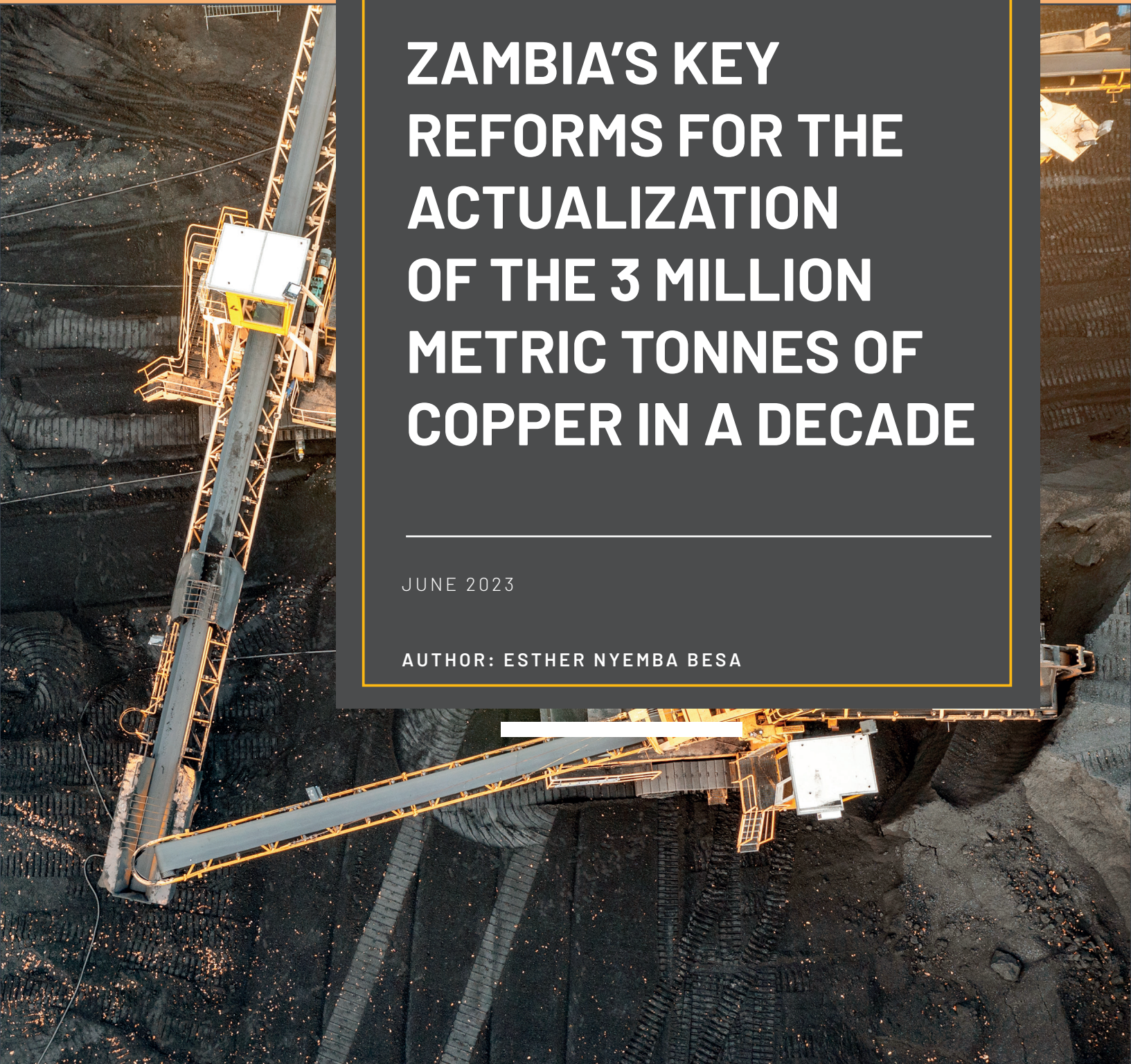


POLICY BRIEF

ZAMBIA'S KEY REFORMS FOR THE ACTUALIZATION OF THE 3 MILLION METRIC TONNES OF COPPER IN A DECADE

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Mining Sector Series

Executive summary

Zambia can benefit from the growing demand for copper to support the global energy transition. The Government's aspirations to ramp up production of copper from 830,000 metric to 3 million tonnes per annum in a decade is timely considering the projected global demand for copper to meet the global net-zero goal and an impending global supply crunch where the country is poised to benefit.

