Zambia Chamber of Mines

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WE RUSH FOR THE COPPER DEVELOPMENT SPEEDBOAT

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Industry contributes 43 percent to ZRA collections.



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The state-owned mining company has a clear vision for the future.



Investment Today!

We drill down into the details of mining's potential to multiply economic benefits...

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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.

Moxico Resources has employed **580 employees** in Zambia.

Moxico Resources with its subsidiary Mimbula Minerals believes in **ZERO HARM** to our biggest assets, our **EMPLOYEES!**

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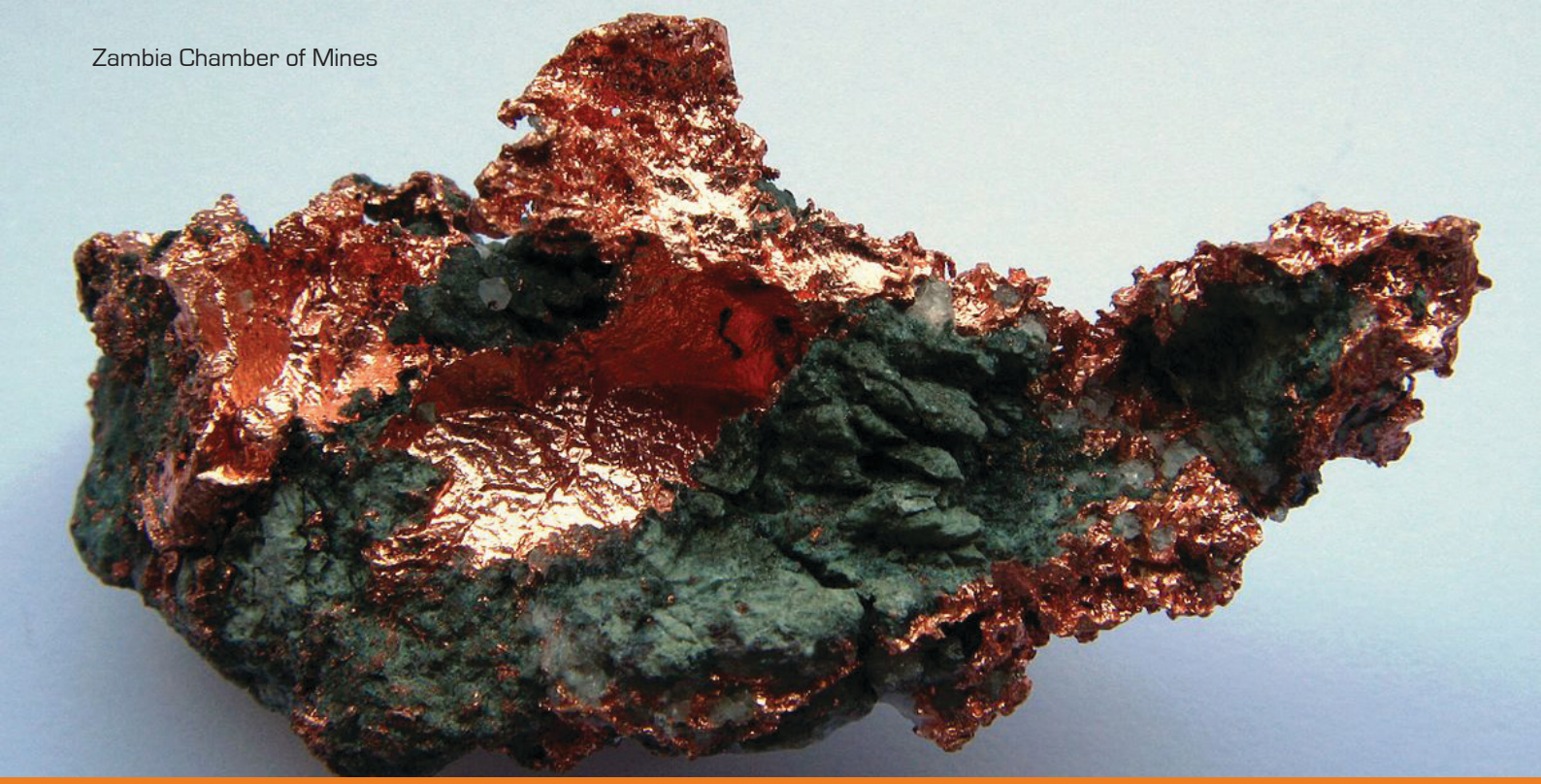
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WE RUSH FOR THE COPPER DEVELOPMENT SPEEDBOAT

Once again, wild anecdote-based assertions and half-truths about mining have crept into the headlines. Dramatic soundbites devoid of fact urge the Zambian public to sacrifice their livelihoods and communities on the suicidal twin altars of "keeping Copper in the ground" and "taxing the mining industry more". The recent removal of duties on mining equipment is the latest "unnecessary tax exemption" according to commentators and "experts" who seem oblivious to the decline of mine asset quality across the old Copperbelt for dire want of capital expenditure. Government must be commended for maintaining course and taking bold steps. Especially as the vague criticism comes without any alternative suggestions of how to resuscitate the mining industry and, by extension, the economy.

If proponents of these anti-mining growth views are successful in their fight to keep taxes so high that they repel mining capital, it will be the fourth time in 50 years that Zambia will have made such a strategic misstep only to watch a peer Copper country progress dizzyingly far ahead. The Zambian public must interrogate such calls that are effectively urging a repeat failure and correct these misguided notions based on the following sobering facts of history which prove that over time competitive tax levels and stable fiscal policy do deliver economic development spectacularly.

According to the United States Geological Survey (USGS) Copper factbook archive in 1969 Zambia, Chile, Peru and the Democratic Republic of Congo (DRC) were leading Copper mining countries. Zambia led the world in output at 824,658 tons, Chile was at 770,593 tons, DRC was at 393,421 tons while Peru produced just 219,143 tons. All four then nationalised their mines. The first to realise that leaving it to a state company alone was not optimal was Chile under General Pinochet. In 1976 this regime legally opened their country to foreign private mining capital. By the 1980s Chile leaped ahead in proven Copper ore reserves with around 100million contained tons while Peru stood at about 30million tons, Zambia at circa 24million and Zaire (DRC) close to 22million tons.

Had Chile just relied on state firm Codelco the country would only have moved production up from 770,000 tons in 1969 to 1.7million tons today. This figure as reported on the Chile Copper Commission (COCHILCO) website is just 30% of current Copper output. Instead, opening up competitively attracted an average of $400million per year in exploration investment and drew in billions more in production investment from 1982 to 2012 as per the International Copper Associations 2017 economic report on Chile. Chile broke the 5.8million ton per annum barrier in 2018 after 36 years to convincingly top World producers. This economic Copper miracle saw it become a developed country by World Bank income standards . That was the first time Zambia missed the bus, that to becoming a first-world country within 50 years albeit for the worthy cause of freeing the continent.

While Chile made its wise move, Peru's was in civil strife and Zambia was leading the African frontline in a just liberation war with unilaterally independent Rhodesia and apartheid South Africa. Zambia and Zaire therefore understandably clung to the socialist philosophy and all three nation's parastatal companies struggled under huge financial burdens of state that made re-investment and exploration impossible.

By 1990 Peru's civil wars were over and elected President Alberto Fujimori's reforms to the mining sector began. Both Peru and Zambia were so deep in debt that repayments crushed their industries and economies while mining efficiencies dropped due to little if any exploration and capital re-investment. USGS data reveals that by 1995 Peru's parastatal mining company Minero Peru had reached 381,000 tons Copper production, very slowly surpassing Zambia Consolidated Copper Mines (ZCCM) which slumped to 329,000 tons. In the mid-90s both countries then changed their laws to attract foreign capital and privatized their mines.

