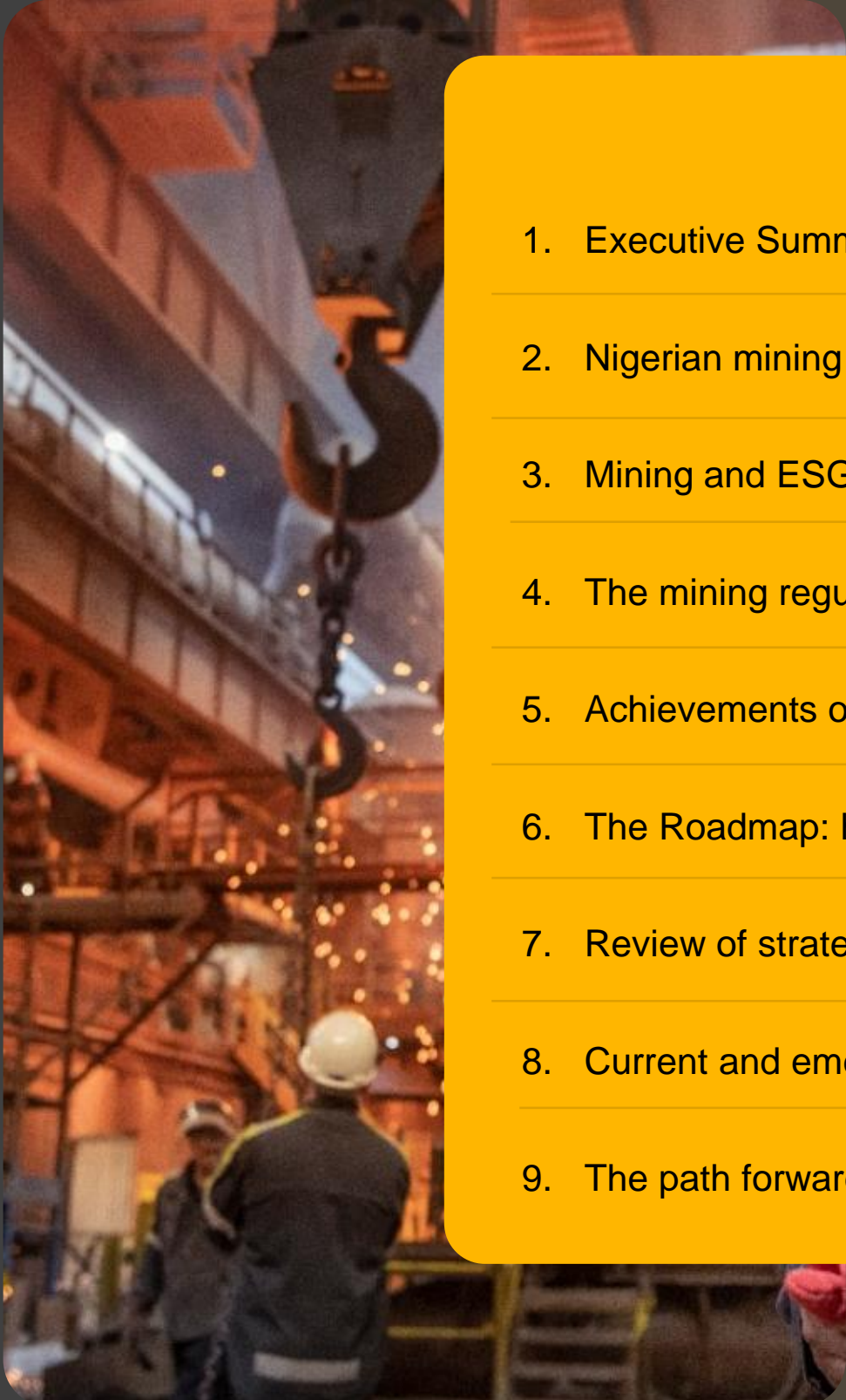




Nigerian Mining – Progress, but still a long way to go.

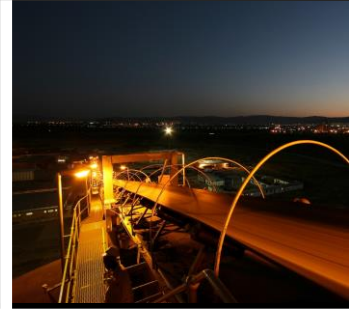
July 2023

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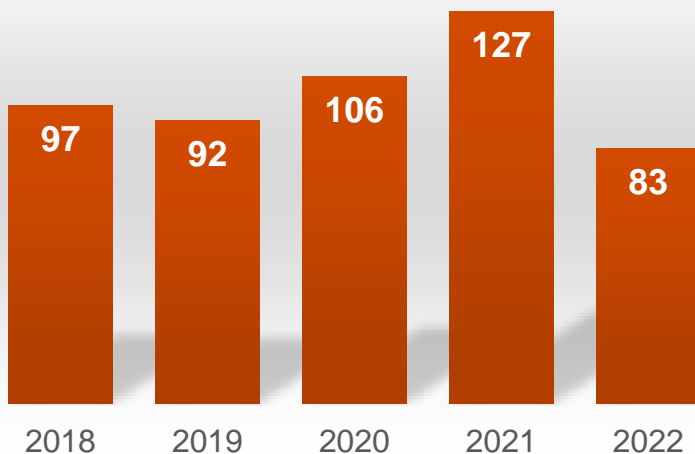
Executive Summary



Global Interest in mining activities has increased recently, aided by factors such as rising demand for critical minerals, sectorial reforms, new mining technologies, innovation and soaring commodity prices. The Nigeria Mining industry is not left out and continues to attract domestic and international investors despite the fact that it is still quite underdeveloped. Given the industry's potential as a major revenue earner for the country in its quest for diversification, it becomes crucial for the Government to tackle the numerous difficulties the industry is experiencing if it is to reap the benefits of the sector.

The Nigerian Mining Landscape: The mining industry was once a substantial contributor to the growth of the Nigerian economy, accounting for approximately 4 to 5 percent of the GDP in the 1960s and 1970s. However, with the discovery of crude oil, the industry suffered from neglect, resulting in a mere 0.17% contribution to the GDP in recent years (2018 - 2022). In order to achieve the ambitious 3% target set in the mining roadmap for 2025, significant efforts must be undertaken to catalyse growth in the sector.

Mining Contribution to GDP
(in NGN' billion)



Source: Nigerian Bureau of Statistics – 2022 is a sum of Q1 to Q3 values

Global Mining trends: Several global trends, including rising demand for critical minerals, sustainable mining, increased government participation in mining and talent shortage continue to shape the mining sector. Nigeria must reposition itself to take advantage of the opportunities that these present to drive economic prosperity for its populace.

ESG remains crucial to the mining industry: The mining industry must demonstrate its commitment to addressing environmental, social, and governance (ESG) issues in all aspects of its operations, while also recognising the associated risks and opportunities. By doing so, mining companies can deliver long-term benefits to governments, shareholders, workers, and the communities in which they operate.

Companies that proactively respond to these emerging trends tend to perform better financially. In a previous study, PwC found that mining companies with higher ESG ratings outperformed the overall market during the peak of the COVID-19 crisis. These companies achieved an average total shareholder return of 34% over the previous three years, surpassing the general market index by 10%. This demonstrates the positive correlation between strong ESG practices and financial success.

Nigeria's Mining regulatory framework: To further attract investment, generate revenues and develop the local mining industry, the Federal Government of Nigeria has begun legal, regulatory, institutional, and fiscal reforms for the mining sector.

Key initiatives in this regard include the establishment and recent automation of a cadastral system for mineral title administration and the review of the Minerals and Mining Act, 2007.

The revision of the mining act is expected to introduce regulations which align with global best practices and create an enabling environment for much more involvement of both local and foreign investors.

Key achievements of the past Administration: Highlights of the key milestones and notable achievements recorded by the previous administration include:

- Launch of the **eMC+** Licensing Platform which grants access and manages titles for all existing investors and prospects in real-time and around the world.
- Roadshows to attract and promote local investment interest in the mining sector.
- Operationalisation of the Mineral Resources and Environmental Management Committee (MIREMCO), established by the 2007 Mining Act to oversee mining operations, supervise the environmental aspects of mines and tackle illegal mining and trafficking of minerals across the states of the Federation.
- Hosting of the Annual Nigerian Mining Week, an annual event, physical and online, for all the mining stakeholders and influencers in the public and private sector wanting to do business in Nigeria.
- Establishment of mineral value processing clusters across the country.
- Bitumen bid round to enable Nigeria to harness its bitumen resources through private sector investment.
- Initiation of a fresh concession programme for the Ajaokuta steel plant and its key source of Iron ore.
- The Presidential Artisanal Gold Mining Initiative (PAGMI) designed to mine and aggregate gold from artisanal and small-scale miners, including developing a production to market plan for the Gold sector.
- The National Integrated Mining Exploration Programme (NIMEP) designed to de-risk investment in the sector and provide geoscience data.

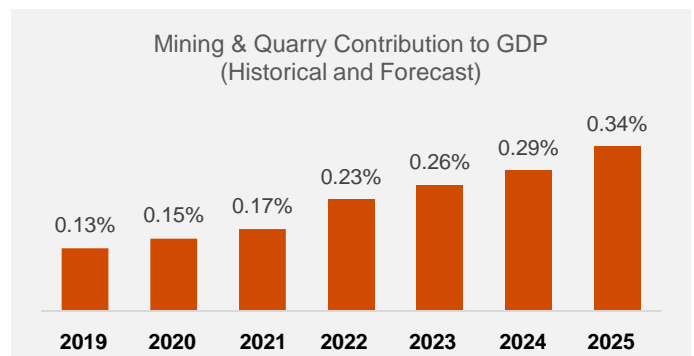
The current administration should build on these, while embracing needed improvements and added initiatives, to expedite the Nigerian mining sector's journey towards shared prosperity.

