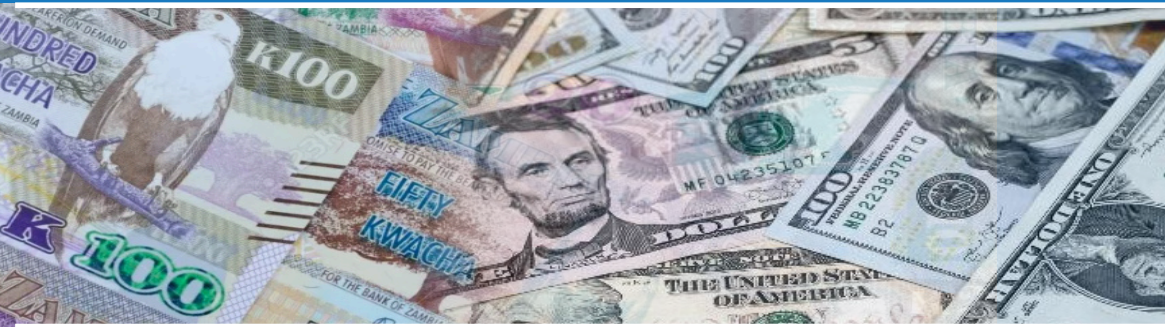




REPOSITIONING ZAMBIA'S MINING TAX REGIME FOR THE ENERGY TRANSITION



Policy Brief

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COUNTRY CONTEXT

Zambia is endowed with abundant natural resources beyond just mineral wealth such as arable land, forests, wildlife, and water resources. Yet the country remains one of the world's poorest. Over 50% of its 19.6 million people live in poverty and about 40% in extreme poverty¹. A post COVID-19 poverty assessment by the World Bank suggests that poverty has worsened since the pandemic with more people than before falling into extreme poverty². The population is very young, with over 50% falling below the age of 35³. Regardless, youth unemployment is high and stands at 46% compared to general unemployment estimated at 39%⁴.

Zambia has experienced both good and bad economic times. From around 2005, the economy had been on an upward spiral, recording peak growth of around 10.1% of GDP in 2011 and earning itself a lower middle-income status by the World Bank⁵. But this did not last for very long before Zambia went back to being a debt-ridden country. Later the Government embarked on an expansionary fiscal policy stance characterised by an ambitious infrastructure development programme and wage increases of civil servants.

The rise in public spending was not supported by corresponding growth in Government revenue leading to persistent fiscal deficits estimated at 5.2% of GDP on cash basis and a much higher primary deficit than the interest payments⁶. The

Government resorted to borrowing to fill the budget deficits and within just 5 years three Eurobonds totalling US\$3.0 billion had been borrowed besides other commercial loans⁷. The stock of public debt grew from 20.8% of GDP in 2011 to over 120% by 2021⁸.

Droughts affected food production and electricity generation in 2015, causing a significant slowdown in the economy with Zambia having to rely on imported electricity. This put enormous pressure on the local currency, the Kwacha, worsening external debt servicing costs which increased from 3.1% of GDP in 2014 to 3.9% in 2015. The economy declined with growth plunging to 2.9% of GDP, the lowest in many years. The fiscal deficit soared to 10% of GDP from 5.2% in 2014 on the back of limited revenue collection that could not match expenditure⁹. The stock of public debt increased to 65.6% of GDP while domestic arrears more than doubled from K1.2 billion in 2014 to K2.8 billion¹⁰.