Zambia deviated from the successful privatization era investor attracting policies and began to tinker with its mining fiscal regime from the mid-2000s. As a result, production grew slowly reaching 630,000 tons by 2013.

Peru on the other hand stuck to its 1990s policies with dramatic results as per it's Institute of Mining Engineers 2020 presentation to the International Mining and Resources Conference (IMARC 2020) . That stability enabled the nation to attract $500million per annum in exploration capital and more than quintuple that in annual mining investment to drive output upward and breach the 1 million ton per annum barrier in 2005. The country then doubled production from 1.3 to 2.6 million tons per annum from 2015 to 2019. Its mining industry is diversified, growing and poised to give Chile a real run for its money atop the copper league table. By 2019 Peru had a pipeline of 68 mining projects totaling $47bilion in investment value. It is aiming to hit 5 million tons production per annum in the medium to long term. Zambia has the mineral endowment to have achieved at least half of what Peru has done. In a sobering comparison, the reality is that Peru's project pipeline alone is almost double the Republic of Zambia's entire 2019 Gross domestic product which fell behind due to its record-breaking policy changes averaging one every other year. Meanwhile exploration has also yielded Peru second place in Zinc and Silver production worldwide. Peru has also moved far ahead in the human development indices despite having a population almost double that of Zambia. This is the second copper bus Zambia missed from 1994, that to the upper middle income country status that Peru has today.

By 2013 Zambia and the DRC were neck and neck in copper production at around 630,000 tons per annum. The DRC had competitively positioned its mining fiscal regime during its 2008 privatization and stuck to it for a decade while Zambia's policy shifting continued being enthusiastically egged on by a range of pundits. Steady repetition of misinterpreted data inferences drove an incessant chorus of accusations of the mining sector's massive production understatement along with wildly exaggerated headline grabbing guestimates of illicit financial flows of billions of dollars per annum hemorrhaging the Zambian treasury. Had these campaigns been accurate then more malfeasance would have been prosecuted than the handful of cases of the last dozen years. These claims completely blurred the policy lens in Zambia while, though similarly challenged, the DRC steadily made progress despite regularly being on the receiving end of one punitive tax or duty after another. Today the DRC is set to hit the 2 million ton per annum mark in 2023 after from 2008 steadily attracting above $150milion per annum in exploration capital by 2016. This attracted even Zambia resident operators into the DRC's smelting and processing industry as that country broke its dependency on toll treatment of ore by its policy unstable southern neighbor. This was the third bus we missed, that of being one of only five countries on earth producing more than a million tons of copper per annum.

Zambia is now on the cusp of a fourth failure if those attacking even the first steps taken in the 2022 budget and this recent equipment duty removal have their near-sighted way. Growth stimulative restoration of mineral royalty deductibility and duty withdrawals are misrepresented as "tax holidays" to self-destructively turn public opinion against making Zambia competitive. This is despite reciprocal investment commitments of $1.4 Billion by First Quantum and planned fourth quarter listings of shares to raise hundreds of millions more in urgently needed capital by Moxico Resources, Mabiza Nickel Mine and Lubambe Copper Mine. Illogically, more taxation is then prescribed without a care for how catastrophic failure is proving for mining host towns and communities. The International Monetary Fund (IMF) in July 2021 estimated average effective tax rates of 84% for old Copperbelt underground mines and 57% for Northwestern province open cast mines under what is now the 2022 regime. This is versus global averages of 51% for high-cost (mostly underground) mines and 40% for open cast mines. Zambia still falls far behind countries such as Botswana. This neighbor

has lower percentage grades of copper but charges lower taxes and has a lower country risk premium of just 2% added to their international cost of capital thanks to pursuing stable pro-foreign capital policy for 50 years. Zambia's risk premiums are far north of 10% due to our unstable policy history. Looking at Botswana's pipeline of Kopano, Khomecau, Boseto and Motheo Mines, keeping copper in the ground and taxing mining to death will in three to four years lead to production of over 50kgs of copper per Motswana versus 48kg at best per Zambian if the flat trend here continues.

Zambia will most painfully miss the fourth copper bus to prosperity if deliberate obfuscation of tax adjustment measures as giveaways and ignoring of competitive tax benchmarking empirical fact is neither challenged nor categorized correctly as unproductive reinvention of the wheel. Zambia cannot afford to miss this greatest green energy and electric vehicle Copper demand opportunity of the last one hundred years. This the chance to attract at least $180milion of exploration capital per year and billions in production investment for the next 15 years to build up copper ore reserves that can sustain governments 3 million ton per annum production goal.

If mining taxes are not made competitive swiftly, the medium-term Copper opportunity will lift Botswana and Peru from upper middle-income countries into high income first world economies while Zambia wallows in downgraded low-income stasis for no better reason than allowing poorly gamed out and researched hysterics to distract from what must be done to save our economy. Zambians must learn from these three missed opportunities that have left us currently envying Chile's first-world status, Peru's upper middle-income status and DRCs multi-million-ton copper producer status. Though none of these countries is perfect they are surely far head of Zambia on each of these fronts right now. Zambians must promote factual common sense and put the sensationalist sound bites and retrogressive wild headlines aside. Instead, all must be on board with rolling up our sleeves to do the work required to ensure Zambia does not miss the development acceleration that the copper luxury coach offers this fourth time around.

Economic and Social Impact of Copper Mining in Chile, issued by Plus Mining at the request of International Copper Association, dated September 2017

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Mineral Economics (2019) 32:223–250 Mining's contribution to national economies between 1996 and 2016 Magnus Ericsson1 & Olof Löf2

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Article by Engineer Sokwani W. Chilembo
CEO Zambia Chamber of Mines



MORE MINING, MORE ECONOMIC OPPORTUNITIES

What effect do mining jobs have on Zambia's broader economy? The infographic below shows us.

Picture a mine in Zambia, and you might imagine conveyor belts high in the sky above ore bodies below, or truckloads of ore chugging back and forth, or people in hard hats making their way into pits where mineral deposits lie somewhere beneath the surface. From a distance, mining operations can resemble a perfectly choreographed performance, or a well-oiled machine in which each piece moves smoothly and independently, knowing exactly when its role comes into play at any given time.

But behind the scenes, other groups of people play completely different – perhaps seemingly unrelated – roles, each of which is also integral to these mines' smooth running. Somebody is sewing the workwear that protects these miners; somebody else is changing the tyres of the truck that needs to carry 200 passenger cars' worth of ore down a road that yet another somebody levelled in the ground. The lunches that people eat on site are cooked by another person; perhaps he or she has always dreamed of having a small catering business. Somebody had to grow the vegetables and maize that were used to cook these lunches, and they had to be transported from Lusaka or Kitwe or Kalumbila by a different person, in a vehicle that may be one in a growing fleet. Barbers and butchers and banks gravitate to set up shop and serve new markets of new employees, when jobs are created in a mine. Every one of these people is a vital cog in the enormous wheel that is mining in Zambia.

Wherever you are in the vast and interconnected network that is mining, take a moment to think about this chain reaction, in which one job multiplies and multiplies again further down the line.

In Zambia, one new mining job creates 11 other jobs and earning opportunities.

Article by Mining for Zambia

Here, you can see this incredible phenomenon, illustrated.





ATS INITIATES WORKING PARTNERS INITIATIVE PROGRAMS ON THE COPPERBELT

The just ended Copperbelt Fruit and Vegetable Consortium Meeting, a part of the ATS-WPIP. The Copper Belt Fruit and Vegetable Consortium had its first ever meeting at Golden Blue Hotel in Ndola. Promoting Working Partner Interaction Programs (WPIP) has been one of the 2022 ATS Community Objective.

Participating of ATS to the meeting was instrumental in the development of roles and responsibilities of the member of the Copperbelt fruit and vegetable consortium. ATS shared some experiences on the best practices leaned from the Northwestern Fruit and vegetables consortium to which ATS is a strategic Parner.