The Mining Roadmap: The mining roadmap was developed in 2016 to drive the growth and development of the Nigerian mining industry, and create a globally competitive sector capable of contributing to revenue and GDP, providing jobs and advancing social and human security for Nigerians.

However, analysing trends in the sector's employment generation, revenue contribution, and GDP, revealed that the growth has been slow. This indicates that there are significant opportunities for improvement if the sector is to achieve the targets as set out in the mining roadmap.

Nigeria's Strategic Minerals: According to the 2015 mining roadmap, the following minerals have been designated strategic in Nigeria: Gold, Lead & Zinc, Coal, Bitumen, Iron ore, Limestone and Barite. While the government has implemented initiatives resulting in some positive developments, challenges persist in their exploitation. Apart from limestone, most of these these minerals continue to be predominantly exported in their raw form, and the value chain is largely underdeveloped.

On the bright side, production in the Nigerian mining sector has been fairly on the rise in recent times, growing by a Compound Annual Growth Rate (CAGR) of 28% from 54.5 million tonnes in 2019 to 89.48 million tonnes in 2021. However, this only translates to an average GDP contribution of 0.15% over the period, and projected to trend around 0.34% in 2025, which is a far reach from the 3% target set out in the mining roadmap. Certainly, much more needs to be done to meet the aspirations of the roadmap.



Current and emerging challenges of the Mining sector:

Several factors have been cited as responsible for the poor performance of the Nigerian mining industry over the years. Some of these factors include:

- Insecurity
- Smuggling
- State and Federal Government tax alignment
- Illegal mining
- Weak value addition
- Low level of mining mechanisation
- Inadequate funding

There are also some emerging threats and potential roadblocks which Nigeria must watch out for, such as

- Quick revenue vs long-term addition
- Brain drain and human capacity
- Increased competition for Foreign Direct Investment (FDI)

Government must put in place strategies to address these if it must reap the benefits of the mining sector.



The Path Forward

We have proposed measures the Federal Government should consider to address the myriad challenges bedeviling the sector.

- a. **Tackle insecurity:** Ensuring a secure environment for mining operations remains one of the matters requiring urgent attention of the new Federal and State Government administrations. Insecurity in the mining sector could be curbed using technology, collaboration with security agencies and mining host communities.
- b. **Harmonise policies and regulations:** There is a need to have a harmonised approach to the regulation of mining activities between Federal, State and Local Governments. An example of this matter can be seen in the current requirement for mining rights to be obtained from the Federal Government, while land access rights are to be obtained from the States/communities. An investor friendly regulatory environment that provides a one stop shop on regulatory approvals will go a long way to improve investor confidence in the sector.
- c. **De-risk investments:** The emphasis on data gathering has gone a long way in increasing investor confidence in the Nigerian mining sector and has boosted promotional activities of mineral resources in Nigeria at local and international mining events. The current administration must take data gathering to a much higher level than previously achieved. Expanding the data journey to achieve the bankable status of commercial finds will transform the Nigerian mining ecosystem and attract local and foreign investment. Data accessibility and commercialisation via a National data bank or repository should also be considered. This would ensure investors have ready access to data and funding can be generated for the purposes of self-financing of the data journey.
- d. **Drive strategic minerals development:** There is a need to review the country's current list of strategic minerals in consideration of other minerals that align with the global demand and current realities. This would also imply updating the sector's roadmap.

Below are possible mineral specific initiatives.

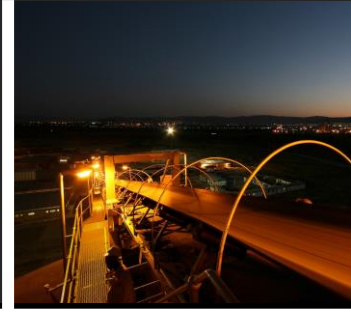
- **Iron Ore** – Finalise the planned concession of Nigerian Iron Ore Mining Company (NIOMCO) and Ajaokuta Steel Complex Limited (ASCL)
 - **Gold** – As was done for the Segilola Gold project, the new administration should encourage more private sector-driven success stories, thereby attracting other credible investors into the sector and creating a vibrant gold value chain in Nigeria.
 - **Battery Minerals and Minerals of the future** – Battery minerals and minerals of the future are essential in the targeted net zero objectives and alternative energy source drive. Minerals like lithium, nickel, cobalt and tin have been discovered in Nigeria in commercial quantities. However, none of these has been designated as strategic, thus the need to re-evaluate the list of national strategic minerals. —
 - **Other Key Minerals** – The current administration should encourage the establishment of additional processing facilities for other key minerals such as Baryte, Lead and Zinc to reduce the value lost in exporting them in their raw form.
- e. **Embed ESG in mining activities:** Environmental, Social and Governance factors are ever-increasing considerations in the mining sector. It is necessary that environmentally friendly methods are adopted in mining. Furthermore, governance is vital for mining entities as it mitigates risks, improves decision making and ensures transparency and compliance.
 - f. **Formalisation of Sector Participants:** The Federal Government, through effective collaboration with host communities, should use technology and licensing databases to improve tracking, monitoring, and formalisation of miners, particularly artisanal miners, who operate and generate revenues without paying taxes or royalties. This will also aid targeted support by the government on training, access to equipment and funding, and implementing safe mining practices.