By 2020 the effects of the COVID-19 pandemic further strained the economy contracting growth further resulting in negative growth of 2.8%. Debt grew further and was standing at 120% of GDP in 2020¹¹. In 2021, a new Government was ushered into office, which adopted a contractionary fiscal policy intended to restore the macroeconomic health. Fiscal consolidation measures took centre stage. The new Government's policies also managed to

¹ Zambia Statistics Agency, Living Conditions Monitoring Survey, 2015

² The World Bank, COVID-19, Poverty, and Social Safety Net Response in Zambia, 2021

³ Zambia Statistics Agency, Protected Mid-Year Population, 2011

⁴ Zambia Statistic Agency, Labour Force Survey, 2021

⁵ <https://bit.ly/43GV885>

⁶ Ministry of Finance and National Planning, Annual Economic Report, 2014

⁷ Nalishebo and Halwampa, 2015, A Cautionary Tale of Zambia's International Sovereign Bond Issuances

⁸ Ministry of Finance and National Planning, Annual Economic Report, 2021

⁹ Ministry of Finance and National Planning, Annual Economic Report, 2015

¹⁰ Ministry of Finance and National Planning, Annual Economic Report, 2014

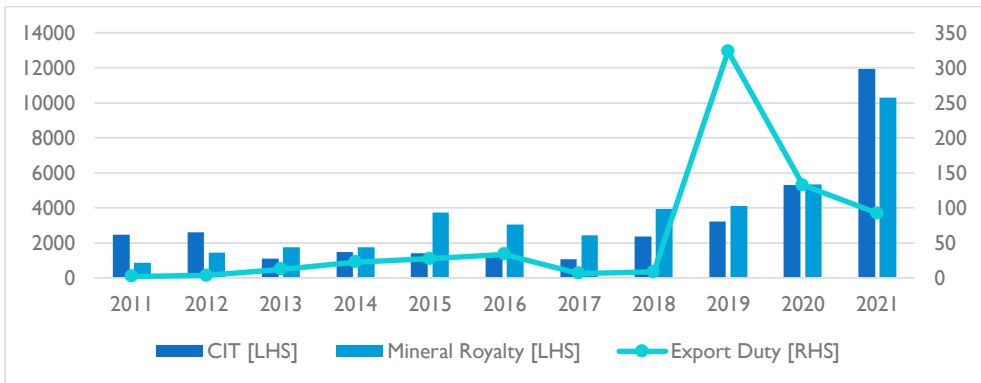
¹¹ Ministry of Finance and National Planning, Annual Economic Report, 2021

meet the preliminary requirements for a debt arrangement with the International Monetary Fund (IMF) contingency upon a debt restructuring process. The economy has since started showing signs of recovery, growing at 2.4% at the end of 2022¹². The growth was on account of positive performance from industries which such as transport and accommodation, education, electricity generation and public administration. However, key sectors such as mining, construction, agriculture and manufacturing all recorded negative growth.

IMPACT OF MINING ON THE ECONOMY

The mining sector in Zambia contributes immensely to the country’s economy. Mining alone accounts for over 70% of total exports, making the sector the largest foreign exchange earner¹³. Mining contribution to Government revenue is also significant and is estimated at approximately 30% of total Government revenue¹⁴. The sector is also one of the top largest contributors to Gross Domestic Product (GDP) alongside other sector such as agriculture, construction, and financial services. Zambia is endowed with diverse minerals including Copper, Cobalt, Nickel, Coal, Manganese, Emeralds, and Gold among others. Revenue is collected through various taxes as shown in Figure 1. These are corporate income tax, mineral royalty, and export duty. Contribution from corporate income tax and mineral royalties combined, has grown, and nearly doubled in recent years, from around US\$600m during 2018-2020, to US\$1.1 billion in 2021. As of December 2021, mining revenue accounted for 26%of total domestic revenues and 5.9%of GDP¹⁵.

