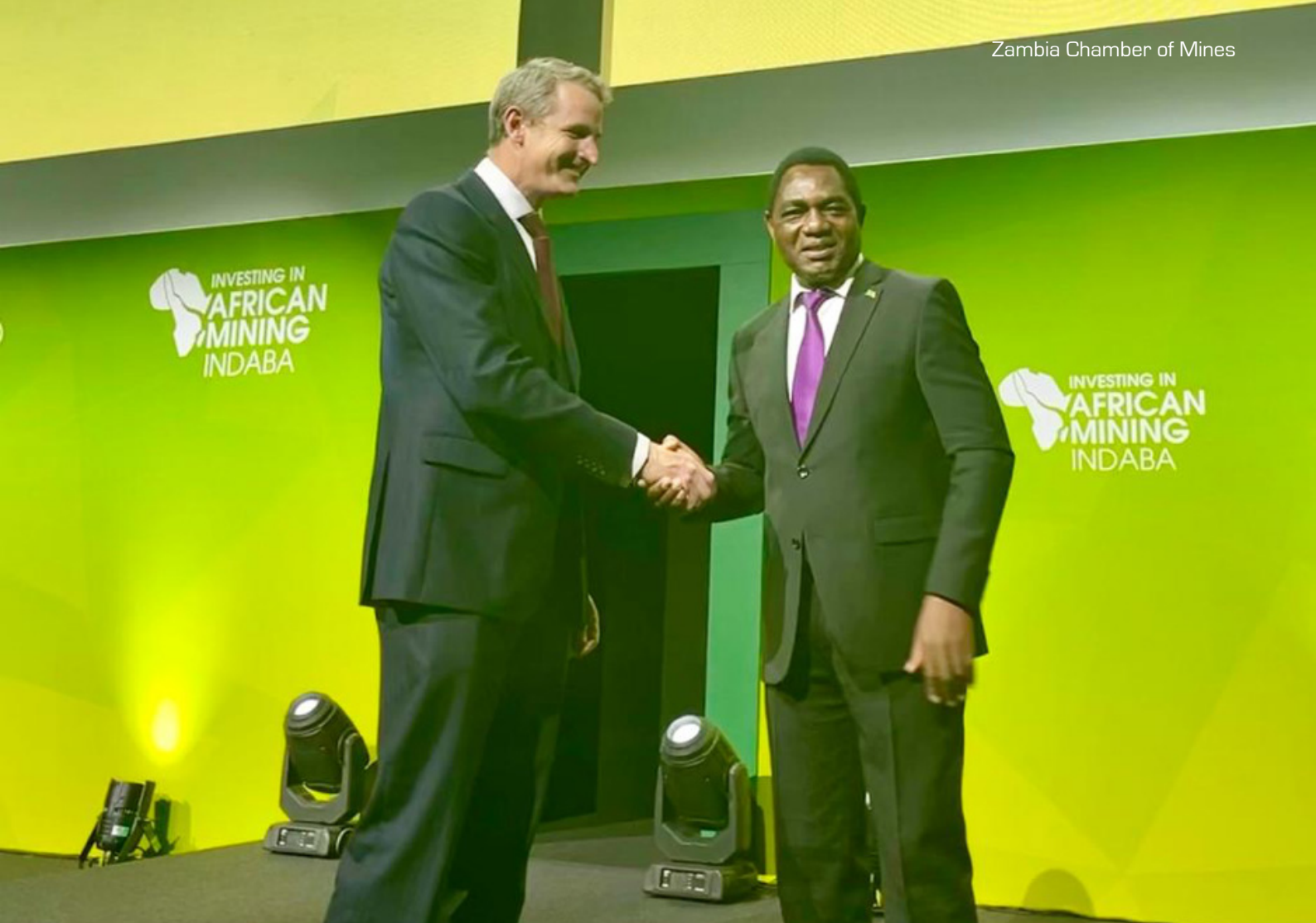
Cooperation between Governments and the private sector is important in dealing with rising illicit mining activities.