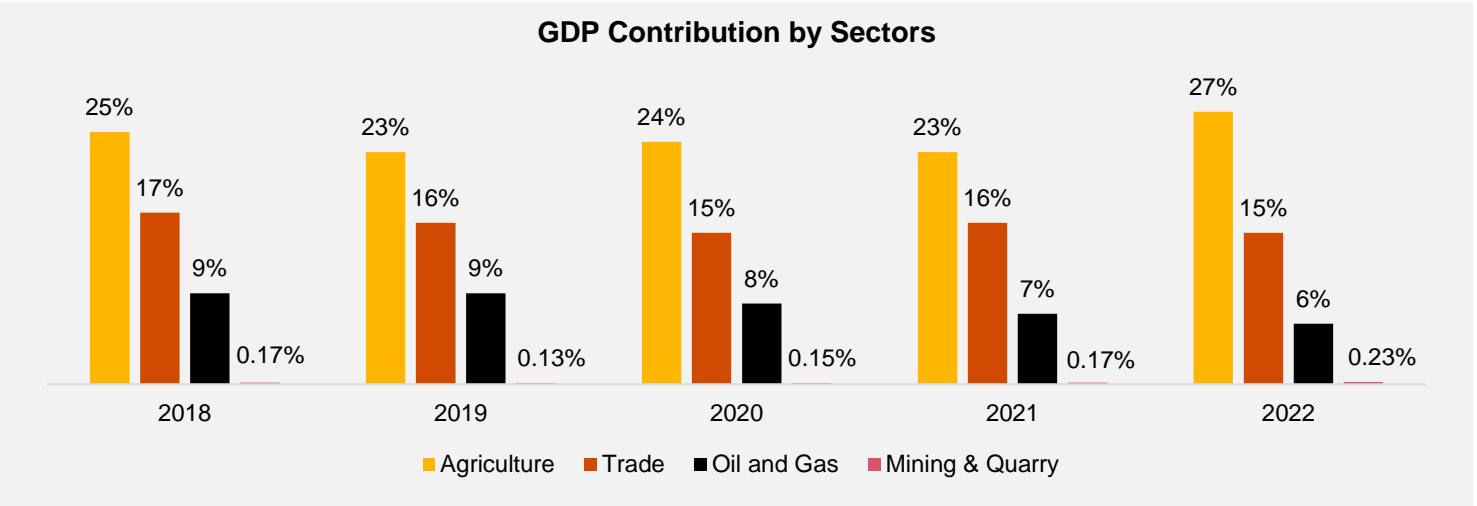
The Path Forward

- g. Inter-agency and Inter-ministerial Collaborative Approach:** The development of the mining sector requires efficient monitoring of mining activities and proper use of shared data for taxes and royalties' assessment and collection. Furthermore, the collaborative approach, would lead to the elimination of multiplicity of taxes at the federal, state and local government levels.
- h. Enhancing the Operability of eMC+ :** The recent launch of eMC+ has digitised the registration and collection of mining licenses. In addition, the eMC+ can achieve greater effectiveness through the harmonisation of Federal Government licensing and State Government land access rights. This would ease the application and utilisation of licenses. Secondly, eMC+ should be enhanced by syncing eMC+ and Nigerian Geological Survey Agency (NGSA) data to achieve licenses that are backed up with data at point of application. This will aid competition amongst investors and encourage prompt investment decisions. More government revenues will also be generated from the sale of these licenses.
- i. Infrastructure Tax Incentive Scheme:** The infrastructure for evacuating and transporting mineral resources across the country require significant improvement. This includes roads, railways, and inland waterways, all of which are either poorly maintained or insufficiently developed. One proposed solution is the introduction of tax credit schemes for operating mines to incentivise the development and upgrading of transportation infrastructure. This would enhance accessibility to mining and factory sites, leading to improved mobility of resources within the country and for export purposes.
- j. Enhancing the Operability of the Solid Mineral Development Fund (SMDF) through Partnerships:** Adequate financing in the sector requires more partnership with other financing institutions and private funders. The recent partnership between SMDF with African Finance Corporation (AFC) is a key step to promoting private sector led mining development.
- The SMDF should be enhanced to leverage more of these partnerships and operate as an independent organisation with reduced government influence.
- k. Mining Desks:** The establishment of mining desks by financial institutions would help develop financing options that fit into the mining life cycle. These mining desks would facilitate the availability of financing and enhance business support capabilities.
- l. Establishment of Host Community Trust Fund:** The Fund would establish the necessary modalities for how miners and other operators across the value chain will engage, support, and fund the operating community in which they are situated. This would lead to the eradication of certain community-based challenges for the operators and foster stronger partnerships.
- m. Resource Focused Initiatives:** The Federal Government should target resources to improve success stories and attract investors. These resources should be developed through initiatives focused on end-to-end development to ensure proper utilisation and attract investors based on success stories.
- n. Improved promotional activities:** Despite several ongoing initiatives to grow the Nigeria mining sector, local and global promotion needs to be intensified to attract investments into the sector. The Nigeria Mining Week (NMW), a PwC co-pioneered initiative, seeks to drive this promotional objective and has seen extensive participation by national and sub-national actors, and the global mining community. The new administration should intensify the use of this platform to actively promote the Nigeria Mining sector and also connect with sector participants locally and globally.
- o. Institute and Implement Mineral Value Addition Policy:** The Federal Government should develop mineral-specific value addition policies. These policies would encourage downstream processing and enhance sustainable economic growth through value addition. The policy would also position local industrial activities to be aligned with mining activities.

Nigerian mining macroeconomic review



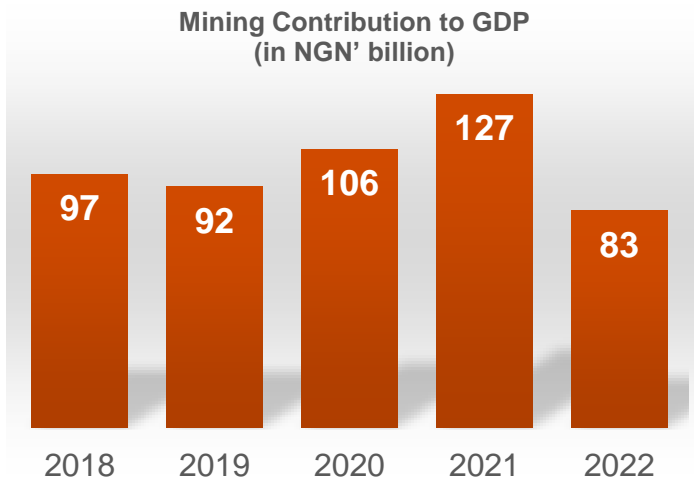
In the 1960s and 1970s, the mining industry played a substantial role in driving the growth of the Nigerian economy, contributing approximately 4-5% to the GDP. However, the emergence of crude oil led to the industry being overlooked, resulting in its current GDP contribution of merely 0.17% (2018-2022). To achieve the ambitious target of 3% by 2025, as outlined in the mining roadmap, a lot more commitment from key stakeholders, especially government, is required.



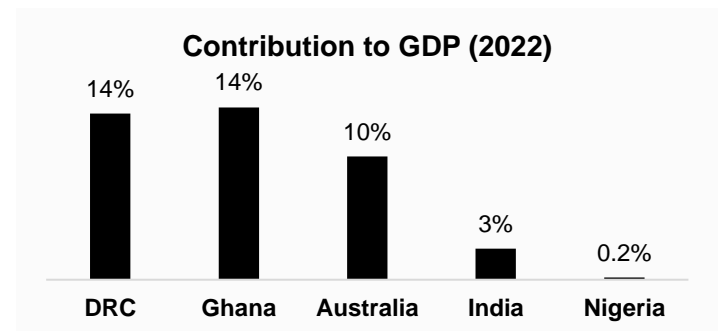
Source: Nigerian Bureau of Statistics – 2022 is Q3 values

Over the years, the mining industry has contributed little to the GDP of the Nigerian economy. The chart above shows that, in comparison to the other sectors, the mining industry is performing very poorly with an average of 0.17% contribution to GDP over the past 5 years. When compared with mining, other sectors have more significant contribution to GDP with agriculture having the highest average percentage contribution of 24.4% between 2018 and 2022.

The chart above shows the real naira values of the mining sector’s contribution to GDP. The figure slightly declined in 2019, however the mining contribution to GDP rose in the second half of 2020 due to an accelerated increase in mining activities arising from government policies, aggressive assessment, monitoring and supervision of the operators. The Nigerian mining sector in comparison to some other countries has been weak.



Source: Nigerian Bureau of Statistics – 2022 is a sum of Q1 to Q3 values



Source: Nigerian Bureau of Statistics, Australian Bureau of Statistics, Extractive Industry Transparency Initiatives

Nigeria falls behind, with a 0.2% GDP contribution, compared to the Democratic Republic of Congo (14%), Ghana (14%) and Australia (10%) and India (3%) in 2022.

Global Mining trends and impact on Nigeria

Rising demand for critical minerals: The demand for critical minerals continues to rise as nations recognise their importance to clean energy and security, in addition to the urgent task of decarbonisation. Mining companies will have to ramp up production to meet rising demand for the critical minerals and other commodities that are required for the energy transition.

In a recently launched global PwC Mines 2023 Report, we noted that 41% of mining CEOs don't think their companies will be economically viable in ten years if they continue on their current path.

The era of critical minerals has arrived, along with concerns about the supply shortfalls that could occur amid booming demand. This opens up opportunities for countries like Nigeria, to boost revenue and improve the local mining landscape.

Sustainable mining: Successful mining companies have kept up with stakeholder demands, particularly for sustainability priorities. More companies have begun to issue reports on sustainability in line with the Global Reporting Initiative (GRI) Standards. However, sustainable reporting alone may not be sufficient, companies must set sustainability goals and demonstrate Progress towards them.

Miners must know that they must reduce their carbon emissions. More than one-third of mining CEOs see their company as highly or extremely exposed to climate-related risks. The good news is that decarbonisation can help miners create value at all points along the value chain. More and more, we're seeing miners boost efficiency with low-carbon technologies and methods, partner with processors to produce the "green metals" that customers increasingly want, and access sustainability-linked financing.

Since Nigerian is a signatory to the United Nations Framework Convention on Climate Change (UNFCCC) with a commitment to achieve Net Zero Carbon Emissions by 2060, Government must put regulations in place to ensure miners adhere to the global sustainable mining practices and ensure strict monitoring to mining laws and practices.

“ 41% of mining CEOs don't think their companies will be economically viable in ten years if they continue on their current path. The era of critical minerals must therefore be an era of reinvention

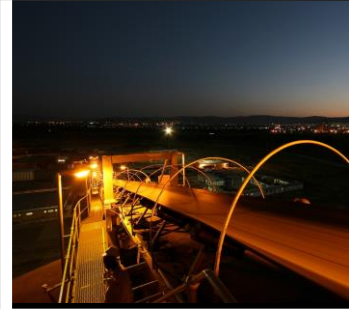
PwC Mines 2023 Report ”

Talent shortage: Today, automation, digitisation and Artificial Intelligence are core elements of any mining operation and require skilled workers who are often hard for miners to attract. **“57% of mining companies see recruiting as the biggest barrier to adopting new technology”**. But mining companies simply need more workers overall, which requires them to create environments that are open and inclusive towards people who might not see themselves as potential miners.

Nigeria must reimagine its mining workforce strategies to attract workforce into the mining sector. Institutions of higher learning should expand their offered courses to include mining specific specialties. It is important that the planned aggressive development of the Nigerian Mining sector for shared prosperity is supported by locally available and skilled expertise.

Increased Government participation in mining: Governments round the globe have become more involved in the mining market – forming alliances, instituting new policies and mobilising funds to secure access to critical minerals. This is an attempt to ensure future national security in critical minerals of the future as the global struggle for these minerals takes an intensive dimension into the future. Nigeria cannot overlook this trend.

The Nigerian government has to introduce legislation addressing critical minerals production, processing and manufacturing and also establish funds to invest in critical minerals projects and supply chains.



ESG and the impact on the mining industry

ESG continues to be crucial for the mining industry. ESG will provide a working roadmap for building trust and sustainable growth at a time when the ecosystem needs to prove it understands just how quickly the world is changing.