Figure 1: Mining Tax Revenue, 2011 to 2021 (K’Million)



Beyond the mining sectors direct contribution to export and government revenue, mining also creates important forward and backward linkages with other sectors of the economy such as manufacturing, business services, electricity, wholesale and retail trade, and transport and storage services. Forward linkages, which are expressed as the total value generated from processing extracted minerals and using them to produce finished goods or more refined intermediate commodities were valued at \$900 million dollars in 2020. Backward linkages, which are expressed as the value generated from supplying goods and providing services to

¹² Ministry of Finance and National Planning, Annual Economic Performance Review 2022

¹³ Zambia Statistics Agency, September Monthly Bulletin, 2022

¹⁴ Ministry of Finance and National Planning, 2020

¹⁵ Ministry of Finance and National Planning, Annual Economic Reports, 2022

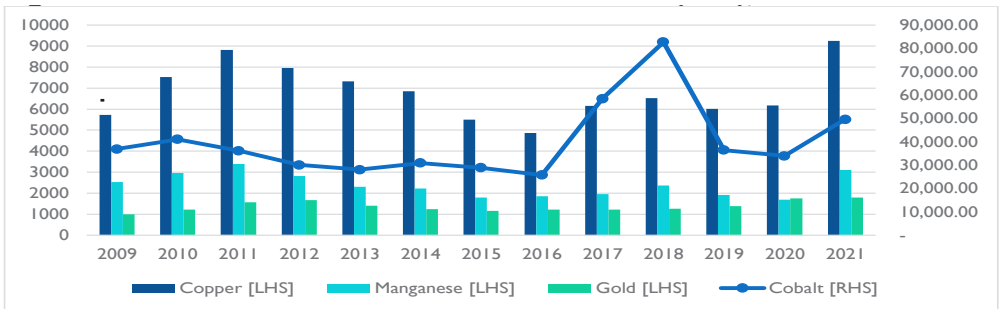
the mines were valued at \$3.5 billion in the same year¹⁶.

Forward and backward linkages bring significant social and economic benefits with the multiplier effects of wages and revenue spent locally thereby providing a further boost to local economic development. Thus, even though direct employment in the mining sector accounts for less than 2%¹⁷, the sector generates more jobs through auxiliary industries. This is the reason why any slowdown in the mining sector is easily and quickly transmitted to other sectors of the economy making the mining one of the most influential and sensitive sectors in the economy.

Zambia’s copper production stood at 800,000 metric tonnes in 2021 up from approximately 700,000 metric tonnes in 2011 representing a growth of 14% over a period of 10 years¹⁸. The output tends to fluctuate from year to year depending on various factors such as ore reserves, ore grade, operational challenges as well as prices on the London metal exchange which are driven by global demand. Recently the Government set a target to increase copper production to 3 million metric tonnes in the next 10 years to boost revenues¹⁹. Although this is an important milestone which would boost government revenue and foreign exchange earnings, analysts have raised concerns on whether Zambia has enough capacity especially regarding energy supply to sustain this level of output. Other minerals besides copper include coal, nickel, cobalt, manganese, emeralds, and gold.

The benefits from the mining sector depend to a large on the prevailing prices of copper and other minerals. Since 2009, the international market price for many metals has been rising with the current prices of copper and gold being at a record high as shown in figure 2.

Figure 2: Prices of Selected Base and Precious Metals (US\$), 2009 - 2021



Cobalt has fetched the highest, peaking at US\$82,687.95 per ton in 2018²⁰. The increase in the price of cobalt has been largely on account of an increase in the demand for cobalt that is being used in the manufacturing of electric vehicles in China and Europe, as governments are moving towards cutting carbon emissions. However, there was a precipitous collapse in the price of copper in 2019, and this was attributed reduced demand of electric cars

16 Zambia Statistics Agency, Supply Use Tables, 20212

17 Zambia Statistic Agency, Labour Force Survey, 2021

18 Ministry of Finance and National Planning, Annual Economic Reports, 2021

19 Ministry of Finance and National Planning, National Budget Speech, 2022

20 Ministry of Finance and National Planning, Annual Economic Reports, 2021

and the stockpiling in China of the metal²¹. Further, the average annual price of copper is at its highest since 2009, and breached the US\$10,000 per metric ton in 2021, and this due to increased demand from China, as the metal has been used across industries and consumer applications, from plumbing and refrigeration to smart phones and solar panels²².