The Participation has earned ATS a cordial relationship through membership to tap into the fruits and vegetables being produced by farmers around the Copperbelt.

Among other participating working partners to the consortium were Mopani Copper Mine (Department of Local Business Development) Shoprite-Zambia (Fresh Mark), O-Gardens, stockyards, Castrol Farms, Zio Farms Wonder-field, Omnia-Zambia, and Syngenta.

ATS together with Shoprite assumed the role of Off-taker, all Farms listed above assumed the role of Aggregators, leaving Omnia and Sygenta with the role of providing imputes to the farmers. Prospero Zambia will provide grants to consortium members whose concept of producing Fruits and vegetables will prove to be viable and sustainable.

To ensure sustainability, Consortium members have an advantage to receive, free Technical Assistance from Techno-serve, IDE (International Development Enterprise) and SNV (Netherland Development Organization).

The interaction ended with an action plan for the next 3 months, to be coordinated by Mopani Copper-mines (Department of Local Business Development).







MABIZA CSRI/ATS LEGACY- MAKING OF FOOTWEAR BY RECYCLING OF COOKED RUBBER IN MUGOTO COMMUNITY

Recycling of cooked rubber in the form of conveyor belts has been seen as another way of preserving and conserving the environment within Mabiza Resources Limited Mine community. The volume of waste the human race produces is increasing all the time. The population is growing, we're buying more products and subsequently creating more waste especially with cooked rubber products being used in the mines. In this regard, it has been observed that cooked rubber is a crucial resource that the global community is targeting to achieve improvements in sustainability. While cooked rubber is used to manufacture many products such as seals, gaskets and hoses, to name but a few, no single product dominates the market in the same way that cooked rubber does.

It has been observed that there has been so many cooked rubbers waste materials within Mabiza Resources Limited Mine left of no use and it came to the attention of ATS and Mabiza Resources Limited through the community Liaison Department, and as a way of empowering the community who have been making use of the cooked rubber unused conveyor belts in making footwear out of it popularly known as "Mpato" in local language. Some youths in Mugoto Community organized themselves and formed up a group and are being supported with conveyor belts and making footwear which they later sell within the community and the nearby communities. The intention to extend the idea to other local communities and engage other stake holders in supporting the initiative have been widely considered.

One of the main benefits of recycling is that it reduces the number of natural resources that we use. It also helps to prevent pollution, as bringing cooked rubber in conveyor belts and tires into our local communities means they're not dumped in areas where they cause environmental problems, such as on riverbanks and avoid air pollution through the burning of materials made of cooked rubber.



MINES STILL HIGHEST TAXPAYERS

Industry contributes 43 percent to ZRA collections

Despite changes made to the mine tax regime, the mining industry has continued to be the highest taxpayer, after contributing K20.8 billion to Zambia Revenue Authority (ZRA)'s tax outturn of K48.3 billion for the first half of this year.

In the 2022 budget, Minister of Finance and National Planning Situmbeko Musokotwane made changes to the mine tax regime by introducing the deductibility of Mineral Royalty Tax as an expense.

Tax deductibility refers to claims made to reduce a company's taxable income, arising from various investments and expenses incurred by a taxpayer.

Dr. Musokotwane projected that Government would incur a revenue loss of K3.2 billion as a result of the tax changes.

The move was made to attract investments in the industry and in turn ramp up production to three million metric tonnes per annum, from 800,000 metric tonnes, in the next 10 years.

However, when the tax changes were announced, stakeholders in the mining sector raised concern that Government would actually collect less taxes from the industry compared to other sectors.

But ZRA Commissioner General Dingani Banda announced last week that the authority's tax outturn for the first half of this year was K48.3 billion, and the mining industry was the biggest contributor, remitting 43 percent of the amount.

Wholesale and retail trade was second at 11.8 percent while manufacturing sector was third, contributing 8.5 percent of the total revenue.

"In terms of industry performance, the top three contributors, accounting for 63.3 percent to gross revenue collections during the first half of 2022, were mining, wholesale and retail trade and manufacturing sectors, which accounted for 43.0 percent, 11.8 percent and 8.5 percent, respectively, of the total gross collections." Mr. Banda said in a press release issued by the Public Relations Unit.

Mr. Banda attributed the strong performance of the mining sector in the first half of this year to high copper prices on the international market.

Commenting on the development, Zambia Chamber of Mines President Dr. Godwin Beene said the K20.7 billion contributed to Government coffers by the mines simply shows that mining houses pay taxes.

"This simply means we pay taxes, contrary to what people have been saying," said Dr. Beene.

He attributed the high tax turnover in the mining industry to higher copper prices on the international market.

Dr. Beene said with stable fiscal policies and mine tax regime, the taxes collected from the industry could actually be higher.

He said the two fundamentals could help to attract more investments into the mining industry

Article by Nkombo Kachemba,
Zambia Daily Mail



MEET ZCCM-IH'S NEW BOARD CHAIR

The state-owned mining company has a clear vision for the future

With His Excellency President Hakainde Hichilema's drive for a New Dawn for Mining in Zambia, ZCCM-IH – which holds stakes in many of the country's mining operations – appears to have entered a new and dynamic phase. Mining For Zambia met up with the company's recently appointed Board Chair, Ms. Dolika Banda, at last this year's Mining Indaba in Cape Town to find out more about its vision for the future.

While it sounds like you've been thrown into the deep end to some extent, you also seem to have embraced the challenges that come with your new role.

It's certainly a very exciting role, yes. There are 24 companies in ZCCM-IH's portfolio, and only two of them have consistently paid us a dividend: Copperbelt Energy Corporation and Kansanshi Mining Plc. My day-to-day job is essentially sorting out this portfolio and I'm enjoying it because it's taking me back to my banking days – and especially my days at IFC and CDC because often in the impact investing space, you're working with challenging countries and the most difficult sectors. So that experience has served me well.

Strategically, ZCCM-IH is gearing towards managing a financially and socially sustainable mining-focused investment holding company. Our corporate vision is to eventually be a best-in-class global mining and mining-related holding company. In order to do that, we have had to go into the portfolio and really analyse what a mining portfolio should look like so that if somebody wants a unit piece of Zambia's mining industry – but they don't want to buy a direct stake in a mine – they can clearly see that ZCCM-IH is a mining conglomerate.

What are some of the challenges when it comes to ZCCM-IH's mining-related portfolio in particular?

Over the last few years, there has been a complete shutdown of investments by good investors coming into the country, so many of our investee companies have been starved of much-needed finance. This lack of working capital has been a big problem. We've faced strained relationships – and even litigation, which is public knowledge – with various mining houses, so it's constantly been about putting out fires. I can tell you for a fact that any investor who is unsure about a country's fiscal stability and policy consistency will not dip into their pockets, take a billion dollars and put it into that country. Instead, they park the capital and

wait, or deploy it elsewhere.

Now, one of our biggest challenges is to reset all of that, and reset it quickly enough that the money starts to come in and Zambia can start to ride the wave of opportunity that mining – and the green energy transition in particular – presents. The recent announcement of $1.35 billion in investment from First Quantum is the result of a series of conversations over the last eight months, starting from when this administration came into force. Since I took my position in December 2021, this gained momentum so that we were able to come to the Mining Indaba and tell the world the story that Zambia is open for business.

"Over the last few years, there has been a complete shutdown of investments into the country. It's constantly been about putting out fires. Now, one of our biggest challenges is to reset all of that."

Zambia has certainly been in the spotlight at the Mining Indaba, and FQM's new $1.35 billion investment has played a big role in that. Do you feel that Zambia has turned a corner?