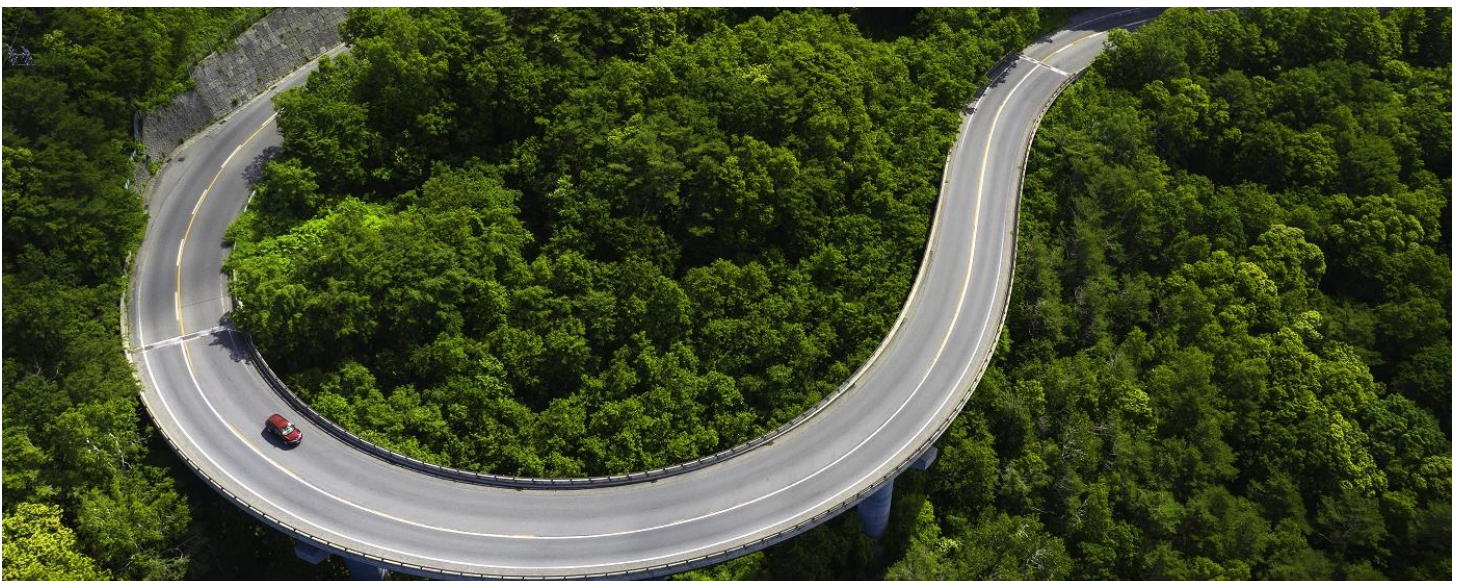
The mining industry will need to show commitment to addressing ESG issues, in addition to understanding the dangers and opportunities these present. As a result, miners can offer long-term benefits to governments, shareholders, workers, and the communities where they operate.

Companies that implement this adjustment also do better financially. In a prior study, we discovered that mining companies with higher ESG ratings outperformed the overall market at the height of the COVID-19 crisis, generating total shareholder returns of 34% on average over the previous three years, or 10% more than the general market index.

“ Mining companies with higher ESG ratings outperformed the broader market during the peak of the COVID-19 crisis, delivering 34% average total shareholder return over the past three years — ten percentage points higher than the general market index ”

A significant increase in demand for numerous essential minerals and metals to produce cleaner energy technologies is anticipated in order to attain a future with lower carbon emissions.

Resource-rich developing nations like Nigeria can take advantage of the rising demand for these minerals. However, serious difficulties are expected to arise if the transition to renewable energy driven by climate change is not managed responsibly and sustainably.



Decarbonisation: A critical factor to consider in the new age of mining

Decarbonisation is the process of stopping or reducing carbon gases, especially carbon dioxide, being released into the atmosphere. Decarbonisation presents a solution to climate change.

The economics of decarbonisation will drive business decisions in mining for decades to come, as mining executives come to grips with significant challenges and opportunities. To create value, leading companies are focusing their decarbonisation strategies on initiatives that help them save costs and access new end markets.

Even as they increase output of critical minerals to support the energy transition, miners know they must reduce their carbon emissions to avoid risks such as market barriers, fines and loss of social license to operate. But decarbonisation can also help miners create value. By accelerating their decarbonisation plans and extending them to their supply chains, mining companies can realise cost savings, partnership opportunities and favorable financing terms.

Leaders in the mining industry realise that mining plays a crucial role in the energy transition by providing commodities for renewable energy and climate technologies. Achieving global emissions-reduction targets will require more mining products, according to the International Energy Agency, more steel for wind turbines, more copper for transmission lines and electrical components, more lithium for batteries, and more rare earth materials for electronics

At a time when the world is shifting to a low-carbon future and combating climate change, development institutions are accelerating commitments to change the way they source minerals and metals.

Without Climate-Smart Mining practices, the energy transition will not be truly clean. Challenges will emerge and negative impacts from mining activities will increase, affecting vulnerable communities and environments and potentially endangering Progress on tackling climate change.

The Climate-Smart Mining Initiative will help resource-rich developing countries benefit from the increasing demand for minerals and metals while ensuring the mining sector is managed in a way that minimizes the environmental and climate footprint. The global quest for the minerals of the future supporting the global energy transition will result in an increase in mining activities. Unfortunately, the social and environmental impact of these mining activities (examples are: carbon emission, erosion, lack of decommissioning/land restoration practices, insecurity/terrorism, women and child labor, prostitution and illegal drug usage at mining sites) in third world resource rich countries are usually not discussed extensively. This should be an important area of focus for Nigeria as the Country drives the growth of the mining sector and attempts to limit these pitfalls and also learn from its experience in other sectors like the oil and gas sector.



The mining regulatory framework



A. Background

The Federal Government has begun legal, regulatory, institutional, and fiscal reforms for the mining sector. Key initiatives in this regard include the review of the Minerals and Mining Act, 2007, the establishment and recent automation of a cadastral system for mineral title administration, a geological data acquisition programme and the establishment of a Solid Mineral Development Fund to provide needed liquidity for the sector development.

B. Industry's Regulators and Laws

Nigeria is a federation and title to mineral resources is reserved by the constitution for the federal government. Thus, the mining industry is regulated at the federal level. However, access to land (surface title) is regulated by the state governments.

The industry's principal law is the Nigerian Minerals and Mining Act 2007 (Chapter N162 Laws of the Federal Republic of Nigeria (FN) 2004 (the Mining Act) and the Minerals and Mining Regulations 2011 issued pursuant to the Minerals and Mining Act. The Ministry of Mines and Steel Development (MMSD) is the policy maker for the sector. The Federal Ministry of Environment is the ministry responsible for environmental matters in the relevant state for the mining operations and co-regulate environmental matters.

C. Mining rights and title

Under the constitution and the Nigerian Minerals and Mining Act 2007 (Chapter N162 Laws of the Federal Republic of Nigeria (LEN) 2004 (the Mining Act), the federal government has title to all mineral resources beneath or upon any land within Nigeria, including Nigeria's continental shelf, territorial waters, and exclusive economic zone.

D. Acquisition of rights by private parties

Private parties may acquire the right to search for or exploit minerals through one of the following mining titles: a reconnaissance permit, an exploration license, a mining lease, and small-scale mining lease.

Currently, Mining titles are granted on a first come, first served basis. However, Minerals and Mining Act of 2007 grants the Minister of Mines and Steel Development (the Minister) the power to designate certain areas where a mining lease or exploration license may be granted further to a competitive bidding exercise.

E. Tax advantages and incentives

Companies engaged in mining operations currently enjoy several benefits such as a tax holiday for the first three years of operation, which may be extended for another two (2) years; a capital allowance of 95% of qualifying capital expenditure incurred on exploration, development, and processing; carry forward losses amongst others.

F. Restrictions

Mining operators currently benefit from several allowable services/operations. For instance, there are no specific limitations placed on the importation of machinery, equipment or services necessary for exploration and attraction.

G. Environment

The principal laws are the National Environmental Standards and Regulations Enforcement Agency (NESREA) (Establishment) Act (No. 25 of 2007) as amended by Act No. 26 of 2018, administered by NESREA, and the Environmental Impact Assessment Act (Chapter E12 LFN 2004), administered by the Federal Ministry of the Environment (FMOE). The Nigerian Minerals and Mining Act 2007 (Chapter N162 Laws of the Federal Republic of Nigeria (LFN) 2004), and the Minerals and Mining Regulations 2011 (the Mining Regulations) also prescribe environmental obligations and standards.

An approved environmental impact assessment (EIA) report is a precondition to the commencement of mining development. EIA reports are reviewed and approved by the FMOE.

H. Closure and Remediation Process

An application must be made to the Mining Environmental Compliance Department (MECD) for closure or abandonment of a mineral title area three months prior to the intended closure. Adherence to the approved Environmental Impact Assessment statement and the environmental protection and rehabilitation programme (EPRP) is mandatory. The abandonment plan and investigation are considered for approval.

The Mining Act requires the establishment of an environmental protection and rehabilitation fund to ensure mineral title holders' environmental obligations are met. Contributions to the fund, as specified in the EPRP, is set at 5% of the total project cost.



Achievements of the past administration



eMC+ Licensing Platform

The Buhari administration made a significant breakthrough with the launch of the Electronic Mining Cadastre plus (eMC+). This digital cadastral system grants access and manages titles for all existing investors and prospects in real-time and around the world. This is a major ease-of-doing-business initiative from the Mining Cadastral Office.

Local Roadshows:

The MMSD embarked on local roadshows to generate local investment interests in the mining sector. Eighteen cities were selected in six (6) geo-political zones. This involved highlighting mining opportunities, geological data, and clarification of government policies to over 200 participants in these cities. These programs have triggered interests from local private sector players.

Mineral Resources and Environmental Management Committee (MIREMCO):

In line with the Nigerian Minerals and Mining Act 2007, each state across the country has inaugurated a MIREMCO. The purpose of MIREMCO according to the Mining Act, is to oversee mining operations, supervise the environmental aspects of mines and tackle illegal mining.

Nigerian Mining Week:

Nigeria Mining Week is an annual event and online platform for all the mining stakeholders and influencers in the public and private sector wanting to do business in Nigeria. Established by this administration seven years ago, it has grown to attract over 60 mining companies and 1,500 mining professionals

Value Addition:

The MMSD is developing mineral value processing clusters in six (6) geo-political zones. These include:

- lead / zinc processing cluster in Ebonyi State;
- Barite processing plant in Cross River State;
- kaolin processing in Bauchi State;
- gold ore processing in Kogi State;
- jewelry centre in Oyo State and;
- the gold souk in Kano State.