THE ENERGY TRANSITION, ITS DRIVERS, AND IMPLICATIONS

The World is witnessing an “energy transition” brought about by the transformation of the global energy sector from fossil-based systems of energy production and consumption to renewable energy sources, driven by both technological advancements and a societal push toward sustainability. Renewable energy technologies are growing remarkably as a result and now account for about 17% of global energy consumption²³. The energy transition also aims to reduce energy-related greenhouse gas emissions through various forms of decarbonization.

Fundamentally the energy transition will be built on three pillars namely: renewable energy supply; electrification of end use; and efficient use of energy.²⁴ The penetration of renewable energy in the energy sector will be crucial to achieve a low-carbon future. Current statistics show that the energy sector accounts for at least 41% of global emissions, and this number is expected to rise as the global population rises.²⁵ However, the combined effect of renewable energy and energy efficiency alone can provide over 90% of the energy-related CO₂ emission reductions that are required, using technologies that are safe,

reliable, affordable, and widely available. The energy transition will also see a major increase in power generation using solar and wind power leading to an estimated increase in the share of renewable energy in the power sector from 25% in 2017 to 85% by 2050²⁶. Additionally, as low-carbon electricity becomes the main energy carrier, the share of electricity consumed in end-use sectors would need to double from approximately 20% in 2015 to 40% in 2050. Electric vehicles (EVs) and heat pumps would become more common in most parts of the world. This transformation is however impossible without new approaches to power system planning, system and market operations, and regulation and public policy.

Renewable sources of energy including increased renewable electricity supply, solar thermal, geothermal energy, and bioenergy, must play important roles in industry, transport, and the building sectors. A large contribution to these sectors is renewable fuels and direct-uses that are needed for heat and transport.

The energy transition will bring about huge economic benefits in main forms including cost-savings from reduced air pollution, better health, and lower environmental damage. It is estimated that savings in these three areas alone would average USD 6 trillion annually by 2050. The energy transition will also stimulate economic activity with the cumulative gain through increased GDP from 2018 until 2050 estimated at USD 52 trillion.²⁷

At the regional level African countries have significant renewables potential based on the presence of abundant and high-quality

21 International Banker , 2019. <https://internationalbanker.com/>. [Online]

22 Durkin , A., 2021. <https://www.hinrichfoundation.com/>. [Online]

23 <https://bit.ly/40ekTcY>

24 D., 2021. Critical minerals for the energy transition, Abu Dhabi: International Renewable Energy Agency

25 Hund, K. et al., 2020. Minerals for Climate Action: The Mineral Intensity of the Clean Energy Transition , Washington: World Bank.

26 [Global energy transformation: A roadmap to 2050 \(2019 edition\) \(irena.org\)](https://www.irena.org/publications/2019/04/global-energy-transformation-a-roadmap-to-2050-2019-edition)

27 [Global energy transformation: A roadmap to 2050 \(2019 edition\) \(irena.org\)](https://www.irena.org/publications/2019/04/global-energy-transformation-a-roadmap-to-2050-2019-edition)

renewable resources such as biomass, geothermal, hydropower, solar or wind. Africa's renewable resources can be harnessed locally at a small scale, contributing to rural development and electrification without the cost of extending national grids to remote places. Local projects can also offer economic opportunities to locals. However, and as the case is globally, accomplishing this requires clear policy direction and an enabling legal framework complemented by viable business schemes to ensure accelerated renewables deployment.

Current estimates show that transforming Africa's energy sector would require on average USD 70 billion per year of investment between 2015 and 2030. Within that total, about USD 45 billion would be for generation capacity. The balance of USD 25 billion would be for transmission and distribution infrastructure.²⁸ Realising these opportunities will create significant new business activity in Africa and could lead to economic growth through revenues but also from increased productivity based on stable power. The International Renewable Energy Network for Africa has observed that overall, modern renewables can eliminate power shortages in Africa, bring electricity and development opportunities to rural villages, spur industrial growth, create entrepreneurs, and support the ongoing lifestyle changes across the continent as well as facilitate a cost-effective transformation to a more secure and sustainable power sector.