During the keynote speech given on Monday [9 May] by His Excellency President Hakainde Hichilema – 'A New Dawn for Zambia's Mining Sector' – he unpacked his vision for the country's mining sector, including the ambitious target of three million metric tonnes (or approximately $30 billion dollars' worth of copper) by 2030. This is a target that will require deep pockets to achieve. To sink a shaft takes billions of dollars. Zambia's expected GDP for 2021 is $24 billion. Clearly, Zambia cannot mine all of these minerals from its treasury. There's no way we can do mining without partnerships on the mining capacity and financing fronts, and we need good international investors to partner with us.

The announcement of FQM's new investment during Indaba week was the greatest news signalling this renewed investor confidence. I think the mantra is true: It is, indeed, a new dawn for our country.

"The announcement of FQM's new investment during Indaba week was the greatest news signalling this renewed investor confidence. I think the mantra is true: It is, indeed, a new dawn for our country."

How will FQM's investment benefit Zambia and Zambians?

In terms of direct effects of this investment, obviously we're going to see this in terms of jobs created – and we're talking about high quality jobs. Very soon, we will start seeing the economic activity that will be triggered by an investment of this size.

FQM also already supports health and education in a big way, and that kind of support and social investment is expected to increase. We are also in discussions with the company about how they can help Government in terms of road infrastructure. Our President has been very clear that the mining sector must be an inclusive sector, such that Zambians feel a sense of ownership, however we structure that.

The value chain surrounding the mining sector is equally important. This extends to local input in the supply chain, working with local SMEs – but also beneficiation. There's so much that goes into mining that need not be brought in from abroad. So, how do we start making nails or bolts in Zambia? And then, on another level, why are we exporting raw copper, which then comes back to us in the form of inputs into pipes, cables, and whatever it is that we need? Looking at how Zambia can add value is part of the President's vision, and that's how we intend to bring the Zambian people into the mining sector.

That brings me to one of the longer-term effects of FQM's investment. While this capital will be used to expand Kansanshi's operations and smelter, and to bring Enterprise Nickel Mine online, FQM is also helping to diversify Zambia's energy dependence in the mining sector by building a solar park which will eventually power its mining operations entirely. Hydro-electric power is all good and well but, with drought and climate change, it's a little risky in the long term. So, apart from being a really significant investment into our mining sector, this is a major signal that Zambia cares about clean, green, sustainable energy, and this investment is also our way of showing that we are headed in this direction.

The steps that FQM is enabling Zambia to take in the green energy space are also strongly aligned with ZCCM-IH's investment strategy, one aspect of which is building a resilient and sustainable portfolio anchored on Environmental, Social and Governance (ESG) standards.

Would you please share a bit about ZCCM-IH's direction of travel in the next few years?

Certainly. Our direction of travel is anchored on three strategic pillars. Firstly, there's mineral diversification which, among other things, will require us to ramp up exploration into minerals such as gold, copper, manganese and zinc in order to find the mineral reserves where we can build the next generation of mines. The second is value addition and beneficiation of minerals, gemstones and precious metals, which I mentioned earlier. The third pillar is creating – and, indeed, maximising – value for our shareholders, and ensuring they get a return on their investments.

One of the ways we're doing this is by adopting best practices to find new – and, crucially, predictable and consistent – revenue streams for shareholders.

"Our direction of travel is anchored on three strategic pillars, one of which is creating – and, indeed, maximising – value for our shareholders."

You mentioned the connection between the Government's focus on mineral diversification, and the need to ramp up mineral exploration. Is exploration something that ZCCM-IH is currently involved in?

Yes, ZCCM-IH is engaged in mineral exploration – especially for the 'new age minerals', if I can call them that (meaning nickel, cobalt and possibly lithium) – but we're also encouraging all of our mining partners to invest in exploration of these metals. It can take 10 years from the time that exploration begins and a newly-built mine is actually productive, so we need new mines to come online without delay.

Mineral exploration is expensive and high-risk because, without proper geophysical data, explorers don't know exactly where to look before they stand a chance of finding the next Sentinel. That's why geologists say that an up-to-date national geophysical survey of Zambia is urgently needed.

Absolutely. As we speak, our Ministry of Mines has set this as a time-critical deliverable. It's an area of immediate and urgent focus for us. Fortunately, there's also a lot of donor money available to potentially fund the creation of an updated national geophysical survey.

The third of ZCCM-IH's pillars you mentioned is "creating value for shareholders, and ensuring they get a return on their investments". This area of focus seems like one of several good reasons to ensure that it's Zambia's – not another country's – critical minerals that are used in the green energy revolution. What do you think Zambia should be doing to realise this goal?

One of Zambia's advantages is that we already have a very well-established mining industry. Even though productivity has gone down in recent years, mines like Kansanshi have continued running all along. The most urgent thing that needs to happen immediately is getting capital into the mines again to get them running at full capacity. We can look at this as a blood transfusion of sorts – that's what's needed in the immediate term.

We have to relook at our mining policy, too, which has already begun. But truly, if there's one thing I can say, it's 'Get cash into the system and get the productivity up again.'

Look at Mopani Mining Plc, which was run by Glencore: they put in some really state-of-the-art machinery; now we need to ramp up production again. How we can get more capital into Mopani, a 100% ZCCM-IH owned company, is an ongoing conversation. We don't yet know what the shareholding structure will look like when we do, but we are open to good partners who are going to be in Zambia for the long term.

It seems clear that Government's relationship with the mining sector has evolved since the new administration came to power.

Definitely, there's been a 180 degree turn, things have changed completely. There wasn't a lot of communication previously and, I'm no politician, but there was a lot of heavy handedness in the recent past. The current administration sees the value of doing things the right way.

How would you describe ZCCM-IH's relationship with FQM, which is one of your key 'mining partners'?

Although we are a minority shareholder in Kansanshi, with FQM holding a majority stake, we are in communication all the time. I would describe our relationship as an 'open dialogue'. The same goes for Glencore. We speak virtually every day – we don't wait for an event like a Mining Indaba! These companies are very hands-on with their assets. We now have a changed and healthy relationship with our partners under the new administration.

Here at the Mining Indaba, FQM's investment has galvanised people's curiosity in the country, causing them to ask, 'How can we be part of this conversation?' It's driven home the message that Zambia is open for business. The investment has drawn attention to the fact that Zambia can overcome challenges or hurdles with partner investors – not just in the mining sector, but anywhere. It also sends the message that we are looking to partner with global investors – not just on a transactional basis, but on a long-term basis, as partners in development.

Article by Mining for Zambia



WE DRILL DOWN INTO THE DETAILS OF MINING'S POTENTIAL TO MULTIPLY ECONOMIC BENEFITS FOR ZAMBIANS

The findings of a May 2022 report – which takes a deep dive into First Quantum Minerals' US$1.36 billion dual expansion of Kansanshi's operations and the bringing online of Enterprise Nickel Mine – have laid bare the potential for the mining sector to transform the lives of hundreds of thousands of Zambians within the coming decade. With the report's launch behind us and the dust starting to settle, Mining For Zambia drills down into the details with the authors, leading economist Professor Oliver Saasa and economic statistician Mr Shebo Nalishebo, in order to get beyond the economics and grasp the real on-the-ground impacts of these planned investments.

Mining For Zambia: First Quantum Minerals' (FQM's) combined $1.36 billion investment will substantially boost revenue collections by Zambia's Treasury, with annual increases estimated at between US$85 million and US$165 million on average, depending on commodity prices. This will presumably give Government millions of dollars more to spend on healthcare, education, and infrastructure, and the Constituency Development Fund, correct?

Prof. Saasa: Indeed. These additional taxes will greatly expand the Government's expenditure opportunities – and that includes enhancing social services delivery, while creating space for debt repayments. But an investment like FQM's is about much, much more than what is being contributed in terms of taxes. In fact, understanding that the contribution of the country's most strategic sector does not stop at the Treasury is exactly what we hope to demonstrate in our report.