The study identified many significant obstacles to the mining industry's expansion that could have a detrimental impact on the realisation of the 3 million metric tonnes of copper in the next ten years. These rigidities include the high cost of capital, unstable tax regime, high cost of energy and lack of detailed high-resolution geological information and challenges in issuing mining licenses at the Mining Cadastre Department.

The study was conducted to identify workable reform options essential for Zambia's aspirations to increase copper output to 3 million metric tonnes in a decade. The findings indicate that Zambia's rising copper production depends on the stability and predictability of the country's mining tax system as well as amending the Private Public Partnership (PPP) Act to facilitate mining exploration and investments in the value chain and related sectors. In addition, investments in high-value geological information will be critical to identifying new sites for development as well as quantifying mineral reserves.

1.0 INTRODUCTION

In the 2022 National budget address, the Government announced aspirations to ramp up production from 830,000 metric tonnes to 3 million metric tonnes in a decade (National Budget Speech, 2022). The mining sector, particularly copper, has been the backbone of the Zambian economy for decades. The copper industry has dominated the mining sector in Zambia for several decades despite the existence of other minerals with high private sector participation. The country's mining industry has undergone a significant transformation since its independence from private hands during the colonial era; under public ownership after independence; and then back under private hands during the wave of liberalization in the 1990's (Simpasa et al., 2013; Tsofa et al., 2017). Zambia has an opportunity to benefit from the growing demand for copper to support the global energy transition and Government's aspirations to ramp up production of copper from 830,000 metric tonnes to 3 million tonnes in a decade is timely considering the projected global demand for copper to meet the global net-zero goal, and an impending global supply crunch where the country is poised to benefit and it has the potential to do so.

At its peak in the late 1960s and early 1970s, copper mining accounted for more than 80% of the country's foreign exchange earnings, over 50% of Government revenue, and at least 20% of total formal sector employment. During the period 1969–1975, the country saw an exceptional investment in the construction of new schools, hospitals, and roads, using surpluses from copper revenue. According to the National Mineral Resource Development Policy, 2022, the copper industry faced several challenges after 1975 as a result of under-capitalization, over manning, poor technology, and low copper prices on the international market.

While the sector's contribution to the export revenue remained significant at 94% of the total export earnings from the 1970s to the 1980s, its contribution to Government revenue declined from around 58% in 1970 to 3% in 1976 and little in the 1980s. The collapse of the Zambian economy during the 1980s is related to the poor performance of the copper sector.

While the price of copper historically has been volatile, the urgent need to transition to green technologies, to meet this demand, there is a need for global expansion in explorations and production, which in turn requires expansion in investment. The expansion in investment requires that mining companies are granted favourable and stable investment environments for medium to long-term capital investments for fair returns and Zambia is no exception in this scenario.

This policy brief highlights the policy context supporting the aspirations of Zambia attaining 3 million metric tonnes of copper in a decade, current production and existing potential up to 2030, and constraints and reforms required for the actualisation of the aspiration to ramp up production.



2.0 METHODOLOGY

The study employed qualitative approaches to data collection. The study conducted a desk review of key policy documents, peer-reviewed publications, and reports related to the mining sector in Zambia. Secondly, Key Informant Interviews (KIIs) were conducted with various stakeholders directly or indirectly involved in the mining sector. These included Government Ministries, the Zambia Chamber of Mines, Civil Society Organizations, Think Tanks, Mining Companies, and Experts in the sector. Qualitative data collected was transcribed under theme assignments to provide an in-depth understanding of the mining sector reforms in Zambia. Quantitative data were analysed using descriptive statistics using R-software.