FRASER INSTITUTE REPORT

The Fraser Institute has recently released a report wherein it ranked the various mining jurisdictions globally. SADC region jurisdictions ranked very lowly on most of the indices, if they were ranked at all. This report is used by investors when deciding to make exploration investment in different countries and this picture places the SADC region at a disadvantage as an investment destination.

MIASA acknowledges this report and the role it plays in promoting the mining industry but it must be as geographically inclusive as possible in its consultations with the key leaders of the mining industry on which it bases its indices. Failure to do so can and does discount the global objectivity of the valuable risk evaluation exercise. It is MIASA's belief that greater attention to this can only improve the report's efficacy and stature as a barometer for the exploration investing community and for the wider mining stakeholder ecosystem as a whole.

For further details please contact Mr Vusi Mabena, Executive Secretary: MIASA
vmabena@miasa.org.za



‘ZAMBIA IS BACK’: VOICES FROM THE 2022 MINING INDABA

The ‘Investing in African Mining Indaba’ has long been an event that brings together investors, political leaders, commodity traders, and companies across the mining value chain to network and, crucially, to identify investment opportunities during four busy days at Cape Town’s International Convention Centre. It is these opportunities – and the potential spotlight which Africa’s largest mining event provides – that convinces ministers and presidents to converge in the continent’s southern-most country each year.

This year, Zambia seized opportunity with both hands. Never before has the continent’s second largest copper producer brought such a senior delegation, led by the President, to the Indaba – and it massively paid off.

On 9 May 2022, just an hour into the event, the irresistible optimism of President Hakainde Hichilema’s keynote address was reverberating through the exhibition hall, and into investment houses and newsrooms around the world. By 11am,

the globally significant mining event was abuzz with the mantra “Zambia is back.”

“The irresistible optimism of President Hakainde Hichilema’s keynote address reverberated through the exhibition hall.”

It was not an axiom proclaimed by President Hichilema himself, although his speech contained no shortage of inspiration. These were the words of Tristan Pascall, incoming Chief Executive Officer (CEO) of First Quantum Minerals (FQM), the international mining giant which first invested in Zambia 26 years ago as a junior miner. Mr Pascall’s first act as CEO was to take centre stage and announce a US\$ 1.35 billion investment affirming “a commitment to investing in Zambia’s future.”

US\$1.25 billion of this game-changing sum, which is the largest financial commitment to Zambia in a decade, will be used to expand operations at Kansanshi mine and smelter in Solwezi – a long-awaited project collectively known as ‘S3’. An additional US\$100

million will be allocated to starting up its Enterprise nickel project in Kalumbila, into which US\$150 million has already been invested by FQM.

Since President Hichilema came to power in August 2021, his Administration has been hard at work behind the scenes engaging with stakeholders in the mining sector to restore investor confidence and reinvigorate its standing as a world class mining destination. "The [new] Government of Zambia has been clear on its intent to grow the economy and reform the investment climate of the country, and this effort has come to fruition today," said Mr Pascall. President Hichelema's announcement of a 'new dawn' for Zambia's mining sector provides the platform necessary for stable, durable and responsible mining in Zambia, he added.

"I think FQM's investment sends a very positive message to other existing (and potential) investors who are thinking of increasing their financial commitments in Zambia," said Mr Peter Leon, partner and Africa Co-Chair at global law firm, Herbert Smith Freehills, who attended the event in Cape Town. "Everybody I spoke to at the Indaba was very positive about the country. President Hichilema made two really important points in his speech. One was zero tolerance for corruption, which is a very good message to investors. He also said, 'Stop speaking about Africa's potential; African leaders need to start getting things done.' I don't think I've heard a speech from an African head of state quite like that before."

CEO of Gemfields Sean Gilbertson agreed, calling the President's speech "superb." Gemfields owns a 75% stake in Kagem, the world's single-largest producing emerald mine, located south of Kitwe in Zambia's Copperbelt Province. "I would say that this is the most upbeat and excited we've been about Zambia since we first arrived in 2008," he said.