Your report highlights job creation as another key effect of FQM's investment. Beyond the 1,300-1,700 jobs that will be directly created within S3 and Enterprise, your calculations show that an estimated additional 16,500 jobs will also be created, as a result of multiplier effects. How does this work?

Mr. Nalishebo: Our computation shows that for every one formal sector employee that FQM hires, it generates employment or earning opportunities for 11 other people in the wider economy. So, the 1,300-1,700 new jobs [800 at S3 and 700 on average at Enterprise] will help to create around 18,000 new

jobs, and open up new opportunities for domestic businesses.

"Our computation shows that for every one formal sector employee that FQM hires, it generates employment or earning opportunities for 11 other people in the wider economy."

Please explain a bit about where these 11 additional jobs will be created.

Prof. Saasa: One initial job in a new mining operation – Enterprise, for example – will create one additional job within the mining sector. This might be, for example, a contractor hired by FQM to provide mining support services, such as equipment maintenance. The initial job will also generate three indirect jobs in other sectors that support mining. These may be in either the formal or the informal sector – for example an employee of a contractor to which FQM outsources catering services to feed new employees at Enterprise. Another example would be a company that transport copper to ports which needs to hire extra drivers or mechanics because of the substantial increase in production at Kansanshi, after its expansion. Then, there are seven additional jobs or earning opportunities that we call "induced effects"; these might include entrepreneurs or traders. Essentially, induced effects are those that occur in the communities where new mine workers, contractors and so on are spending their earnings.

Table 7: Type I and Type II Employment Multipliers for the S3 Project

	Initial	Direct effects	Indirect Effects	Type I Effects	Induced Effects	Type II
Multipliers		1	3	4	7	11
Employment	800	714	2,761	3,475	5,322	8,797

Table 7 in 'Evaluation of Economic Impact of Planned First Quantum Minerals Investments in Zambia' shows a breakdown of the 1:11 employment multiplier (Courtesy the authors)

Please elaborate on the way in which 'induced effects' work.

Prof. Saasa: Because of the nature of our economy, where approximately 75% of businesses are in the informal sector, the contributions of a sector as strategic as mining extend far further than the average person imagines.

Here's an example that falls under 'induced multiplier effects': one salary from a job in a mine generates income that is enjoyed by multiple family members. With the surplus income, one family member might start a small business in the informal sector with a cash injection of as little as ZMK 2000. 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. Those suppliers may hire employees too, whose jobs are 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.

Your report goes a lot further than calculating the employment and income multipliers from FQM's two new projects. It also estimates the increases in jobs and income that would stem from Government realising its copper production target of three million metric tonnes a year. This, you've calculated, will require US$30-40 billion of investment. Please explain how you estimated the amount of investment needed.

Mr. Nalishebo: We made the following assumptions: Reaching the annual production targets that will take us to three million tonnes a year by 2030 will require the equivalent of nine additional Kalumbilas – which currently produces in the region of 240,000 metric tonnes per annum (MTPA). At least $2 billion in investment is required to set up a mine of Kalumbila's magnitude. To reach these production targets, we'd need the equivalent of about nine Kalumbilas, which would cost about $18 billion to set up.

Establishing so many new mines will require a vast increase in supporting infrastructure, not least in the amount of power available. So, we estimated the cost of doubling installed electricity capacity from its current 3,300 megawatt capacity (to meet the

demand for three million MTPA of copper production) at $5-8 billion, using the estimated cost for the 2.4 gigawatt Batoka Gorge Hydro Electric Scheme project as a reference. To those figures, we added $5-8 billion for constructing a 850km greenfield railway line from Solwezi to Kazungula, and at least $2 billion for a possible greenfield road that creates a direct route from Solwezi to Kazungula, along with road rehabilitation for the increased load. There is, of course, other supporting infrastructure that will need to be put in place, hence the $30-40 billion estimate. This, we hope, illustrates the vast quantity of resources that is required to meet such a target.

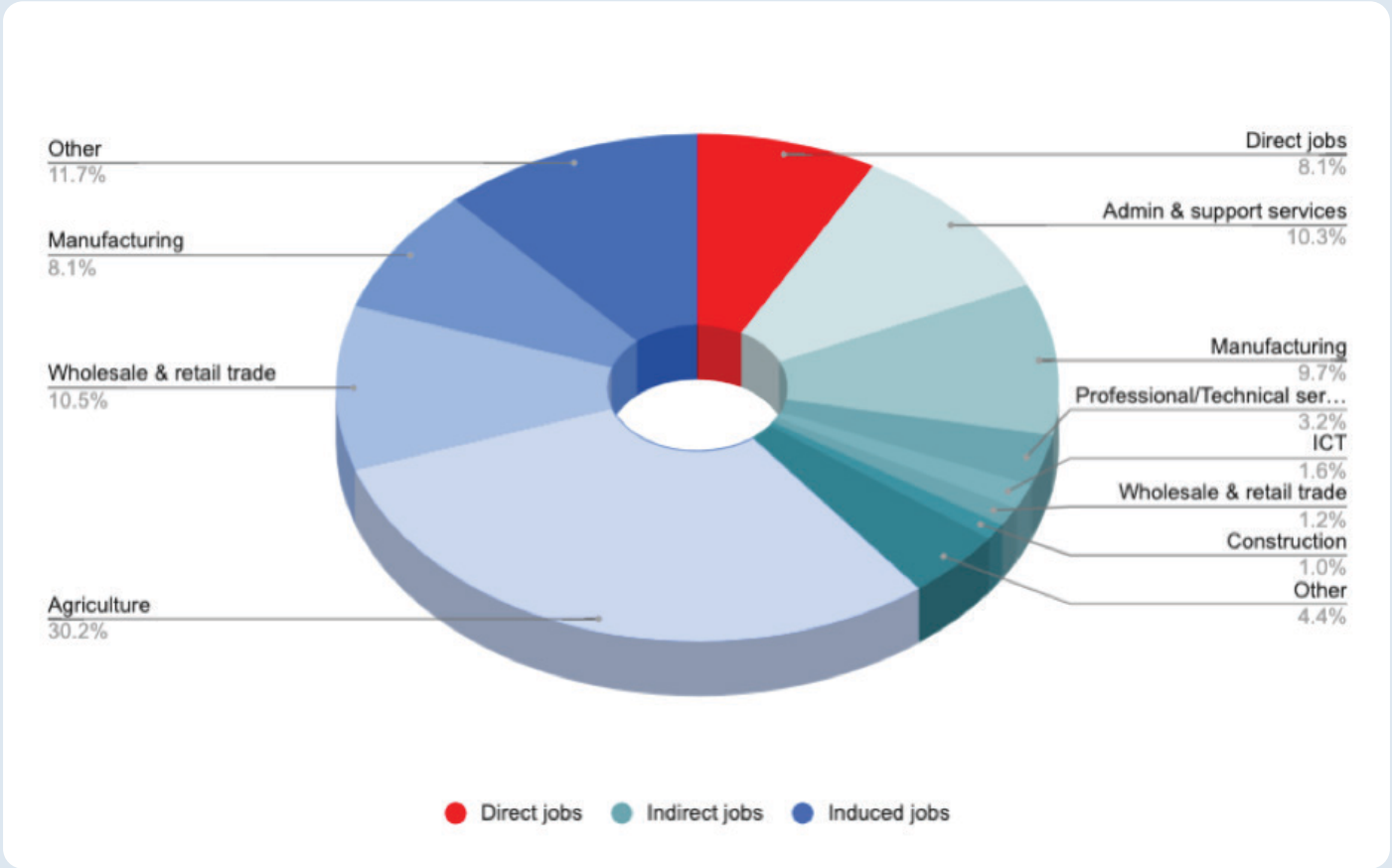
Certainly, there is a lot that needs to happen before this ambitious production target can be reached. If Government does succeed in attracting the US$30-40 billion that is needed, what impact would this have on ordinary people?