Sale of Bitumen Blocks:

Nigeria ranks 6th in the world in bitumen resources but imports 100% of its domestic consumption. The administration has made headway by initiating the sale of bitumen blocks with. The sale of these bitumen blocks is in the final stages. Upon successful completion, Nigeria would be able to harness its bitumen resources through private sector investment.

Ajaokuta Concession Programme

For 40 years of the conception, the Ajaokuta Steel Company Limited (ASCL) has yet to live up to its expectation. To revamp the asset, the Government of Nigeria seeks to concession the steel plant and its key source of ore, Nigerian Iron Ore Mining Company (NIOMCO) in Itakpe. The process is underway.

National Integrated Mining Exploration Programme (NIMEP):

This is a conscious effort by the Government of Nigeria to carry out integrated exploration to de-risk investment in the mining sector and provide geoscience data. Five project works were identified and developed across greenfield and brown field exploration.

Presidential Artisanal Gold Mining Initiative (PAGMI)

PAGMI is an initiative designed to mine and aggregate gold from artisanal and small-scale miners under the National Gold Purchase Programme. PAGMI acquires gold directly from artisanal miners, refines it to meet international export standards, and sells it at prevailing global market rates, either to central bank of Nigeria or to the export market. This strategic approach aims to maximize the value captured for the Nigerian economy through the gold mining sector.

Strong Position on Lithium

Nigeria is deemed to possess significant deposits of lithium. The government has issued licenses to encourage mining of lithium and has insisted on beneficiation rather than exportation of raw ore. Recent developments include the China's Ming Xin Mineral Separation Nig. Ltd.'s lithium processing plant currently being built in Kaduna State.

The Roadmap: how well, so far?



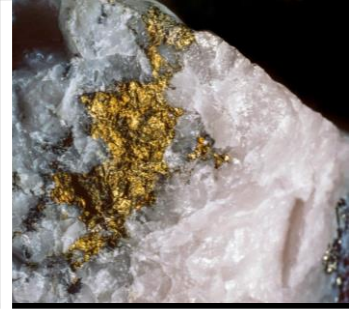
A Roadmap for the Growth and Development of the Nigerian Mining Industry was launched in 2016 for the following reasons:

- To create a globally competitive sector capable of contributing to wealth creation, providing jobs and advancing our social and human security.
- Focus on using mining assets to drive domestic industrialisation initially, and then migrate to winning in global markets.
- Strategising with a value chain-based growth plan.

The table below highlights some of the targets on the roadmap and achievements so far

S/N	Target (Non-Exhaustive)	Comments of Results
1	Revenue \$618 million (NGN 284 billion) by 2025	The sector has increased its solid mineral revenue generation since 2015. FGN solid mineral receipts witnessed a growth of 78% from NGN 64.46 billion recorded in 2015 to NGN 114.8 billion in 2020. Trend analysis of the sector's earnings reveals a snail speed growth. There are therefore ample improvement opportunities if the sector must achieve the NGN 284 billion target by 2025.
2	Employment 3 million jobs by 2025	As of 2015, the sector employed over 86,000 of the Nigerian workforce. This number rose to over 111,000 in 2017 and subsequently to 130,000 in 2020. Its employment-generation potential is far from being realised.
3	Contribution to GDP 3% by 2025	The sector's contribution to GDP, albeit less than 1% between 2015 to 2021, has increased steadily from 0.13% in 2015 to 0.23% in 2022. Achieving the 3% target in the mining roadmap requires significant effort.
4	Technology Upgrade	The ministry has embarked on several technology initiatives. An open marketplace portal that connects all stakeholders along the barite value chain to a hub that allows for easy coordination, stocking, effective costing, and seamless sale of barite was commissioned. Furthermore, the development of eMC+ allows potential investors the opportunity to access and acquire licences remotely.
5	Review some of the laws as contained in the Mining Act of 2007 to build a stronger regulatory framework for the industry.	With the aim of further attracting investment and generating revenues, the FG is currently making amendments to the Mining Law of 2007. It is hoped that the revision of the mining law will go a long way in cracking down on illegal mining in the country besides the gains of revenue increase and employment generation. The review is further aimed at bringing legislation into conformity with global best practices, limiting the role of the government to that of regulation, and creating the space for the private sector to maintain a more expansive presence in the sector.
6	Develop strategies to boost the local economy through beneficiation and utilisation of domestic minerals.	Several efforts have been made towards achieving this target. For example, the Made in Nigeria Baryte in Port Harcourt and a baryte cluster in Cross River were initiated as part of efforts towards the development of industrial minerals. These initiatives are expected to spur the promotion and growth of local content, boosting the economy with a corresponding increase in revenue.

Review of strategic minerals



Category	Iron Ore	Limestone	Lead/Zinc	Bitumen	Baryte	Gold	Coal
Mining	Weak	Strong	Moderate	Non-existent	Weak	Moderate	Weak
Processing	Weak	Strong	Weak	Weak	Weak	Weak	Weak
Local Demand	Imported Steel & Local scrap	Local Cement	Imported Roofing and Batteries	Imported Asphalt	Imported & Made in Nigeria Baryte	Local & Imported Jewelry	Minimal local use
Export	No	Yes (Cement)	Yes (Un-processed)	No	No	Weak & Illegal Exports	Weak

- **Iron ore** – Nigeria's iron remains unexploited due to defunct key national infrastructure enablers such as Nigerian Iron Ore Mining Company (NIOMCO) and Ajaokuta Steel. Steel, a key output of iron ore, is still processed using scrap iron/steel and imported semi-steel products by mini steel mills.
- **Limestone** – This mineral has the strongest value chain, with large-scale mining and cement manufacturing activities being carried out by cement companies like Dangote Cement, BUA and LAFARGE. Processed limestone (cement) is exported across Africa from Nigeria.
- **Lead/Zinc** – Mining activities are moderate, however, the dearth in processing means the mineral is mostly exported in its raw form.
- **Bitumen and Baryte**– These minerals share similar situations across the value chain with comparatively low mining activities, processing and export. Nigeria relies on imported processed products of these minerals (asphalt from bitumen and drilling baryte for oil and gas).
- **Gold** – In recent times, gold has seen an upturn of fortunes, as government initiatives across the value chain have led to an increase in activities.
- **Coal** – Historically, coal was a key source of power in Nigeria, however, low activity has seen the entire value chain become increasingly moribund.

1. Iron ore



Iron ores are rocks and minerals from which metallic iron can be economically extracted. It is widely distributed and combined with oxygen as iron oxides. In fact, it is believed that iron makes up about 5% of the earth's crust by weight. There are several types of iron ore, classified chiefly according to iron (Fe) content.

Uses of iron ore

- Primary use of iron ore is steel making. Steel can be used for: Construction, automobiles, ships, beams, buildings, and equipment manufacturing amongst others.
- Also used in Cement manufacturing for reinforcing concrete as iron ore tailings are used to prepare cement clinkers.

Iron Ore Value Chain

- Mining

Hematite and Magnetite have the highest composition of iron in the world (>70%), both of which are in Nigeria. The major iron ore miners are Nigerian Iron Ore Mining Company (NIOMCO) (government owned) and Kogi Iron. Both are in Kogi state (where 50% iron ore in Nigeria is located).

The planned concession of NIOMCO will lead to the revamp of iron ore mining in the country. Kogi Iron and African Industries Group in Kaduna plan to mine iron ore for their integrated facilities.

- Processing

Nigeria has steel plant such as integrated, mini-steel and fabricating steel plants. The integrated plants include Ajaokuta Steel Company and Premium Steel Limited. Though the former is operational, the latter however does not operate at optimum capacity. The mini-steel companies and foundries use scrap steel and semi-finished steel-plants for their steel making activities.

The possible concession of Ajaokuta Steel would lead to growth in steel production in Nigeria. This would also enhance the domestic processing of iron ore and reduce dependence on imported steel products.

- Local demand

The country consumes both long and flat steel products. Most of the long steel products are sourced in-country while all flat products are majorly imported.

Nigeria's steel consumption is expected to rise as population and demand for infrastructure continues to rise.

- Export

As part of efforts to diversify the Nigerian economy, it is necessary that there is increased local processing and value addition to raw materials, including iron ore. This focus on domestic beneficiation may influence the export trends in the iron sector.

2. Limestone



Limestone is a sedimentary rock composed primarily of carbonate (CaCO_3). Limestone can be formed biologically in calm, clear, warm, shallow marine waters or chemically by direct precipitation of calcium carbonate from marine or fresh water.

Uses of Limestone

- **Construction** - Limestone is used in the production of cement by heating powdered limestone with clay. It can be cut into blocks suitable for direct use in construction. Used as an aggregate in road construction.
- **Steel industry** - Limestone is used to remove impurities from the blast furnace when making iron. Calcium carbonate in the limestone reacts with silicon dioxide (impurities) to form calcium silicate which floats on top of the iron and can easily be removed.
- **Agriculture** - Limestone is crushed into a fine powder to form agricultural lime which is used to neutralise soil acidity. Also added to fertiliser to improve the structure of the soil.
- **Manufacturing** – Limestone is used as a major ingredient in toothpaste and baking soda. It is also used as a food additive to provide calcium ions for strong teeth and bones.

Limestone Value Chain

- Mining

Limestone is a key mineral mined in Nigeria. Kogi and Ogun are key states in which limestone is mined. The major miners are the cement manufacturing companies. Artisanal small-scale miners also mine the mineral and sell to cement manufacturers amongst other off-takers.