"President Hichilema clearly recognises that the time for change is here, and that there's an urgent need to stop the history of corruption and get things done in a way that allows the true owners of the natural resources to start benefiting."

"I would say that this is the most upbeat and excited we've been about Zambia since we first arrived in 2008."

Chief Financial Officer (CFO) of Copperbelt Energy Corporation, Mr Mutale Mukuka, is excited about the opportunity to support Zambia's growing mining

sector, saying "the business environment has significantly improved, allowing for more investments in the country."

"Copperbelt Energy Corporation is taking strides in the renewable energy space and, by partnering with the mines, we are also helping them to achieve their Net Zero emissions goals, by adding a more renewable, sustainable energy source to the production cycle."

Mr Mukuka expects to see tangible positive effects from FQM's investment very soon. "Firstly, once construction [on S3 and Enterprise] commences, there will immediately be a need for supporting services and infrastructure. This is the growth that comes with mining, and where we expect to see a lot of benefits. Mining has never been a stand-alone sector. Secondly, the investment is timely in that it allows Zambia to extract resources now while commodity prices are reasonably high. We know for sure that, based on commodity prices trends, we'll have booms and recessions, so we need to maximise production now to get maximum benefit as a country."

Ms Dolika Banda, board chair of state-owned ZCCM Investments Holdings, the successor company to Zambia Consolidated Copper Mines Limited, referred to a "buzz" that followed President Hichilema around the Cape Town International Convention Centre this week. "I think 'Brand Zambia' really exploded in a manner that has never before been seen at an Indaba," she said. "First Quantum's investment has galvanised people's curiosity, making people ask, 'How can we be part of this conversation?' It's driven home the message that Zambia is open for business."

The buzz of optimism that President Hichilema left in his wake was no accident. Zambia's new Administration has shown the world that it understands well – with the characteristic savvy of a leader who has achieved business success on his own steam – that investors need policy stability and predictability in as long-term an endeavour as mining. This week, Zambia used its moment in the limelight to make that abundantly clear to the world.

Article by Mining for Zambia



ANGLO AMERICAN TO RETURN TO ZAMBIA WITH ARC MINERALS COPPER DEAL

CAPE TOWN, May 12 (Reuters) - Arc Minerals (ARCMA.L) shares jumped 6.7% after it announced an agreement under which Anglo American (AAL.L) would take majority control of the junior exploration firm's Zambia copper-cobalt licences.

Under the deal, which was first reported by Reuters, Anglo will take 70% of a joint venture with Arc that will own licenses to explore Zambia's copper-rich North-Western province, an area Anglo previously explored in the late 1990s. It would mark the first new investment by Anglo in Zambia in 20 years.

Major mining firms are searching for new sources of the battery metals copper and cobalt, especially following the war in Ukraine and sanctions on Russia which have sent metal prices soaring.

Anglo American will pay \$3.5 million into Arc upon signing. It will be able to retain its stake by spending \$74 million on exploration within seven years of signing and making cash payments of \$11 million to Arc, according to terms of the deal.

Arc Minerals previously had an exclusivity agreement with Anglo from July 2020 to July 2021, and when that lapsed Arc Minerals said it would start talks with other major miners which had approached it.

Zambia, Africa's second-largest copper producer, has become a more attractive investment proposition for mining companies since the election last August of

business-friendly President Hakainde Hichilema and a subsequent mining tax reform.

The country aims to more than triple its annual copper output within the next decade to 3 million tonnes a year.

First Quantum Minerals last Sunday said its board had approved plans for a \$1.25 billion expansion of its Kansanshi mine in Zambia, a decision it said was prompted by renewed confidence in Zambia's investment climate

Article by Helen Reid; Additional reporting by Clara Denina; Editing by Christian Schmollinger, Edwina Gibbs and Ed Osmond



Logo of Anglo American is seen on a jacket of an employee of the Los Bronces copper mine on the outskirts of Santiago, Chile March 14, 2019.

Photographer: Waldo Swiegers/Bloomberg



FOLLOWING THE DOLLARS

How will FQM's new investments in the mining sector affect ordinary Zambians?