Mr. Nalishebo: Based on the estimated multipliers in our report, this would result in – among other things – the doubling of direct employment in the mines (currently estimated at over 70,000) and the creation of additional employment in excess of 500,000.

Half a million new employment opportunities would be phenomenal. Which sectors would these 500,000 people likely to work in?

Prof. Saasa: Firstly, 500,000 jobs is a very conservative estimate. It is estimated that, between now and 2030, about 40,000 jobs will be created directly in the mining sector. About 156,000 jobs will be created through backward and forward linkages to the mining sector. This figure is made up of 51,000 jobs in administrative and support services (including security), 48,000 in manufacturing, 16,000 in professional, scientific and technical services, 8,000 in Information and Communications Technology (ICT), around 6,000 in wholesale and retail trade, and 5,000 in construction, to name the biggest sectors.

In turn, this will induce approximately 300,000 jobs or earning opportunities – mostly in the informal sector – in the surrounding communities. Around 150,000 of these will be in agriculture, 52,000 in wholesale and retail trade, and 40,000 in manufacturing. Naturally, all this increased economic activity will create additional demand for education and health services. These computations are all available in our report.



Where will this economic activity be centred?

Mr. Nalishebo: The economic trickle-down effect will extend across the country. Since Sentinel mine's construction spurred a flurry of economic activity in the newly-built Kalumbila Town, we've seen that a large percentage of unskilled workers have been sourced from surrounding communities – mainly Musele Chiefdom. This sets in motion an economic trickle-down effect at a local level. But, with an estimated 156,000 jobs being created through backward and forward linkages to the mining sector, these suppliers and contractors could come from anywhere in the country.

As Prof. Saasa mentioned, 500,000 jobs from a US$30-40 billion investment in the mining sector is a very conservative estimate. When we calculated the impact of S3 alone, we based our estimates on the 800 permanent new jobs that are being created. We did not consider the multiplier effect resulting from the additional 1,800 jobs that will be created during the construction phase, for instance – so the effects are likely to be larger than we estimated.

Your report refers to incomes increasing by $9-12 billion between now and 2030, should this US$30-40 billion of investment be secured. Whose incomes will grow by that amount?

Prof. Saasa: This is new household income that accrues to communities via income received by miners, and income from workers in industries with linkages to mining. By spending this money on goods and services, these workers induce further household incomes. The distribution of this additional income is US$3-4 billion for mine workers and US$2-3 billion for workers in non-mining sectors. Their expenditure in the areas where they live will induce other incomes amounting to $4-5 billion. The direct, indirect and induced incomes amount to US$9-12 billion. Put differently, Zambia's population is expected to grow to 23.6 million by 2030, so this would result in additional per capita income of between US$389 and US$519.

"We want to give Zambians a sense of how, when you invest a certain quantum it extends downstream, and many multiples of people will benefit from that singular investment."

The calculations are a bit technical, but all this data is available in our report. We are really aiming to give Zambians a sense of how, when you invest a certain quantum – in FQM's case, $1.36 billion – it extends downstream, and many multiples of people will benefit from that singular investment. It is not a matter of 800 people being employed within S3 in the immediate future; the impact will be felt far beyond the mining sector. Many other companies' and contractors' and suppliers' success will spring from the economic activity that's set in motion by these investments.

Furthermore, when considering the benefits of mining in Zambia, we should not confine ourselves to particular investments by particular companies. Investments in a sector like mining take on a life of their own. Certainly, FQM's investment is a very important first step in realising the Government's ambitious copper production target by 2030, and is key to President Hichilema's drive for a New Dawn for Mining in Zambia. This investment demonstrates a level of confidence in our country that is certain to encourage other investors to follow suit and, as such, must be celebrated.

MINING LOOKS BRIGHT
FQM Group CEO says Zambia important to its legacy

First Quantum Minerals (FQM) Group Chief Executive Officer Tristan Pascal says the future of mining in Zambia is bright because of the conducive investment climate created by the new dawn government.

Mr. Pascal has described Zambia as the best destination for the investment in the mining industry in the world because of the predictable investment climate.

"Zambia is very important to the legacy of FQM and to the history of the business," he said in an interview at FQM Trident Limited in Kalumbila district. "But for some time, it has been difficult to invest in the country because of a number of changes in terms of the environment here, really understanding what the future could be."

"But with the leadership of the new government that has come in, it has made very clear intentions and the economic climate they want in Zambia to grow the economy and that mining will take a fundamental role in that."

Toronto Stock Exchange-listed FQM, a global metals and mining company producing mainly copper, gold and zinc, operates the Kansanshi mine and smelter in Solwezi and the Sentinel mine in Kalumbila.

In May, FQM announced a mammoth US1.35 billion package of new projects, with US1.25bn to be invested in expansion of its Kansanshi operations – known as the 'S3' project – and a final US100 million to start the US250 million Enterprise nickel project in Kalumbila.

The investment has been hailed as a game changer for the nation, and the first step on the road towards attaining the new dawn government's vision for the country to produce three million tonnes of copper a year by 2030.

Zambia produced just over 800,000 tonnes of copper in 2021, of which FQM contributed more than half, that is 202,000 tonnes from Kansanshi mine and 233,000 from its Sentinel mine in Kalumbila.

"For us, we see stability and we see that Zambia can be competitive with the rest of the world in terms of best destination for investment," Mr. Pascal said.

"As FQM, when we speak to people outside Zambia, our shareholders and our investors, all the money that comes from the global markets, we see that Zambia is a good place for investment," Mr. Pascal said.

"We look to the future and the future at the moment looks uncertain with all the things happening in Ukraine and Russia, resulting in rising prices of fuel. As we look forward, all those headwinds that are coming, we need to manage our business very well."

"Zambia and I think ZCCM-IH (the state-mining investment firm) is managing its business very well in Zambia and we can look forward and face these with some confidence."

Mr. Pascal said about 1,300 new job opportunities will be created at Kansanshi in addition to its over 8,000 current workforce because of the expansion project to be undertaken by the mining giant.

The S3 project at Kansanshi will extend the life of the mine by another 20 years and increase production by around 25 percent to around 250,000 tonnes a year.

At its nickel project at Enterprise Mine in Kalumbila, over 500 full-time jobs will be created.

"We would like to start operations very soon and so we are in the early stages of doing preparatory works and appointing contractors," Mr. Pascal said.

The Group CEO also pledged the firm's continued commitment to honour its social contracts with the host communities.

"You will continue to see FQM continue investing in the areas we have been investing to make sure that we are reaching out to people in the communities," he said.

Article by Buttyson Kandimba, Zambia Daily Mail





Members of the SHE Committee pose for a photo at the Synclinorium Concentrator



The New Synclinorium Concentrator Plant at Mopani Copper Mines Nkana

THE CHAMBER SAFETY, HEALTH AND ENVIRONMENT COMMITTEE VISITS MOPANI COPPER MINES

The Zambia Chamber of Mines (ZCM) Safety, Health and Environment (SHE) Committee held its second quarterly meeting at Mopani Copper Mines (MCM) Golf Club in Kitwe on Thursday 30th June 2022.

In welcoming the members, MCM Chief Services Officer Mr. Justin Ndhlovu who spoke on behalf of the Chief Officer - Mine Technical Services, Mr. Jacob Z. Banda, assured the Committee that Mopani was committed to the Chamber of Mines programmes as in the past, prior to the Covid-19 pandemic restrictions. He encouraged the committee members to tour the new Synclinorium Concentrator Plant to see the progress the company was making in terms of promoting production.