METALS DEMAND IMPLICATIONS OF THE ENERGY TRANSITION

The future move to a low carbon economy, based on low carbon electricity generation and energy-efficient energy-using technologies has huge potential to shift both the scale and composition of the demand for minerals and metals. This could

lead to significant commodity price booms across the world from which resource-rich developing countries stand to benefit greatly.

A recent study by the World Bank²⁹ has observed that a low-carbon future will be very mineral intensive because clean energy technologies need more materials than fossil-fuel-based electricity generation technologies. The study further observes that technology and sub technology choice, material substitution, and technological improvements will shift the demand for individual minerals under different low-carbon scenarios. Still, any lower-carbon pathway will increase the overall demand of minerals. While the recycling and reuse of minerals can play a key role in reducing emissions, mining will still be required to supply the critical minerals needed to produce these low-carbon technologies, even with large future increases in recycling rates.

The study groups the minerals and metals needed for the energy transition into either cross-cutting minerals (needed across a range of low-carbon technologies) and concentrated (needed in one specific technology). Cross-cutting minerals include copper, chromium, nickel, manganese, molybdenum, and lead. These minerals are used in more than eight clean energy generation and storage technologies. For them demand will continue to be high relative to what it is today. Concentrated minerals, such as lithium, graphite, and cobalt, are needed only for one or two technologies and therefore possess higher demand uncertainty as technological disruption and deployment could significantly impact their demand. Overall, these too will experience higher demand compared to current levels.

²⁸ Africa (irena.org)

²⁹ <https://bit.ly/3oskHJJ>

MINING TAX REGIME FOR THE ENERGY TRANSITION

Zambia is in an excellent position to participate in the global climate-friendly energy transition supply chain given its mix of cross-cutting and concentrated mineral deposits such as copper, cobalt, lithium, manganese, and nickel among others. The price boom likely to follow the anticipated demand provides Zambia with yet another opportunity window to grow the economy and redistribute the benefits of this price windfall to the rest of the population. As demonstrated, the mining sector remains one of the largest sources of government revenue and the largest source of foreign exchange. It also has important economic linkages with other sectors and industries in the economy.

A boom in commodity prices translate into increased government revenue which can put the government on the path to be able to provide social services to the population and increase its investments in education, health, social protection and water and sanitation. Similarly increased activity in the mining sector owing to the price boom fostered by the energy transition can spark increased activity in auxiliary industries leading to further job creation in mining communities while raising incomes for households through wages.

The dividends of the energy transition would not be reaped without Zambia rightly and strategically positioning itself to benefit. Given that Government no longer owns the operations of the mines, the largest direct benefits would be expected to accrue through tax revenues. To the extent possible the mining fiscal regime must be robust enough to deliver high returns from the price boom of the energy transition. This section raises some issues in Zambia's mining tax regime that need to be given a lot of

consideration in Zambia's preparation for the energy transition.

Zambia's mining tax regime is often described as generally unstable as it changes from year to year from mainly metal prices changes, and sometimes depending on the government in power. Lack of tax regime stability can disincentivise investments as investors are weary of unexpected tax rises during production³⁰. From the perspective of the Government, and as has been observed in Zambia, frequently changing tax regimes provide an opportunity for mining firms to lobby or push back Government on their proposals. The Zambian Government has on many occasions failed to succeed in effecting some tax changes which are met by threats of stopping operations by mining firms and taking away their investments in some cases. The time spent and revenue lost during these long periods of negotiations is a huge loss to Government that can be avoided with a more stable fiscal regime.

But the Zambian government is not to be faulted for an unstable tax regime. A rise in commodity prices usually attracts a change in the tax system everywhere and this is justified especially if high prices do not trigger higher operational costs³¹. Tax changes are also triggered by the public perspectives who may think mining firms are not paying enough taxes to alleviate poverty and fund other government projects and services. This often happens in Zambia. Indeed, the assumption is that if mines paid a fair share of their taxes, there should not be so much poverty in Zambia at the same time when mining conglomerates are declaring their huge profits.