In a wide-reaching and much-anticipated new report, released in May 2022 by Premier Consult, renowned economist Prof. Oliver Saasa has joined forces with economic statistician Mr. Shebo Nalishebo to delve into an under-researched subject of national importance: What tangible effects do investments in the mining sector actually have on ordinary Zambians?

The report, entitled Evaluation of Economic Impact of Planned First Quantum Minerals Investments in Zambia, takes a wide-angled view to examine the macro-economic effects of two of First Quantum Minerals' (FQM's) newly-announced investments: a \$1.25 billion investment into the expansion of Kansanshi mine's operations, and a \$100 million investment to bring the miner's \$250 million Enterprise nickel project online in Kalumbila.

Using a combination of original research and public domain data, the report – commissioned by FQM – is unprecedented in its aim to track "how far each dollar of investment into the mining sector goes," as Prof. Saasa put it, so that potential impacts may be better understood and fully taken advantage of in future.

Mining For Zambia sat down with Prof. Saasa and Mr. Nalishebo, the report's co-authors, to get a sneak preview.

Mr. Nalishebo, you're an economic statistician who has collaborated with Prof. Saasa on several Premier Consult projects. Tell us about the experience that led to you working on a report about the measurable effects of mining investments.

Mr. Nalishebo: I've got 20 years of experience in statistics, socioeconomic policy analysis, and related research. I call myself an "economic statistician" because of my background at the Zambia Statistics Agency, where I spent 12 years crunching numbers. I computed GDP and the Index of Industrial Production, and also led Zambia's first-ever economic census, which was used to benchmark and rebase the country's GDP from 1994 to 2010. The input-output analysis [a branch of quantitative economics] that we used to evaluate the economy-wide effects of the mining sector basically stems from that experience.

I also spent a few years at the Zambia Institute For Policy Analysis and Research (ZIPAR), one of the top think tanks in the country, where I used to do public finance research.

Premier Consult's forthcoming report measures the future economic impact of the investments announced by FQM. Why are forecasts about economic impacts – and evaluations of existing investments – so important?

Prof. Saasa: If we want to maximise the impact of mining for the benefit of the ordinary Zambian, the first step is understanding the impact of mining. You see, the value of mining is not just determined by the quantity of taxes acquired from the mining sector. The sector accounts for over 70% of foreign exchange receipts. You are talking about a sector that is so strategic, it's like oxygen to the country – and more so in Zambia in particular, because of the nature of our economy, where approximately 75% of businesses are in the informal sector.

The effects of direct employment as a result of investment in a mine extend far beyond the employees or contractors who are hired. This is one example of what we call economic multiplier effects, which we have attempted to quantify in our report.

“If we want to maximise the impact of mining for the benefit of the ordinary Zambian, the first step is understanding the impact of mining.”

Could you explain in simple terms how economic multipliers are calculated?

Prof. Saasa: It helps to understand that, fundamentally, there are two broad groups into which multiplier effects can be categorised. First, there are multiplier effects that stem from interdependencies between productive sectors of the economy. These inter-industry (or “Input-Output”) effects arise out of extra demand for domestically-produced goods or services from, for instance, the Enterprise Nickel Project. This then leads to an increase in demand for raw materials, or other goods and services. Growing demand for goods or services then triggers increased production by suppliers. Multiplier effects due to production linkages like these are considered “indirect multiplier effects”.

The second group of multiplier effect relates to increases in incomes paid to employees and contractors, which extend to communities or households. As an example, one salary from a job in a mine generates income that may be enjoyed by multiple family members. With the surplus income, one family member might start a small business in the informal sector with as little as a cash injection of ZMK 2000. This example falls under the category of “induced multiplier effects”.

The family member who started the business will then be liable to pay tax on their earnings and, as their business grows, they may employ people who in turn contribute to the Treasury via the taxes they pay. And then there are the businesses that supply goods to that original small business I mentioned. Those suppliers may hire employees too, whose

jobs were created because there is demand for what they supply. The effects ripple outwards. Without a mine like FQM creating that new job and employing that first person, no one further down the chain would benefit. So, we are looking at a much, much broader picture than the average person imagines. Mining's contribution to the economy extends far beyond taxes and mineral royalties.