2.1 POLICY AND LEGAL CONTEXT

Since the Government announced the aspirations of ramping up production from 830,000 metric tonnes to 3 million metric tonnes of copper in a decade in the 2022 national budget, it has embarked on legal and policy reforms to support the aspirations.

2.1.1 National Budget

The Government has been using the national budget as a policy instrument to propose reforms within the sector. To support the aspiration to ramp up production, the 2022 budget was the first step in aligning Zambia's aspiration to ramp up copper production in the mining sector through the re-introduction of deductibility of Mineral Royalty Tax ("MRT") payable under the Minerals and Mines Development Act of 2015 for income tax purposes. In the 2023 budget, the Government proposed additional tax measures and strategies to promote the development of the

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copper subsectors, especially for ramping up production. The budget also proposed to restructure the mineral royalty regime concerning copper and introduced mineral royalty calculation to be calculated on an incremental or sliding scale basis as opposed to aggregated value when the prices of copper cross respective price thresholds.

2.1.2 National Mineral Resource Development Policy of 2022

The revised policy provides a policy framework through which the 3 million metric tonnes will be achieved. Provisions of the policy that support the aspiration include:

- a) Enhance geological mapping and mineral resource exploration to increase commercial exploitation of mineral resources in Zambia.
- b) Enhance efficiency, effectiveness and transparency in the management and issuance of licenses.
- c) Enhance the monitoring of operations and compliance in mining and non-mining rights areas.
- d) Facilitate the formulation of a consultative, competitive and sustainable mining tax regime.

2.1.3 Mines and Minerals Development (Amendment) Act, 2022

To actualise the 2023 national budget tax changes proposed to Mineral Royalty Tax (MRT), the Government, through the Ministry of Mines and Minerals Development, made amendments to the Mines and Minerals Development (Amendment) Act, 2015. The amendment to the 2015 Act was to actualise the 2023 proposed restructuring of the mineral royalty regime concerning copper and introduce mineral royalty to be calculated on an incremental or sliding scale basis as opposed to aggregated value when the prices of copper cross respective price thresholds.

Section 89 of the principal Act (Mines and Minerals Development Act, 2015) is amended by the deletion of subsection (2) and the substitution therefor of the following:

(2) Where the base metal produced or recoverable under the licence is copper, the mineral royalty payable shall be applied at an incremental value in each price range at the rate of –

(a) four percent of the norm value when the norm price of copper is less than four thousand United States dollars per tonne;

(b) six point five percent of the norm value when the norm price of copper is four thousand United States dollars or higher per tonne but less than five thousand United States dollars per tonne;

(c) eight point five percent of the norm value when the norm price of copper is five thousand United States dollars or higher per tonne but less than seven thousand United States dollars per tonne; and

(d) ten percent of the norm value when the norm price of copper is seven thousand United States dollars or higher per tonne.

3.0 RESEARCH FINDINGS

This section presents findings on existing mines' current production, their productive potential up to 2030, and the constraining factors to actualising the 3 million metric tonnes aspirations.

A) CURRENT PRODUCTION AND CAPACITY UP TO 2030 YEARS

Most mining houses are not conducting any exploration projects except Lubambe. Others have embarked on extension projects and mine life maintenance projects. Several mines are at the mine development stage and are expected to start production by 2024. The table below shows current production by various mines under operation and mines expected to start production by 2024.