The Nigerian government has recognised the importance limestone mining and has implemented policies to encourage investment and improve the regulatory framework. Efforts have been made to streamline licensing procedures, provide tax incentives, and enhance infrastructure in mining areas.

- Processing

Limestone is primarily utilised for cement making. The activities of key players in this segment are integrated as they source their limestone from owned mines as well as aggregate the mineral from other miners. The major cement companies are BUA, Dangote, and Lafarge. These companies are key contributors to Nigeria's large cement production capacity in Africa.

- Local demand

Cement is fully sourced locally by domestic consumers. Construction industry is the primary user of cement. The Nigerian population is growing at a rapid rate, resulting in a higher need for residential buildings, schools, hospitals, and other facilities. This demographic trend further drives demand for cement in the country.

- Export

Companies export cement across the region from Nigeria. This exporting strength of Nigeria is due to steps taken to increase its local cement production capacity to become self-sufficient and export the product

3. Lead / Zinc

Lead is a blue-grey, heavy metal and the earliest discovered metal that does not occur naturally in its pure state. Lead is soft, malleable, and ductile, it has a low melting point, and it is Corrosion resistant. Lead and Zinc are called sister metals because they are found in the same geological deposits. Zinc is bluish white, and it is the 24th most abundant element in the earth's crust. It conducts heat and electricity, it is crystalline, it is malleable and ductile.

Uses of lead

- Lead acid batteries - This is the main use of lead. Lead is a major ingredient in batteries.
- Lead pipes - Lead's corrosion resistant properties make it suitable for carriage of corrosive chemicals.
- Ammunition - Used in manufacturing bullets.
- Pigments - Used in manufacturing paints.

Uses of zinc

- Galvanising - Used to galvanise other metals, such as iron, to prevent rusting.
- Alloying - Zinc is combined with other metals to form materials that are used in automobiles, electrical components, and household fixtures.
- Zinc oxide - Used in manufacturing rubber and as a protective skin ointment.
- Zinc supplements- Taking zinc by mouth or giving zinc intravenously helps to restore zinc levels in people who are zinc deficient.

Lead / Zinc Value Chain

- Mining

Lead and zinc are metals which can be found in the same geological deposits. Lead is mined mostly in Ebonyi and Nasarawa States. Other states with high mining potential are Bauchi, Plateau and Cross River State. Recently the United Kingdom government partnered with Nasarawa State to improve the exploration of lead and zinc in Nigeria.

- Processing

There is one semi-processing facility in Lagos State. However, there are no lead battery manufacturing

facilities in Nigeria. This has led to low processing of lead and zinc in Nigeria.

The Nigerian government is developing regional mineral projects in the country's six geo-political zones with a lead and zinc processing cluster in Ebonyi to harness the abundant lead and zinc deposits in the state.

- Local demand

These minerals can be used as a galvanizer in ammunition, and in lead-acid batteries production. Despite the abundance of minerals, the country imports lead and zinc final products.

- Export

Nigeria is the third and sixth largest exporter of Lead and Zinc respectively in Africa in 2022. Lead and zinc is exported mostly in its raw form to China.

Nigeria has the potential to export Lead and zinc to other countries in the region and beyond by improving its processing capabilities.



4. Bitumen

Bitumen is a substance known for its waterproofing and adhesive properties and it is primarily used for road construction. Bitumen is a black or dark-colored substance composed of complex, heavy hydrocarbons and contains elements like calcium, iron, sulfur, and oxygen. It can be found in solid, semi-solid or viscous form. It is known for its waterproofing and adhesive properties.

Uses of Bitumen

- Construction - Road construction, roofing, floor composition, tiles and coverings, damp proof coatings.
- Paving – Used for paving floors of buildings, warehouses and garages, pavements and footpaths.
- Hydraulics and Erosion control – Dam grouting, dam linings and protection, reservoir linings, embankment protection.
- Industrial - Used for making battery cases, acid-resistant coatings, anti-corrosive and anti-fouling paints, sound proofing computer parts and dishwashers.
- Agriculture - For fence post coating, protection for concrete structures, water and moisture barriers, tree paints (protective).

Bitumen Value Chain

- Mining

Bitumen occurs naturally as oil sand or can also be obtained through fractional distillation of crude oil. In Nigeria, the mineral exists as oil sands in the southwestern part of the country. Currently bitumen is not mined or obtained from Nigerian crude oil. The Federal Government is currently concluding bidding activities for bitumen blocks.

- Processing

Bitumen can be used for hydraulics and corrosion control, concrete protection and asphalt for road construction. However, currently due no mining of bitumen in Nigeria, Nigerian bitumen is not processed in asphalt processing facilities.

- Local demand

Nigeria relies solely on imported bitumen-asphalt for road construction. Key importers are bulk oil and gas operators as well as construction companies. Furthermore, Nigeria is the third largest importer of bitumen-asphalt in Africa. Nigeria has also been investing in the development and rehabilitation of its road network which drives the demand for bitumen.

- Export

Bitumen is not exported from Nigeria. The largest bitumen importers in Africa are Egypt and Ethiopia. Globally, United States of America, and France are key importers.

Despite the focus on domestic demand, there is potential for Nigeria to explore opportunities for bitumen exports in the future, especially if production capacity exceeds local consumption.



5. Baryte



Baryte is a naturally occurring, barium-based mineral. It mainly occurs in lead-zinc veins in limestone but can also be found in sedimentary rocks, clay deposits, marine deposits and cavities in igneous rocks. It is extracted by both surface and underground mining, followed by simple physical processing methods to produce correctly sized product and to remove extraneous materials.

Uses of Baryte

Oil industry

Used as a weighting agent in the formulation of drilling mud. Celestite, ilmenite and iron ore can be used as substitutes for barite in drilling mud. However, none of these substitutes have been effective at displacing barite as the key weighting agent as they are either too expensive or do not perform competitively.

Baryte Value Chain

- Mining

Baryte exists in Taraba and Cross River which accounts for about 80% of the reserves. Most mining of baryte is performed by artisanal small-scale miners and is mined in small amounts.

The Government also launched Made-in-Nigeria baryte. This was to demonstrate that Nigerian baryte meets international standards.

- Processing

Baryte ore is processed to baryte concentrates for oil and gas drilling purposes. Cross River State in Nigeria is known to have one of the largest deposits of barite in Africa. The state is home to numerous mining sites where barite can be extracted and processed for various applications. The possible establishment of a barite processing plant in Cross River State is expected to create employment opportunities, boost economic growth, and support the development of the mining sector in the state and Nigeria.

- Local demand

Baryte is imported 70% from China and 25% from Morocco (Africa's largest baryte exporter). The Nigerian government is exploring more ways in which Made-In-Nigeria baryte can be utilised domestically. These would take advantage of the Petroleum Industrial Act (PIA), which has a key focus on increasing drilling for oil and gas.

- Export

Nigeria does not export Baryte. However, United States of America, Saudi Arabia and Germany are major baryte exporters. Global increase in oil and gas mining and production means that demand for baryte will continue to rise. Oil and gas exploration activities have seen an increase of 0.7% and 2% respectively, which impacts the demand for baryte.

6. Gold

Gold is the oldest precious metal known to humans and occurs in nature as a metal and as alloys. The most obvious physical property of gold is its color. Its qualities make it one of the most coveted metals in the world.

Uses of gold

- Jewelry - Widely used to make jewelry because of its shine, luster, and durability.
- Conducting - Gold acts as a reliable conductor, allowing for the rapid and accurate transmission of heat, electricity, and digital data.
- Dentistry - For fillings, crowns, bridges, and orthodontic appliances yellow gold is biocompatible.
- Heat Radiation- Thin coating of gold plating in windows reflects heat radiation and keeps buildings cool in summer and warm in winter.
- Electronics - Used as an electroplated coating on connectors and contacts because it has excellent corrosion resistance.
- Engineering and Aerospace- Space vehicles are fitted with gold-coated polyester film to reflect infrared radiation and to help stabilize core temperatures.
- Medicine- Gold nanoparticles are used in Rapid Diagnostic Tests.
- Gold-based drugs have been developed and used to treat illnesses such as rheumatoid arthritis.
- Store of Value- Used by Central Bank around the world, and investors, as a haven for investments.

Gold Value Chain

- Mining

In Nigeria, gold mining is carried out in Osun and Zamfara State by Thor Exploration and artisanal-small scale miners.

Panthera Resources Plc recently commenced gold mining in Niger State. The Government's priority in the gold sector is anchored through the Presidential Artisanal Gold Mining Initiative (PAGMI). The PAGMI would organize and formalize Artisanal and Small-Scale Gold Miners in Kaduna, Kebbi, Osun, Niger, and Zamfara States.

- Processing

This segment of the value chain is characterized by the few and unequipped goldsmiths who melt and mold gold into low quality pendants and jewelry. The government has licensed two (2) refinery centers, Kian Smith and Dukia Gold. They are not yet fully operational.

The government plans to set up gold souks in Kano to develop high quality jewelry. The plan is to commence operations before the end of 2023. Furthermore, in 2023, the government commissioned the gold processing cluster, located in Mopa, Mopa-Muro Local Government Area (LGA) of Kogi state.

- Local demand

Demand is met by local and international markets. Nigeria imports most of its gold jewelry from China. Moreover, upon the implementation of PAGMI, the Central Bank will be the main off-taker of artisanal gold mined at international prices to increase the Nigerian bullion gold reserve.

- Export

Nigeria exports unrefined jewelry to the United Arab Emirates and Turkey for further processing and restyling.

