

PRESENTATION AT 10TH NIGERIA ENERGY FORUM (NEF) 2025 TUESDAY 8TH JULY, 2025 IN LAGOS TITLED TRANSFORMING CRITICAL MINERALS PRODUCTION BY DR SANI ABDULLAHI SHINKAFI (CHAIRMAN SHINKAFI INVESTMENT LIMITED).

INTRODUCTION:

The "Transforming Critical Minerals Production" refers to initiatives and strategies aimed at increasing the production of critical minerals, which are essential for various technologies, including electric vehicles, renewable energy, and advanced electronics.

These initiatives often focus on diversifying supply chains, developing domestic capabilities, and promoting sustainable and responsible sourcing of these minerals.

Here's a breakdown of key aspects related to transforming critical minerals production:

- (1) Growing demand for critical minerals.
- (2) Supply Chain Diversification
- (3) Sustainable and Responsible Production.
- (4) Government Strategies and Policies .
- (5) Technological Advancements
- (6) International cooperation.

(1.) Growing Demand:

The demand for critical minerals is surging due to the growth of high-growth sectors like electric vehicles, renewable energy technologies, and digital technologies.

Nigeria possesses critical minerals including Coal ,Bitumen , lithium, cobalt, Iron ore, Limestone,Barite, Gold ,Lead-Zinc nickel, graphite, Copper, Chalcopyrite, Columbite, and rare earth elements.

These critical minerals have been categorised into the following .

(A) Industrial Minerals.

(B) Metallic Ore Minerals .

(C)Rare Earth Elements.

(D) Other Important Minerals.

Nigeria is rich in critical minerals which are crucial for technological equipment, Renewable energy such as solar panels , Wind and gas turbines, Electric vehicles ,etc.

The market size for these minerals is projected to grow significantly in the coming years.

The Nigerian government is actively working to develop its solid minerals sector,with a focus on these critical and strategic minerals.

(2.)Supply Chain Diversification:

Many countries are working to diversify their critical mineral supply chains to reduce reliance on a few dominant producers.

This includes exploring new sources of supply, developing domestic mining and processing capabilities, and fostering international partnerships.

Initiatives like near-shoring, friend-shoring, and establishing regional resource hubs are being explored to reduce supply chain risks.

(3.)Sustainable and Responsible Production:

There's a growing emphasis on sustainable and responsible sourcing of critical minerals.

This includes minimizing environmental impacts, promoting social responsibility, and ensuring ethical labor practices.

Recycling of critical minerals is also gaining traction as an alternative to primary mining.

(4.) Government Strategies and Policies:

Many governments are developing comprehensive strategies to secure their critical mineral supply chains.

These strategies may include incentives for domestic production, investments in research and development, and international collaboration.

Examples include Ontario's Critical Minerals Strategy, Australia's Critical Minerals Strategy, and the UK's Critical Minerals Strategy.

(5.) Technological Advancements:

Technological advancements in extraction, processing, and refining are crucial for transforming critical minerals production.

Research and development efforts are focused on improving efficiency, reducing costs, and minimizing environmental impacts.

Examples include pilot-scale continuous processes for treating acid mine drainage and producing enriched REE/CM concentrates.

(6.) International Cooperation:

International cooperation is essential for addressing the global challenge of securing critical mineral supplies.

Working groups, partnerships, and agreements are being established to share best practices, assess supply and demand, and promote responsible sourcing.

CONCLUSION:

In essence, the transformation of critical minerals production involves a multifaceted approach that encompasses diversifying supply chains, promoting sustainable practices, leveraging technological advancements, and fostering international cooperation.

THANK YOU FOR LISTENING .