Table 1. Current production by mining houses and their production capacity by 2030

Mining house	Production 2021 (MT)	Production potential (MT) by 2030	Project under implementation
Lubambe	18,373	45,000 (at current mine)	Exploration project
KCM	58,948	180,000	Prolonging mine life support project Extension project
Mopani	45,313	160,000	Changing shafts
Kansanshi	201,185	250,000	Kansanshi expansion project
Kalumbila	232,688	250,000	None
Barrick Lumwana	108,790	140,000	None
CNMC Launshya	57,785	45000 (production is projected to reduce by 2030)	Project to extend the life of the mine
NFC Africa Mines	62,347	85,000	-
Chibuluma Mine	3,051	3000	-
Sino- Metals Leach Zambia Limited	15,267	10000	-

Source: Ministry of Mines and Minerals Resource Development 2022

Table 2. Mines expected to start production within 3-5 years

S/N	Mining House	Expected Year of Production	Production Capacity (MT)
1	Kashime	2023	15,000-20,000
2	Macrolink	2024	7, 200-8000
3	Intrepid	2025	20, 000-30, 000
4	Mimbula Mineral Resources	2024	40, 000-50, 000

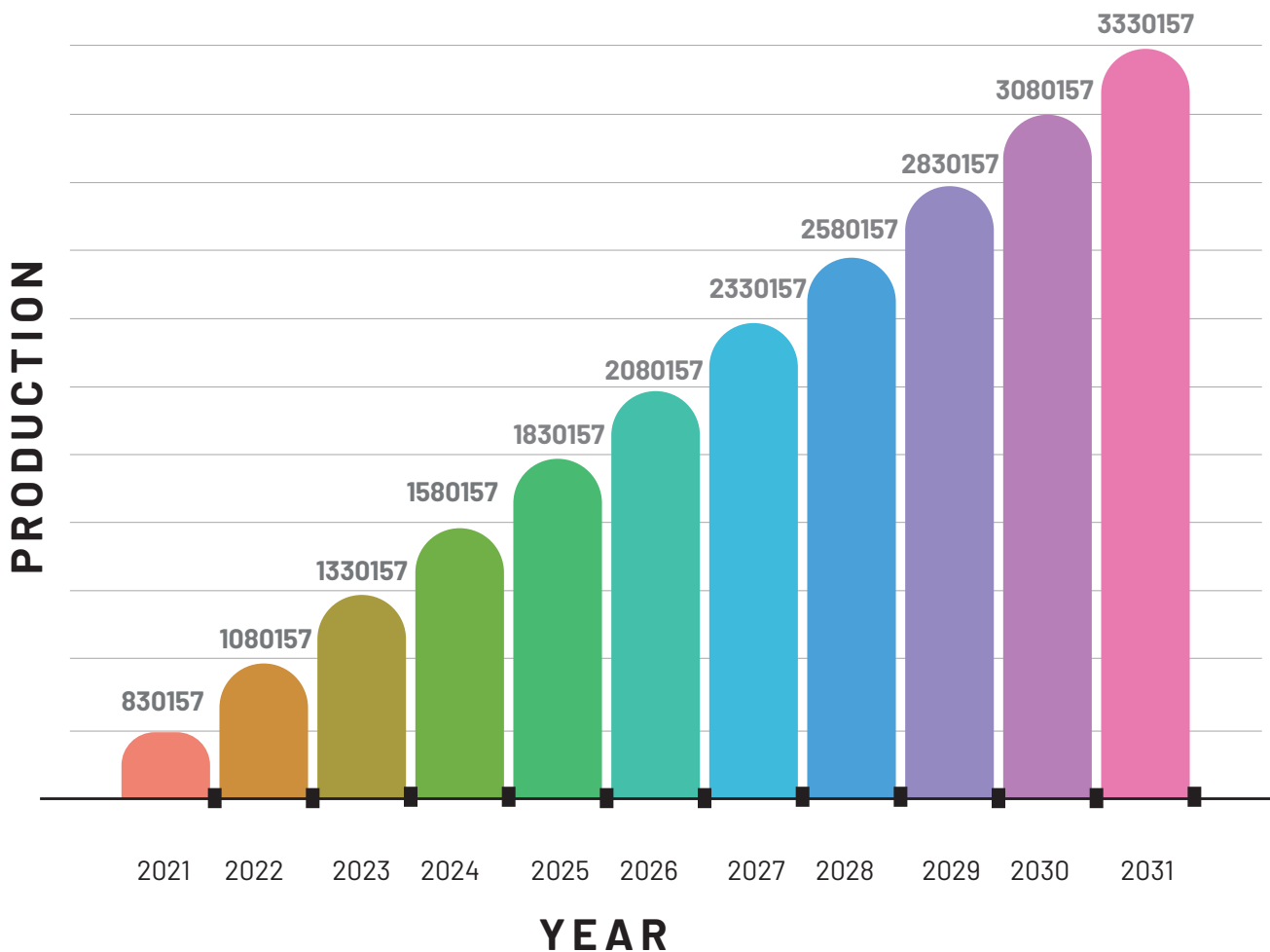
Source: Ministry of Mines and Minerals Resource Development 2022