Nigeria's gold mining sector has gained attention in recent years due to the country's substantial gold deposits and the government's efforts to diversify the economy. There is also an increasing interest from local and international investors in exploring and exploiting Nigeria's gold resources.

The Nigerian government has implemented policies and regulations to promote the export of gold through legitimate channels. These measures aim to discourage smuggling and promote transparency in the gold trade.



7. Coal

Coal is a combustible black or brownish black sedimentary rock composed predominantly of carbon. It is formed from plant remains that have been compacted, hardened, chemically altered and metamorphosed by heat and pressure over time. It takes millions of years for coal to form, hence classified as a non-renewable energy source.

Uses of coal

- **Electricity generation:** Primarily used as fuel to generate power.
- **Metal production:** Metallurgical (coking) coal, a type of bituminous coal is a key ingredient in steelmaking.
- **Hydrogen production:** Coal gasification offers a versatile and clean method of converting coal into hydrogen.
- Also used as a **key energy source** in the production of cement and aluminum.

Coal Value Chain

- Mining

In Nigeria, coal has been historically used for power generation, as it was mined in Enugu. However, the struggles of Nigerian Coal Corporation (NCC) led to

the reduction in coal mining. Currently, most mines are owned by private players.

- Processing

There is no processing of coal to hydrogen or cooking coal in Nigeria. Research is ongoing to determine the viability of coking coal in Nasarawa (Lafia Obi) for steel making purposes.

- Local demand

Coal usage has been minimal as the main power plants, Ijora and Oji River power station in Lagos and Enugu State have been in-operational. However, several heavy industries such as Dangote cement use coal due to its low costs. There are upcoming coal power plants at planning stage such as Egbin Thermal Power Plant Expansion in Lagos, Itobe in Kogi, Ezinmo Power Station in Enugu, Ashaka Power Plant in Gombe and Obi Power Plant in Nasarawa.

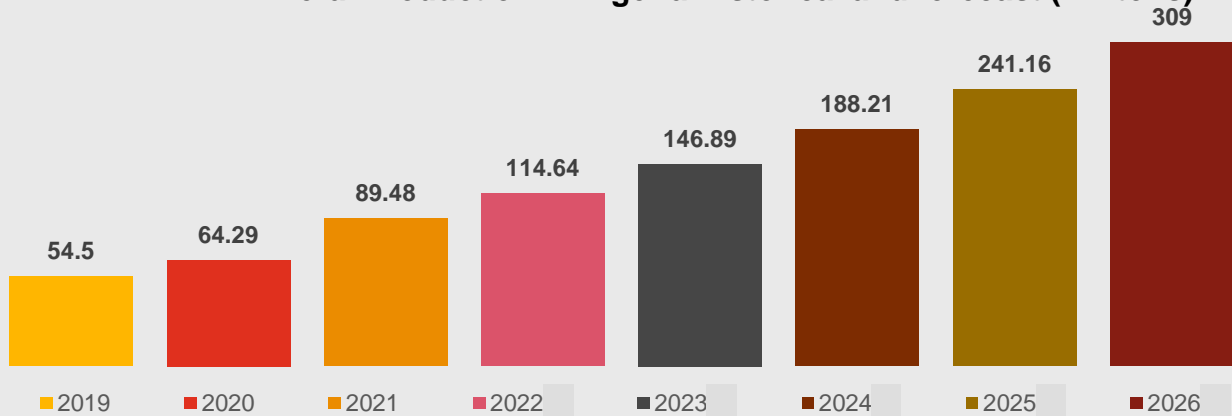
- Export

Coal is exported at low quantities. Key coal destinations are Japan, India, China and South Korea as they are heavy coal users for power generation. An improvement in Nigeria's coal mining capabilities (considering clean coal methods) would mean that the country can explore these markets



Projections for the future

Mineral Production in Nigeria Historical and forecast (Mn tons)



Mining Production on the rise: Nigeria's mining production has been on the rise since 2019 growing by a CAGR of 28%.

With this growth rate, the country's production is expected to trend around 309 million tonnes in 2026. This is still a far reach from the objectives set out in the mining roadmap. Much more needs to be done to meet the sector's target of \$27 billion contribution to the nation's GDP by 2025.

Efforts towards locally made Barite: Nigeria has the fourth largest Barite reserve in the world estimated at 20 million tonnes, however, the country has not been recognized as a major producer of Barite. A significant proportion of the barite used in the oil industry is imported. Nigeria has launched an initiative (made-in Nigeria Barite) to increase production capacity, boost Government revenue, conserve foreign exchange and promote the local industry.

Outlook for priority minerals

Coal demand continues to rise: In our 2023 global mines report, we noted that in 2022, coal accounted for more of the global Top 40 mining companies revenue than any other mining commodity, as governments chose to add coal-powered generation capacity amid a global energy crisis. According to the IEA, coal-fired power generation increased in 2022, which suggests that the world may struggle to achieve a steady reduction in the use of coal.

Gold exports hits record high: Nigeria exported gold worth N78.9 billion within the last 15 months, the highest the country has ever recorded. The sector is lucrative as much of the country's gold is still yet to be mined. Government must maintain this momentum in its efforts to diversify the economy away from oil.



Current and emerging challenges



Current challenges:

- i. **Insecurity** remains a prominent issue in the mining industry. Operators and investors continue to have serious concerns about the accessibility and safety of mining sites. It has hindered mining investments that might have otherwise spurred the industry's expansion. In 2021 in Zamfara State, 100 miners were kidnapped, a highlight of security risks that exist in key mining states. Other security challenges include banditry and terrorism around key mining areas.
- ii. **Smuggling** - Former Minister of State Mines and Steel Development, Uchechukwu Ogah, disclosed that Nigeria has in the past six years lost revenue estimated at \$5 billion to smuggling of gold. The spike in gold smuggling in the country has once again highlighted the socio-institutional and structural problems in our governance system.
- iii. **State and Federal Government tax alignment:** Operators face double taxation from the federal government and then state and local governments. Double taxation is a major inhibitor to investment inflows into the sector.
- iv. **Illegal mining** – Artisanal and small scale mining that are not formalized -The Nigerian mining industry is characterized by widespread illegal mining. It usually refers to mining operations that take place without state approval, mining licenses, land rights, or permissions for mineral exploration or transportation. In the Northwest area, rural residents engage in illegal mining. This practice has caused violent conflict, environmental damage, and a significant loss of economic value.
- v. **Weak Value addition** – Despite efforts from the current administration, the value addition capability of Nigerian minerals is low. Most of the mineral resources mined, as with the oil and gas sector, are exported in their raw form (e.g., Lead and Zinc). In some cases, like iron ore, the

key iron ore refining facilities, ASCL and NIOMCO, are either not operational or running at low capacity. The only mineral that has a strong value chain is limestone due to the active cement industry in Nigeria.

- vi. **Low Level of mining mechanisation** – Artisanal and small-scale mining accounts for 70% of mining activity. They use tools that are not advanced and the lack of adequate funding in this sector also inhibits the level of mining mechanization.
- vii. **Inadequate funding** – The Solid Mineral Development Fund (SMDF) and Mineral Sector Support for Economic Diversification Project (MinDiver Project) have been key government initiatives in growing the funding of the sector. However, funding is still inadequate. Due to the capital-intensive nature of the industry, a lot of funding is necessary to grow the sector.

Emerging challenges:

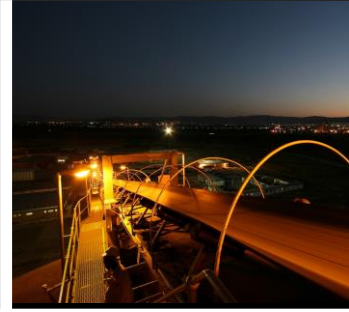
- viii. **Quick revenue versus long-term value addition** – Nigeria's growing emphasis on value addition would be focused on the global processing chain of lithium. In this situation, the country has opted for long term value addition over quick revenue. This is evident because Nigeria is refusing to export raw materials if no value is added. The Nigeria Mineral Value Chain Regulation aims to end the export of crude mineral ores from Nigeria and thus demands that miners should add some value.
- ix. **Brain Drain and human capacity** - Brain drain is a current challenge faced in Nigeria with many individuals leaving the country for reasons ranging from insecurity to unemployment. The outflow of talent would have significant negative effects on the economy, such as absence of skilled workers in many sectors.

- x. **Increased competition for Foreign Direct Investment (FDI)** – Competition for FDI is likely to increase as other African countries grow their mining sector. Countries like the Democratic Republic of Congo are endowed with key minerals such as gold and cobalt and have an established attractive mining value chain focused on mineral extraction to direct export.

In Nigeria, mining is largely a greenfield sector and is currently in the process of developing an attractive mining value chain. Nigeria should focus on investor friendly fiscal and regulatory policies in order to attract FDIs ahead of other countries.