Granted, the stability of Zambia's tax regime will determine its maximum beneficiation from the energy transition. Importantly, the tax policies should bear in mind that rising

³⁰ <https://bit.ly/3A9UVww>

³¹ <https://bit.ly/3A9UVww>

prices could be followed by rising production costs in which profits would be narrow reducing the taxes to be collected. Zambia will for instance need to increase its energy supply to revamp production. If energy costs rise, the cost of production will not remain the same which would affect profits and hence taxable income.

Zambia's current mine tax regime is a combination of different taxes which include mineral royalty tax, export duty, corporate income tax and value added tax. The Zambian government also offers several incentives to both local and international investors in the form of income tax exemptions or relief and double taxation agreements.

Mineral royalty is based on gross value or net value of the minerals and is relatively easier to administer. In Zambia mineral royalty has moved from 0.6% to around 10% recently. The current approach uses a sliding scale ranging from 4% to 10%. However, the inefficiencies of mineral royalty cannot be overlooked, and Zambian authorities must study this tax carefully to ensure it does not stand in the way of benefiting from the energy transition. As the tax is based on the value of minerals, undervaluation is rampant and can easily lead to some mining firms not paying the tax. In a context of weak monitoring systems, which is the case in Zambia, very few mines tend to pay the tax. In 2022 it was reported that only 183 out of 2416 mines paid mineral royalty in 2021³². Investment in monitoring systems by the Zambian Government can improve the efficiency of this tax and position Zambia strategically for the energy transition.

Zambia's VAT system could hamper the country's ability to benefit from the energy transition if the Government does not improve the efficiency of the system. As mining

products in Zambia are mostly exported, the goods are zero rated since VAT is charged in the importing country. Mines are mostly capital intensive and import machinery and equipment which leaves them in a VAT refund situation. Consequently, Zambia's VAT system is characterised by huge unpaid VAT refund claims resulting in large arrears by the Government. In 2021, 67% of all VAT refunds were owed to the mining sector³³. Earlier, the Government was withholding a total of \$200 million in VAT refunds belonging to Mopani Copper Mines³⁴.

Withholding such huge sums of resources negatively impacts mining firms' ability to invest in new projects thus limiting the extent to which the mining sector can expand and create jobs. The energy transition will facilitate the establishment of new mines and expansion of existing ones. This will require huge imports of machinery and equipment which will necessitate large sums of VAT refunds. If the Government does not improve the VAT processing system, it has the potential to block investments and deter expansion of mining activities. The overall effect on the Zambian economy will be limited copper production against high demand leading to limited revenue and forward and backward linkages to the rest of the economy.

Corporate income tax in Zambia is calculated on an accrual basis, where all the taxable income is derived by the accumulation of all income from different sources less the allowable deductions. Incomes from mineral processing are charged at the standard rate of 30% while income from manufacturing of products made from copper cathodes is charged at 15 percent. With differentiated CIT rates, there is scope to have huge distortions, avoidance, and revenue leakages in the tax collection system. This is because, the lower

32 <https://bit.ly/3GPwwAf>

33 [Indebted Zambia pays \\$400 million in VAT refunds to mining firms | Reuters](#)

34 <https://bit.ly/41zPin6>

CIT rates will function as a tax holiday, but are permanent, a distorting activity, eroding the overall tax base, and making already profitable companies even more so. The multiple rates, narrow tax bases, avoidance opportunities, and large informal sector have led to low CIT revenue productivity.

Another key recommendation is that tax incentives to the mining sector should only be granted once a cost benefit analysis is done and if they are granted, government must ensure that monitoring of their effectiveness is done. It must also be further pointed out that given the short time for the holiday (5 years), the effectiveness of these incentives is questionable. It also unnecessarily increases monitoring costs for the already resource-constrained Zambia Development Agency and causes serious distortions and inequities in corporate taxation.