It's a bit technical, but I would refer readers to Appendix 10, where there are details on how we arrived at the input-output multipliers that we calculated.

“As an example, one salary from a job in a mine generates income that may be enjoyed by multiple family members. The effects ripple outwards.”

Prof. Saasa has been talking about the importance of recognising economic multiplier effects for several years. Have the multiplier effects within Zambia's mining industry been quantified before?

Mr. Nalishebo: As far as I know, it's just Premier Consult that has done this kind of quantitative research on Zambia's mining sector. Within Zambia there are a limited number of people who understand input-output analysis and are able to quantify it. The Zambia Statistics Agency has referred the Ministry of Finance to me in the past, when they needed someone to employ input-output analysis.

Taking the time to find out *ex ante* – ahead of time – what the impact of new Government policies or measures will be is really important because, all too often, the resulting impacts come as a surprise to policymakers. This is why we have spent considerable time looking at what these new investments will entail, and what the likely impacts will be. It also comes down to the fact that in Zambia there always tends to be criticism about the mining sector not contributing enough to the economy, regardless of the contributions that have actually been made – particularly outside the Copperbelt and North-Western Province where the positive effects are self-evident to the thousands of beneficiaries.

Prof. Saasa: Indeed. Understanding that the contribution of the country's most strategic sector does not stop at the Treasury is what we really hope to demonstrate in our forthcoming report.

Article by Mining for Zambia



IMAGE SOURCE: tasmanropeaccess.com/careers/rope-access-technicians/



WHAT ARE CARDINAL SAFETY RULES?

Cardinal Safety Rules set down the expectations that we have for all employees, visitors, subcontractors, and third-party workers while working at our sites. Cardinal Safety Rules must be remembered by all our staff and always adhered to.

Each employee

Is responsible for complying with the Cardinal Safety Rules.

Each manager Is responsible for ensuring that all employees and persons working are familiar with and apply the Cardinal Safety Rules by training them, informing them and by ensuring they understand that any violation of these Cardinal Safety Rules would constitute a serious violation of the employees' duties.

Each business unit manager Is responsible for the implementation of the Cardinal Safety Rules in his or her area of responsibility.

WEAR THE REQUIRED PPE

- Personal Protective Equipment (PPE) refers to protective clothing, helmets, goggles, or other garments or equipment designed to protect the wearer's body from injury. The hazards addressed by protective equipment include physical, electrical, temperature, chemicals, biohazards,

and airborne particulate matter.

- The purpose of personal protective equipment is to reduce employee exposure to hazards when engineering and administrative controls are not feasible or effective to reduce these risks to acceptable levels. PPE is needed when there are hazards present.
- If you do not know which PPE to use, ask your management line.

WEAR FALL PROTECTION WHEN WORKING AT HEIGHT

- Falls are a persistent hazard found in all occupational settings. A fall can occur during the simple act of walking or climbing a ladder to change a light fixture or as a result of a complex series of events affecting a worker 80 feet above the ground.
- Fall arresting systems, which include lifelines, body harnesses, and other associated equipment, are often used when fall hazards cannot be controlled by railings, floors, nets, and other means. Fall arrest systems must: - Prevent all falls from height or stop it in a safe manner. - Provide resistance during a fall and guarantee a maximal free fall of 1 meter.

DO NOT WALK UNDER SUSPENDED LOADS

- A suspended load is an object that is temporarily lifted and hangs above the ground.
- Working or walking immediately under / close to a suspended load is unsafe as the load can fall on you. Avoid standing next to heavy loads.
- Stay within authorized work and pedestrian areas. Never cross a barrier controlling an area with a suspended load without authorization.
- Follow the instructions of the person in charge of the lift.
- Pay attention to your surroundings: do not stand under cranes, booms and buckets and make sure operators of handling equipment can see you. Maintain safe distances from suspended loads at all times.