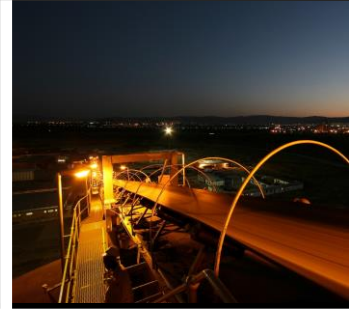
The path forward



There are key initiatives the new administration should consider in moving the sector forward:

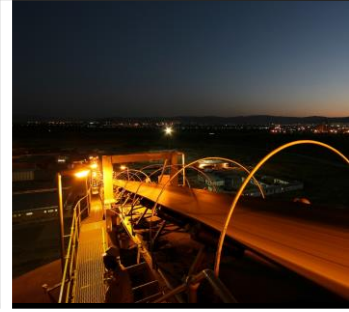
- a. **Tackle insecurity:** Insecurity remains a major challenge affecting multiple sectors in Nigeria. This is also a major challenge in the mining sector and has hindered the operations of many mining sites across the Country. The repeated banning of mining activities in some states by security operatives and some State Governments in an effort to curb insecurity challenges has also led to an erosion of investor confidence in the sector. Ensuring a secure environment for mining operations remains one of the matters requiring urgent attention of the new Federal and State Government administrations. Insecurity in the mining sector could be curbed using technology and collaboration with security agencies and mining host communities.
- b. **Harmonise policies and regulations:** There is a need to have a harmonised approach to the regulation of mining activities between Federal, State and Local Governments. An example of this matter can be seen in the current requirement for ownership of mining rights and the ability to execute the rights. At the moment mining rights are obtained through the mining licenses issued by the Federal Government through the MCO, however, access to the mining sites through the certificate of occupancy (C of O) can only be obtained from the State Governments. To further compound this issue, the land access may also need to be accompanied by community access approvals. These are obtained individually and require multiple levies by the various levels of Government which may affect the ability of mining companies to operate unhindered. A truly harmonised mining regulation/policy is required. This may involve the amendment of the Mineral and Mines Act of 2007 to address the current mining regulatory realities.
- c. **De-risk investments:** Exploratory and mineral data gathering had been a key focus area for the previous Federal Government administration and this is quite commendable. This emphasis on data gathering has gone a long way in increasing investor confidence in the Nigerian mining sector and has boosted promotional activities of mineral resources in Nigeria at local and international mining events. This has further aided in de-risking investments in the sector and demonstrated the focus of the previous administration in following through with technical advice from PwC and other mining stakeholders. The National Integrated Mineral Exploration Project (NIMEP I & II) has seen an increase in the availability of data for investors. It is quite important that the new Federal Government administration takes data gathering to a much higher level than previously achieved. Expanding the data journey to achieve the bankable status of commercial finds will transform the Nigerian mining ecosystem and attract local and foreign investment. Data accessibility and commercialisation of data via a National data bank or repository should also be instituted to ensure investors have access to the data and significant government revenues can be generated to ensure the self sustainability of the Nigerian mining data journey.
- d. **Drive strategic minerals development:** There is a need to review the country's current position on the existing strategic minerals and also consider the inclusion of other minerals that align with the global demand as national strategic minerals. This would also involve updating the sector's roadmap. Below are possible mineral-specific initiatives.
 - **Iron Ore** – The planned concession of Nigerian Iron Ore Mining Company (NIOMCO) and Ajaokuta Steel Complex Limited (ASCL) needs to be finalized. The current Federal Government administration should ensure the completion and commencement of mining and steel making activities in both facilities respectively. This would lead to import substitution of steel and steel products.

The path forward



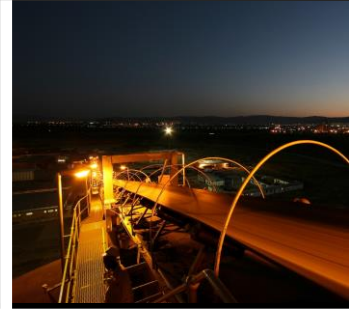
There are key initiatives the new administration should consider in moving the sector forward:

- **Gold** – The Presidential Artisanal Gold Mining Initiative (PAGMI), established gold centers e.g. the gold souk in Kano, and provision of gold refinery licenses to Dukia gold and Kian Smith have led to increased formalisation within the gold mineral value chain. The impact of these reforms is however yet to translate into significant development in the gold sector and recognition of material Government revenues. The precious nature of the metal makes its value chain susceptible to security challenges, smuggling across porous borders and misalignment of Federal and State Government interests. Local value addition is also relatively weak. Despite these challenges, success stories like the Segilola Gold project have been recorded in the sector with significant local and international recognition largely due to impressive dedication by private sector and support by the Federal Ministry of Mines and Steel development. The new administration should focus on creating more private sector driven success stories which will contribute to attracting other stakeholders into the sector and creating a vibrant gold value chain in Nigeria.
 - **Battery Minerals and Minerals of the future** – Battery minerals and minerals of the future are gaining significant importance the world over due to their use in the manufacturing of batteries which is essential in the targeted net zero objectives and alternative energy drive. These minerals are integral to the green transition and some of them like lithium, nickel, cobalt and tin have been discovered in Nigeria in commercial quantities. However, none of these have been designated as strategic in Nigeria, which indicates the need to re-evaluate the list of National Strategic Minerals. It is expected that the new and future mining rush will be directed at these group of minerals. The new administration should intensify the exploration of these group of minerals within NIMEP and ensure targeted development and support so Nigeria can play actively in the future of the global mining sector. In line with the current direction, Kaduna State has selected China's Ming Xin Mineral Separation Nig Ltd to build the country's first lithium-processing plant, with a plan to manufacture batteries. Commercial Nickel discovery has also been reported in Kaduna State.
 - **Other Key Minerals** – The ongoing plan to concession bitumen blocks by the Federal Government would lead to more import substitution for the country. Upon the finalisation of the concession, the Federal Government should monitor the implementation of the agreement with license holders. Furthermore, the Federal Government's drive to support local baryte miners will lead to the increased usage of baryte in-country. Moreover, lead/zinc is a highly exported mineral in its raw form. The current administration should encourage the establishment of additional processing facilities for these minerals to reduce the value lost in exporting such minerals in their raw form.
- e. **Embed ESG in mining activities:** Environmental, Social and Governance factors are ever-increasing considerations in the mining sector. These three factors directly impact the mining industry. It is necessary that environmentally friendly methods are adopted in mining such as proper waste disposal, proper decommissioning strategy and clean energy practices. Efforts to effectively integrate women in the sector should be intensified and child labour and security challenges at mining sites should be completely eradicated. Furthermore, proper governance is vital for mining entities. This will contribute to mitigating risks, improve decision making and ensure transparency and compliance.
- f. **Formalisation of Sector Participants:** The sector has witnessed a number of active mining operators who operate without paying taxes or royalties. The Federal Government, through effective collaboration with host communities, should use technology and licensing databases to improve tracking and formalisation. This will also aid targeted support by the Government on training, access to equipment and funding, and implementing safe mining practices. The Artisanal and Small Scale Mining (ASM) department of the MMSD has taken steps in this direction. This needs to be significantly enhanced.



There are key initiatives the new administration should consider in moving the sector forward:

- g. **Inter-agency and Inter-ministerial Collaborative Approach:** The development of the mining sector requires efficient monitoring of mining activities and proper use of shared data for taxes and royalties' assessment and collection. Furthermore, the collaborative approach, would lead to the elimination of multiplicity of taxes to operators at Federal, State and local government levels.
- h. **Enhancing the Operability of eMC+ :** The recent launch of eMC+ has digitised the registration and collection of mining licenses. The eMC+ can achieve greater effectiveness through harmonisation of Federal Government licensing and State Government land access rights. This would ease the application and utilisation of licenses. Secondly, eMC+ should be enhanced by syncing eMC+ and Nigerian Geological Survey Agency (NGSA) data to achieve licenses that are backed up with data at point of application. This will aid competition amongst investors and encourage prompt investment decisions. More Government revenues will also be generated from the sale of these licenses and data.
- i. **Infrastructure Tax Incentive Scheme:** The infrastructure for the evacuation and movement of mineral resources is relatively poor across the country. These include the road, rail, and inland waterways, which are all in poor or relatively inadequate states. The provision of tax credit schemes to operating mines for transportation infrastructure development and upgrade would improve access to mining and factory sites, which would improve resource mobility within the Country and for export purposes.
- j. **Enhancing the Operability of the Solid Mineral Development Fund (SMDF) through Partnerships:** Adequate financing in the sector requires more partnership with other financing institutions and private funders. The recent partnership between SMDF with African Finance Corporation (AFC) is a key step to promoting private sector led mining development. The SMDF should be enhanced to leverage more of these partnerships and operate as an independent organization with reduced Government influence.
- k. **Mining Desks:** The establishment of mining desks by financial institutions would help develop financing options that fit into the mining life cycle. These mining desks would promote the availability of financing and business support capabilities.
- l. **Establishment of Host Community Trust Fund:** The Fund would establish the necessary modalities for how miners and other operators across the value chain will engage, support, and fund the operating community in which they are situated. This would lead to the eradication of certain community-based challenges for the operators and foster stronger partnerships.
- m. **Resource Focused Initiatives:** The Federal Government should develop targeted resources to improve success stories and attract investors. These resources should be developed through initiatives focused on end-to-end resource development to ensure proper utilisation of the resource and attract investors based on success stories.



There are key initiatives the new administration should consider in moving the sector forward:

- n. Improved promotional activities:** It is up to Nigerians to tell the story of the Nigerian mining sector to attract investments. Despite several ongoing initiatives to grow the Nigeria mining sector, local and global promotion need to be intensified to attract investments into the sector. The Nigeria Mining Week (NMW), a PwC initiative, which has evolved into the national annual mining event, seeks to drive this promotional objective and has seen extensive participation by national and sub-national actors, and the global mining community. The new administration should intensify the use of this platform to actively promote the Nigeria Mining sector and also connect with sector participants locally and globally.
- o. Institute and implement Mineral Value Addition Policies:** The Federal Government should develop mineral-specific value addition policies. These policies would encourage downstream processing to increase sustainable economic growth from mining. The policies would also position local industrial activities to be aligned with mining activities.





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