There is need for Zambia to renegotiate existing Double Taxation Treaties. Double taxation agreements are usually signed to give reciprocal treatment for business and transactions between countries usually crafted on the principle of residence or source of the business. Zambia must renegotiate all the agreements that are not favourable to the country and undermine tax revenue collection from the sector. To limit the deductibility of certain cross-border payments, in 2019, Zambia amended the Income Tax Act to provide for the limitation of the deductibility of gross interest on borrowings to 30 percent of Earnings Before Interest, Tax, Depreciation and Amortisation (EBITDA). The 2021 amendment clarifies that the limitation applies to gross interest arising from loans that are both revenue and capital in nature. It is therefore recommended that a similar provision is extended to management and consultancy fees, and branch profit transfers to address the overall challenge of transfer pricing in its various expressions.

CONCLUSION

The energy transition will provide an opportunity window for Zambia's mining industry through a commodity price boom to be fostered by rising demand for minerals. Zambia could benefit largely from this rare windfall given its endowment of abundant natural resources, particularly metals that are critical to the transition. If the transition works in Zambia's favour, the country stands to generate historical revenues that can propel its people into prosperity accelerated by investments in education, health, social protection and water and sanitation. The rising demand on Zambia's metals will increase activity in the mining sector which will in turn trigger further activity in auxiliary industries leading to additional income generation through wages.

The extent to which Zambia will benefit from the energy transition depend on its ability to reposition itself for the transition. Particularly, Zambia should prepare to revamp mining output as a requisite on which revenues can be expected. More importantly and which is the focus of this paper, Zambia can greatly benefit if the mining tax regime is prepared for the changes that are coming. This paper has highlighted some of the key mining taxation issues that need to be addressed for the transition to benefit the country. In summary the following are some of the concluding thoughts.

Mining production needs to be revamped to benefit from the transition: higher revenues from the mining sector are only attainable on the back of increased mining output. The Government must start now incentivising mining output by identifying new areas of exploration for minerals while ensuring current mining methods are sustainable to allow for expansion activities. But this cannot happen without even greater investments in services such as electricity supply which will be needed in more quantities to response

to the energy transition driven demand for minerals and metals. Thus, energy supply comes first before mining output.

The lack of stability in the mining tax regime isn't to be seen as a major problem. As a matter of fact, the tax regime will be dynamic based on several factors including the price of commodities. Higher prices will dictate higher tax revenues if costs are maintained. However, there is need to improve predictability of mining policy and taxation to incentivise more investments.

The issues raised around mineral royalty can potentially render tax collection ineffective and negatively affect the rate at which Government can collect revenues. The Government should do more starting now regarding investments in effective monitoring systems and reporting approaches that eliminate the temptation of mining firms to undervalue their production. This calls for investments in data management for minerals. Digital approaches can be explored that link production systems to a central monitoring mechanism.

VAT refunds have the potential of limiting mining expansion as well as push away investments. The Government should invest in having a well streamlined VAT administrative procedures that ensure VAT refund claims are processed as soon as they're submitted. Mechanisms must be developed to ensure there is no backlog

in processing of claims. This can be done by firstly reviewing the legal framework to ensure that VAT refunds requirements, procedures and documentation are as simple as possible. Secondly, there is need to prepare strategy to combat VAT refund fraud, including automated risk analysis procedures for assessing claims in real time and information exchange among relevant institutions to establish profiles of high-risk taxpayers. Thirdly, the treasury should maintain a zero-balance subaccount within the Treasury Single Account (TSA), where the amounts needed to pay the VAT refunds are transferred based on tax administration information.

The corporate income tax rates need to be harmonized, by raising rates on low-tax sectors. This will reduce the prospects for tax evasion and profit shifting. Further, the multiplicity of tax rates erodes the tax base, adds to the complexity of administering the taxes, and undermines the sense of fairness as disproportionately heavier tax burden is placed on the non-priority sectors to collect the same revenue.



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