ZCM Deputy Chief Executive Officer, Mr. Talent Ngandwe thanked MCM for hosting the meeting and recognised previous support given to the Chamber of Mines. He acknowledged that Covid-19 affected everyone but was glad to announce that Zambia Chamber of Mines was back on board with all its programmes.

He confirmed the following programmes:

- Inter-Company First Aid Competition to be held on 24th September, 2022 at KPF and hosted by NFCA,
- Zambia Mines Rescue National Final Heat Competition to be held from 25th July to 29th July, 2022 at the ZESCO Victoria Falls Hydro-Power Station in Livingstone,
- Sending Mopani, KCM and Lubambe mine rescue teams to the International Mine Rescue Competition (IMRC) from 9th September to 16th September, 2022 in West Virginia, U.S.A.,
- Hosting the Chamber of Mines Corporate Social Responsibility Forum for all mines in August 2022,
- Zambia hosting the International Mine Rescue Competition in 2026.

Mr. Ngandwe expressed concern on the increasing trend of fatalities as a result of accidents in the mining sector. He mentioned that there was need to strictly follow safety, health and environmental guidelines in the midst of a push to target the 3 million tonnes of copper production per annum, in the long term as declared by the Republican President, His Excellency, Mr. Hakainde Hichilema at the Mining Indaba in Cape Town – South Africa. He was particularly concerned about upcoming small-scale mines in the Central and North-western provinces.

And MCM Health, Safety and Environment Manager, Mr. Edwin Ngoma stated that Mopani was delighted to host the meeting that aimed at sharing and promoting best international practices on safety, health and environment.

Chairperson of the SHE Committee Mr. Dean Mwelwa welcomed all to the meeting and thanked Mopani for hosting the members.

Speaking at the same event, Dr. Mieke Mulenga of the Occupational Health and Safety Institute (OHSI) and incoming Chairperson of the Chamber of Mines of Zambia Council for First Aid (CMZCFA) made a presentation on OHSI Medical Surveillance compliance for both direct and contractor employees in the mines. She presented statistics for the OHSI medical surveillance for all mines that are members of the Chamber and encouraged member mines and contractors to be in compliance with the Occupational Health and Safety Act with regards to annual medical examinations with OHSI for all miners.

Members of the SHE Committee later visited the new Mopani Synclinorium Concentrator Plant, a new concentrator operation which treats ore from Mindola shaft, Synclinorium shaft and South Ore body. The guided tour was led by the Assistant Superintendent for the section Mr. Mautho Ndolo.

Article by Yewa Kumwenda



KCM NCHANGA TEAM C WINS THE 2022 NATIONAL MINE RESCUE FINAL HEAT COMPETITION

Konkola Copper Mines – Nchanga Team C has won the recently held Zambia Mines Rescue Association (ZMRA) National Final Heat Competition that was held at Zesco Victoria Falls Hydro-Power Station in Livingstone from 25th to 29th July 2022.

ZMRA President Mr. Abraham Kachonka announced the results at an Award Gala Dinner held at the New Fairmount Hotel in Livingstone on Friday 29th July 2022.

Nchanga Team C scooped the championship with 179.4 points with fellow workmates KCM -Konkola Team A on the heels with 179.1 points. In third position were the 2021 winners Lubambe Copper Mines – Team B with 177.3 points and the fourth position was also scoped by Lubambe Copper Mines – Team C with 153.3 points.

A total of nine (9) underground mine teams that include Mopani Copper Mines - Nkana Team B, NFCA – Team A, CNMC Luanshya – Team A, Lubambe Copper Mines – Team A and Mabiza Resources Nickel Mine – Team A participated in the competition which was adjudicated by independent judges that included Dr. Mieke Mulenga, Chairperson of the Chamber of Mines of Zambia Council for First Aid (CMZCFA), retired mine rescue brigades' men Mr. Joshua Mushauko, Mr. David Mwanza and Mr. Lesley Yenga.

Speaking at the Gala Dinner, ZMRA President Abraham Kachonka said all teams worked hard in a competition that saw more teams participating compared to 2021. He thanked the Zambia Chamber of Mines (ZCM) for making the competition possible and also thanked MineARC Systems through their company representative Mr. Eugene Swanepoel, for continuing to provide financial and technical support to the Zambia Mine Rescue Competitions since 2016.

Former President of ZMRA, Mr. Eric Cousins of First Quantum Minerals commended the teams for putting in hard work and remarked that ZMRA that was revived around 2000 had improved tremendously over the years and was now participating in International Mine Rescue Competitions (IMRC) abroad, which was the best place to benchmark international best practice in mine rescue services. Dr. Mieke Mulenga, CMZCFA Chairperson and an occupational health specialist from the Occupational Health and Safety Institute (OHSI) said there was a lot to learn from each other during the competition and would recommend areas of improvement especially in the area of first aid.

Zambia Chamber of Mines Deputy Chief Executive Officer Mr. Talent Ng'andwe, who was the Guest of Honour on behalf of the President of the Chamber of Mines, Dr. Godwin Beene, congratulated KCM - Nchanga Team C on emerging victorious and encouraged all mine rescue teams to continue working hard as they were part of the winning Zambia mining industry whose sole aim was to provide efficient and cost effective mine rescue services and training in emergency preparedness to the mining industry and the community to mitigate loss of life and property.

He said the 2022 competition saw more elaborate

activities that tested the knowledge and skills of mine rescue brigades' men. Mr. Ng'andwe also thanked Zesco Victoria Falls Hydro-Power Station management team led by Station Manager Mr. Lioko Sitali and the Safety Manager Mr. Michael Zulu for hosting a successful event. He said the venue was a good neutral ground for teams from the mining industry.

Speaking after KCM – Nchanga Team C were crowned champions of 2022, KCM Vice President for Health, Safety and Environment, Mr. Felix Sikaonga, congratulated the two KCM teams for scooping the first and second positions after being absent form the Chamber of Mines family for two years. He commended all the teams for working hard during the competitions and announced that 'KCM was now back in the Champions League,' after a stellar performance.

KCM – Nchanga Team C will represent Zambia at the 2023 International Mine Rescue Competitions (IMRC) to be held in Colombia while the 2018 winners MCM – Nkana Team B, the 2019 winners KCM – Nchanga Team C and the 2021 winners Lubambe Copper Mines – Team B will represent Zambia at this year's International Mine Rescue Competition (IMRC) to be held in West Virginia in the USA from 9th to 16th September 2022.

Article by Yewa Kumwenda

IN PICTURES











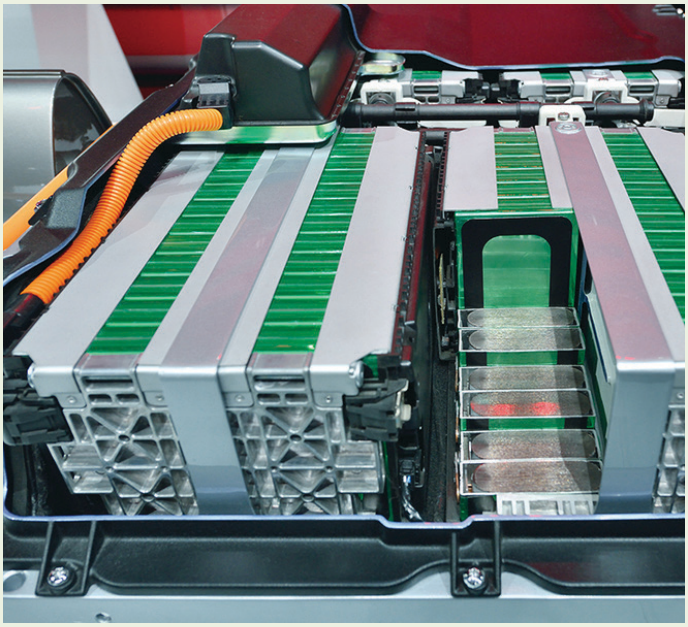

ZAMBIA
RESCUE







SPARKING THE GROWTH OF THE BATTERY SECTOR IN ZAMBIA



The electric battery sector is among the fastest growing manufacturing subsectors around the world. Notably, it has been gaining attention from various players in the world economy, with a number of automotive manufacturing companies such as Tesla and Chevrolet seemingly favoring sustainable production in the sector in an endeavors to support their efforts to grow the electric vehicles subsector. Consequently, increased demand in electric batteries has resulted in increased demand for battery metals such as lithium, manganese, copper and cobalt. For example, global demand for cobalt has tripled since 2011 in the battery sector alone is expected to reach 190,000 metric tonnes by 2026.