DO NOT RUN. WALK AND USE AVAILABLE HANDRAIL

- All activities are exposed to slip & trip hazards, especially on stairs, and consequences can be of all ranges, from bruises and stiches, to fractures and even fatality.
- When losing balance, the victim can try to grab a nearby support or can fall on an object or in the water for offshore activities: the severity of the injury will then depend on the environment.
- Slips, trips, and falls are the most common cause of personal injury at Bureau Veritas. Ensure you: - Wear appropriate footwear. - Are alert to uneven

or slippery areas, especially due to seasonal events (snow, ice, etc?)

APPLY LOCK OUT/TAG OUT METHOD BEFORE WORKING ON ENERGIZED EQUIPEMENT

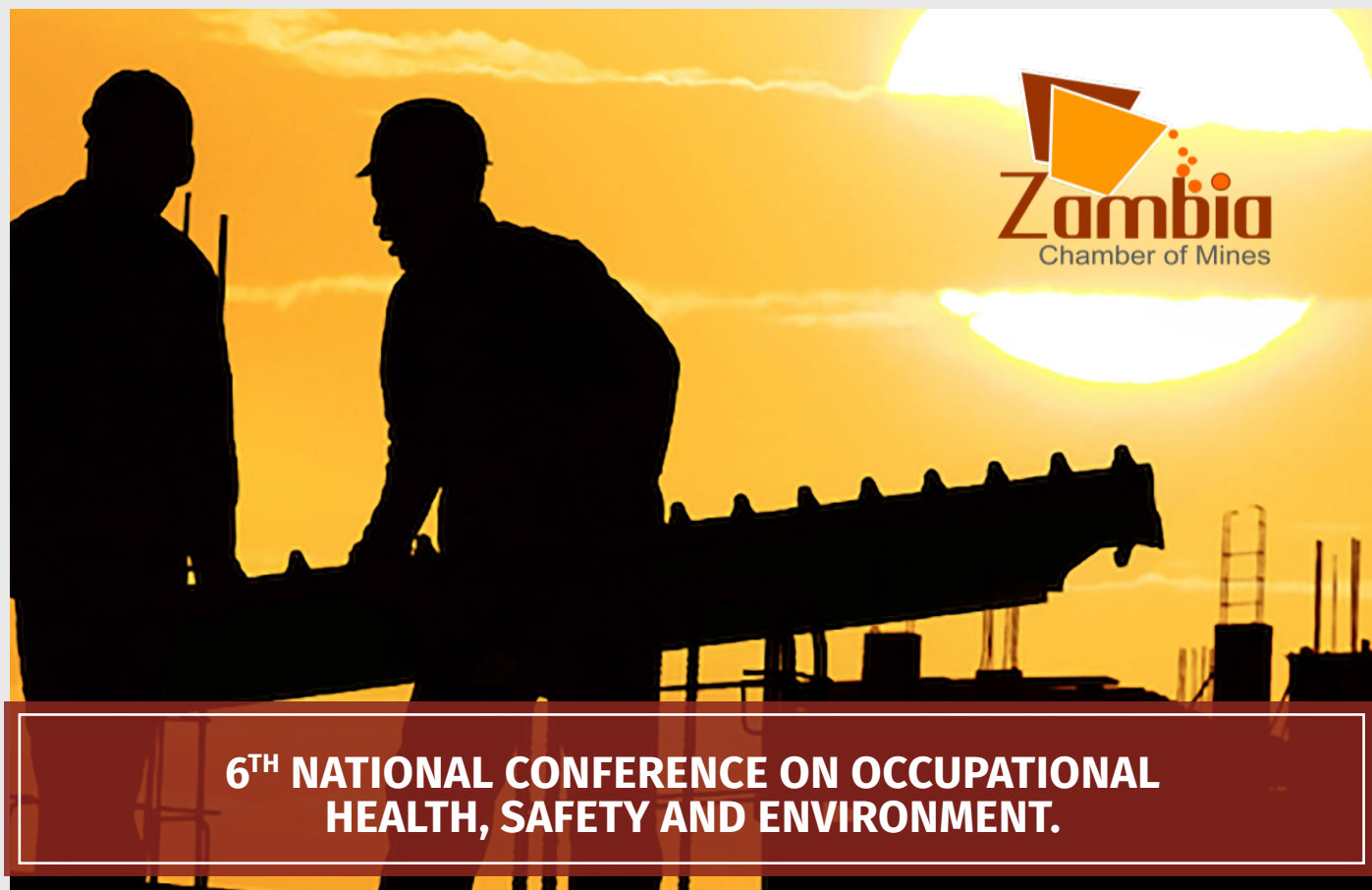
- Lock Out/Tag Out is a process used to effectively safeguard employees from the unexpected energization or start-up of machinery and equipment, or the release of hazardous energy during service or maintenance activities.
- "Lock out" is the placement of a lockout device on an energy-isolating device in a safe or "off" position to ensure the equipment being controlled cannot be operated until the lockout device is removed. The principle is that the person who has placed the lock out device is the only one who can remove it by using a unique key or other unlocking mechanism.
- Tag out" is the placement of a tagout device to provide further warning or information on who is working on the de-energized equipment.
- Before maintaining, inspecting, sometimes operating equipment, always ensure that appropriate Lock Out/Tag Out devices are effective and efficient. Also ensure that you are the only one able to remove the lockout device.