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How Much Copper Should Zambia Produce Annually to Attain the 3 Million Metric Tonnes in a Decade?

The study established that for Zambia to attain the 3 million metric tonnes of copper in a decade, there is need for an incremental production of 250,000 metric tonnes annually, as shown in the graph. The graph below shows how copper production must increase annually from 2022 to 2031:

Figure 1: Copper Production Increase Annually from 2022 to 2031



B) CONSTRAINING FACTORS

The following are some of the major constraining factors that have the potential to negatively affect the aspirations of the 3 million metric tonnes in a decade:

i. Unstable and Inconsistent Mining Tax Regime

In the last decade, Zambia has had an unstable mineral regulatory system that discouraged mining exploration or production investment. Companies are unwilling to make long-term investments in mining infrastructure if taxation instability undermines profitability. In addition to the unstable tax regime, stakeholders indicated that the current tax rates are high in Zambia compared to other mining jurisdictions. It must be noted that mining is also capital-intensive, requiring large and risky sunk costs, along with investment in expensive technology to increase efficiencies that will optimise life-of-mine expansion, therefore, unstable and inconsistent tax regimes discourage both green and brown-field investments.

ii. High Cost of Capital and Inadequate Local Sources of Financing Mining Projects

Zambia is a high-cost destination for business due to the high-interest rates and inflation. Furthermore, the country's high-risk premium of about 11.32% associated with the Euro Bond default exacerbates the cost of borrowing from third-party sources. In addition, Zambia does not have enough resources to finance mining requirements of huge capital inflows for investments in both explorations and mining development projects.

iii. High Cost of Energy

Power cost is a huge component in the production costs of a mine and subject to being non-deductible for VAT purposes, reduces the VAT refundable, thus reducing a mine's working capital to help boost production. Currently, mining houses are paying 10 cents per kilowatt hour which is considered expensive compared to other jurisdictions. According to the study's findings, the Government limits input VAT on electricity as the current tax regime of 20% of the total VAT on electricity and 10% of diesel are non-deductible for VAT purposes. Having to set up their transformers to connect to the main grid has been mandated for the majority of large mining companies, and this has increased operational costs. In addition, there is a need for the mining houses to employ their engineers and technicians to operate and maintain the transformers leading to additional costs of operations.

iv. Lack of Detailed High-resolution Geological Information

The lack of adequate geological information continues to undermine the growth of the mining sector. Only about 55% of the nation has been geologically mapped, and the data that is currently available is both outdated and of low resolution. Most of the mining entities that participated in the study attributed the lack of adequate funding to the Ministry of Mines and Minerals Development as the reason for the lack of high-quality geological information in the country.

v. Licensing Challenges at the Cadastre Department

The Mining Cadastre Department under the Ministry of Mines and Mineral Development has been issuing licenses in areas already licensed to other mines. A serious problem that has persisted for more than ten years is the issuance of new licenses on parts of the land where other licenses already exist. Due to legal action resulting from these encroachments, the extraction of mineral resources has been delayed, and new mine investment has been discouraged.