Henceforth, the increased demand provides an opportunity for increased productivity and value addition of the battery metals for countries such as Zambia and the Democratic Republic of Congo which are richly endowed with the natural resources. However, the battery sector is underdeveloped in these countries, and failure to harness battery metals could be another missed opportunity as it has always been in the past. On the other hand, despite having run a battery company in the early independence years, Zambia just like most African countries does not have significant technical know-how necessary for development of the electrical battery sector. Notably, there is clear potential for Zambia's battery metals to make an important economic contribution, but it needs to be placed in the context of a wider supply chain.

Nonetheless, the Government of the Republic of Zambia has placed emphasis necessary for gaining value from the battery sector. In April 2022, Zambia and the Democratic Republic of Congo signed a Memorandum of Understanding establishing a common governance framework for the electric battery and clean energy sector. The agreement also took into consideration the creation of a harmonized legislative and regulatory framework for a business environment favoring the development of the value chain industries and the development of industrial zones in both countries to support the initiative. With political will taking the center stage in driving the battery sector development agenda, there is hope for growth.

Unfortunately, Zambia currently has very little capacity for lithium mineral processing or manufacturing of battery components. Likewise, inability to process raw materials leads to an increased risk of continued exportation of raw materials to continue the trend of exporting natural resources as it has been the case with copper. Copper is exported in raw form and imported as a finished product denying the nationals the much needed employment opportunities and government revenue.

Capacity constraints in the battery value chain are enhanced by limited financing opportunities necessary to successfully develop the sector. Likewise, the Government has not put in place significant incentives necessary to attract investment in the battery sector, which has in turn denied the manufacturing companies the much needed cash flow to invest in technology, training and other important requirements to be competitive.

Further, Government should also support exploration of battery metals in attempt to ensure the availability of raw materials necessary for sustainable production. Sadly, expenditure on mineral exploration in Zambia has dropped to around $20 million from around $100 million ten years ago. Considering that mineral exploration is among the most important aspects in the mineral resources cycle, it is important that government should support or at least provide a conducive environment necessary for exploration. For instance, mining exploration has been constrained by additional charges on payment of import duties on imported exploration equipment and duties. Considering the huge costs and high risks incurred at exploration, additional costs tend to demotivate exploration.

On the other hand, Government policy should be skewed towards facilitating a conducive environment for undertaking business and for the development of partnership. For instance, the incentives structure should favor partnerships with local companies. The partnerships will provide joint resources as well as provide diverse skills. Most importantly, it will provide skills transfer to local companies.

Finally, the Governments of the Republic of Zambia and the Democratic Republic of Congo should set a fund, aimed at financing necessities in the sector such as trainings, and provision of resources necessary for investment. Most companies have failed to take off due to lack of cheap financing opportunities. Henceforth, constraining expansion and investment in quality which is necessary for competition.

Article by Zondwayo Duma



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.

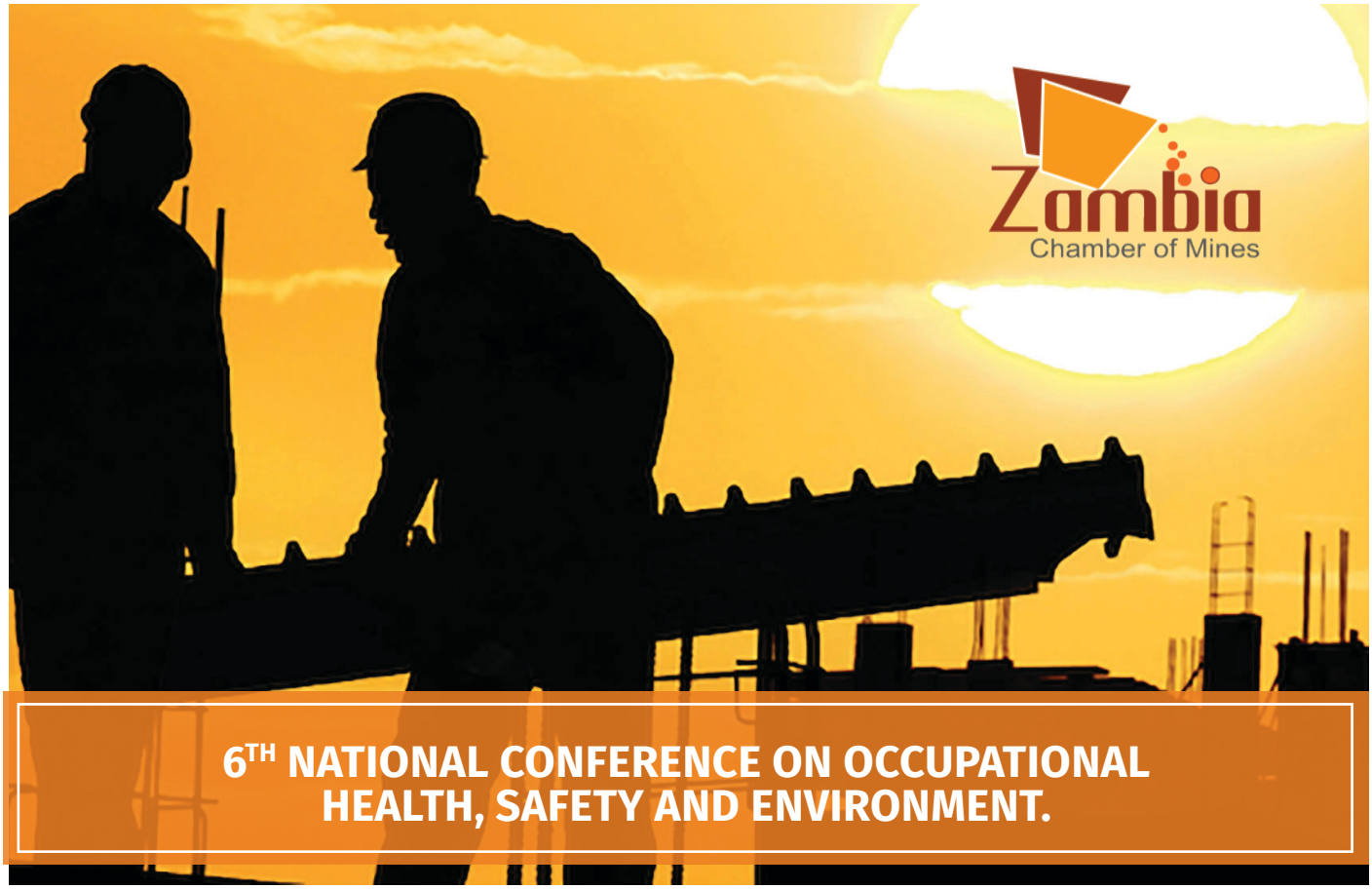
NEVER REMOVE A LOCK OUT DEVICE IF YOU ARE NOT AUTHORIZED TO DO SO.

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.

23

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.

CONTACTS:

	Stream/thematic area	Addressee
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2	Safety	Roy Mwamba: Roy.Mwamba@mopani.com.zm
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