NEVER REMOVE A LOCK OUT DEVICE IF YOU ARE NOT AUTHORIZED TO DO SO.

Article by Roy Mwamba MIIRSM/TEC-IOSH/MZOHSA
M.Sc.- QHSE, B.Sc. HSE, DipOSH, Cer-Env Mgt, Auditor
PAS 99, Approved international Trainer IIRSM



IMAGE SOURCE: www.nbcnews.com/news/world/rescuers-lift-some-miners-trapped-south-africa-n31516



CALL FOR PAPERS

The **Zambia Chamber of Mines** will be holding its 6th OHSE National Conference from **3rd – 4th November, 2022** at Protea by Marriot Hotel, **NDOLA**.

Conference theme

The theme for the Conference is: **“ACHIEVING EXCELLENCE IN HEALTH, SAFETY AND ENVIRONMENT (HSE) SYSTEMS THROUGH INSTITUTIONAL LINKAGES AND NETWORKING.”**

Scope and Topics

This high-level Conference will provide an ideal forum, for sharing, ideas, experiences and best practices for experts in mining Occupational Health Safety and Environment, from academia, research institutions, regulatory bodies and industry.

Occupational Health, Safety and Environment issues in the mining industry have continued to be a subject of debate and scholarly enquiry globally.

Interested authors are hereby invited to submit articles based on original research work, projects, surveys and industrial experiences relevant to **Occupational Health, Safety and Environment**, in mining and related industries in line with the theme.

Paper Submission

Abstracts of papers should be submitted to the Organising Committee by email on the address given below by **Wednesday 31st August, 2022** for consideration. Submissions must be original and should not have been published previously or be under consideration for publication while being evaluated for the Conference.

Successful Authors will be requested to submit full papers not exceeding 15 pages in length, inclusive of illustrations. The papers must be in MS Word, produced on A4 paper size in 12 Point Times New Roman font, single line spacing, and in a single column format. The margins should be 35mm on the left and 25mm on the other three sides of the page. The text must be fully justified and paragraphs must be separated by single line spaces.

Submitted papers must contain the following sections as a minimum requirement:

- I. Title
- II. Name of author(s) and affiliation with the e-mail address for lead or corresponding author
- III. Abstract not exceeding 300 words
- IV. About five (5) keywords (which must also appear in the abstract)
- V. Main body of the paper
- VI. Conclusions
- VII. References (Harvard style)

REVIEW PROCESS AND PUBLICATION

All papers submitted will be reviewed with respect to overall quality of content, presentation, potential for future impact of the presentation on the practice of OHSE in the mining industry relevance to the target audience. All accepted papers will be published in the Conference Proceedings Report.

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