4.0 PROPOSED POLICY REFORMS AND STRATEGIES

4.1 Revision of the Legal Framework for Public Private Partnership

To leverage on public private partnership (PPP) financing for developmental projects, the Public-Private Partnership Act No. 14 of 2009 must be quickly revised to, among others, strengthen the framework for managing fiscal risks, such as fiscal commitments and potential contingent liabilities. Despite the promise of PPP models, Zambia is currently falling behind when it comes to securing and completing PPP projects, which presents a missed opportunity. The PPP model of development is a key option in the undertaking of mining explorations, and infrastructure needed to support the 3 million metric tonnes in a decade such as roads and railways as well as the energy sector.

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4.2 Development of an Exploration Strategic Plan

To encourage mapping for high-quality geological mapping, the Government must consider developing and launching an ambitious and well-funded strategic geology plan for improving knowledge, especially on copper and other minerals that will support diversification. The development of the geological strategic plan offers an opportunity for Zambia to tap into European Union funds allocated for geological mapping for nuclear and similar minerals. This serves as a foundation for advocating for Zambia's inclusion in the EU's priority list of nations for exploration grants.

4.3 Debt Restructuring

As indicated in the challenges that Zambia has a high-risk premium that makes borrowing on the international market very expensive. There is need for the International Monetary Fund (IMF) package that Zambia is accessing to be supported by debt restructuring which will give confidence to investors to invest in the sector. The recent debt restructuring under the G20 framework provides Zambia with some relief for investment. Nonetheless a full debt restructuring including the debt owed to private individuals such as euro-bond holders is significant in achieving the much needed investments required to attain the 3 million metric tons aspirations. The International Monetary Fund facility and debt restructuring offers an opportunity for lowering the risk premium to acceptable levels. For instance, when Ghana accessed the IMF facility, it offered a letter of comfort to investors and subsequently assisted in lowering the risk premium of the country

4.4 Development of a 3 million metric tons of copper in a decade masterplan

In order to actualize the aspirations of the 3 million metric tons of copper in a decade. There is need to develop a master plan that will explicitly spell out critical requirements, constraining factors, success factors, indicators, institutional framework and costs requirement for all requirements and proposed sources of funding. Changes to legal and policy framework to support the framework is not a means to the end as these aspirations requires a clear roadmap and responsibilities by all players involved in the copper production value chain.

4.5 Develop a legal framework that governs the small and artisanal miners

There has been an increase in the contribution of ASM to the country's annual copper production from about 5000MT per annum in 2017 to 26,000MT per annum in 2021. This potential in this subsector must be harnessed not only for quantities but also as a source of government revenue. Therefore, the Government must encourage the formalization of ASM and increase their contribution towards the 3 million metric tonnes by developing a tax regime for ASM. Development of a separate legal framework that supports the development of the ASM sub sector will improve not only licensing and formalization but will also improve the sector's access to geological information, access to capital and equipment and also allow for better dialogue within the subsector, which will improve their contribution to national development.

4.6 Adoption of technological innovations in the sector

The adoption of technological innovations in Zambia's copper mine sector is more than urgent especially mines on the copper who are grappling with depleting resources and while trying to remain sustainable and competitive at minimal costs. The adoption of these technological innovations will help the mines in Zambia lessen their costs, while increasing their production and improving their mineral recovery amidst the need to increase production to 3 million metric tons as a country.


4.7 Development of a Stable and Resilient Mining Tax Regime

Upon announcing the 3 million copper production aspirations, the Government has made several changes to the tax regime to align it with global best practices. A mining tax regime that is both investor-friendly and resilient to shocks in the copper market must drive the aspirations of the 3 million metric tonnes. The Government is urged to keep in mind that, while reforming the industry, they also need to make sure that the minerals tax system is set up in a way that encourages and supports investment. To restore trust and maintain the early indications of rising investor confidence, a stable and open regulatory environment is also necessary. Zambia's recent practice of frequently changing its mineral taxation regime has drawn harsh criticism.

5.0 Conclusion

In order for the country to effectively ramp up production in the copper sub sector it will be critical to address the issues surrounding debt restructuring, develop and implement a stable and resilient mining tax regime, create a road map for mining exploration and finally repeal and replace the Public-Private Partnership (PPP) Act to make it more responsive to the country's current investment priorities.

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