



# Enhancing Sustainable Production, Processing and Value Addition of Lithium in Nigeria



10<sup>TH</sup> NIGERIA ENERGY FORUM DAY 2 (VIRTUAL).

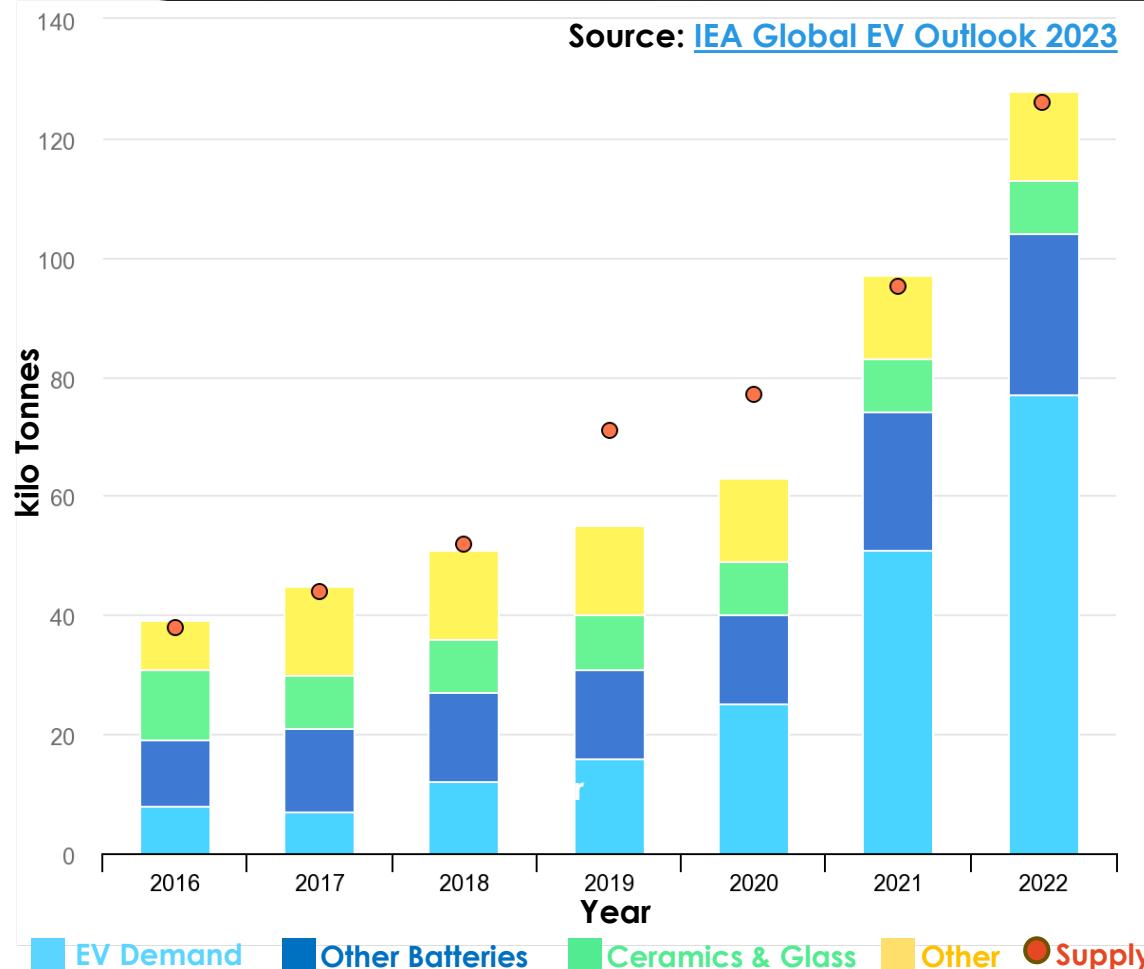
20<sup>TH</sup> NOVEMBER 2025

Engr. Adekunle Makinde, Co-chair, Nigeria Energy Forum (NEF).

# Lithium Growth Drivers

## Increasing Electrification Demand

Source: [IEA Global EV Outlook 2023](#)



# Case Study Objectives

- Assess Nigeria's lithium production and processing landscape.
- Analyse United Nations Resource Mgt. Systems & Africa's Green Minerals Strategy using case study of lithium in Nigeria.
- Recommend policies & strategies for sustainable value addition of lithium in Nigeria.



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# Study Method & Lithium Value Chain

DESKTOP RESEARCH & REVIEW

ASSESSMENT USING UNRMS & AGMS

PUBLIC CONSULTATION

EXPERT ANALYSIS OF A REAL PROJECT



**Lithium Ores**  
(extraction from hard rock mining)

Value Addition

**Lithium Spodumene Concentrate 6%**  
(from ore processing)

Value Addition



**Battery-grade Lithium Carbonate / Hydroxide**  
(from refining of )



# Status of Lithium Ore Exploration, Production & Processing in Nigeria

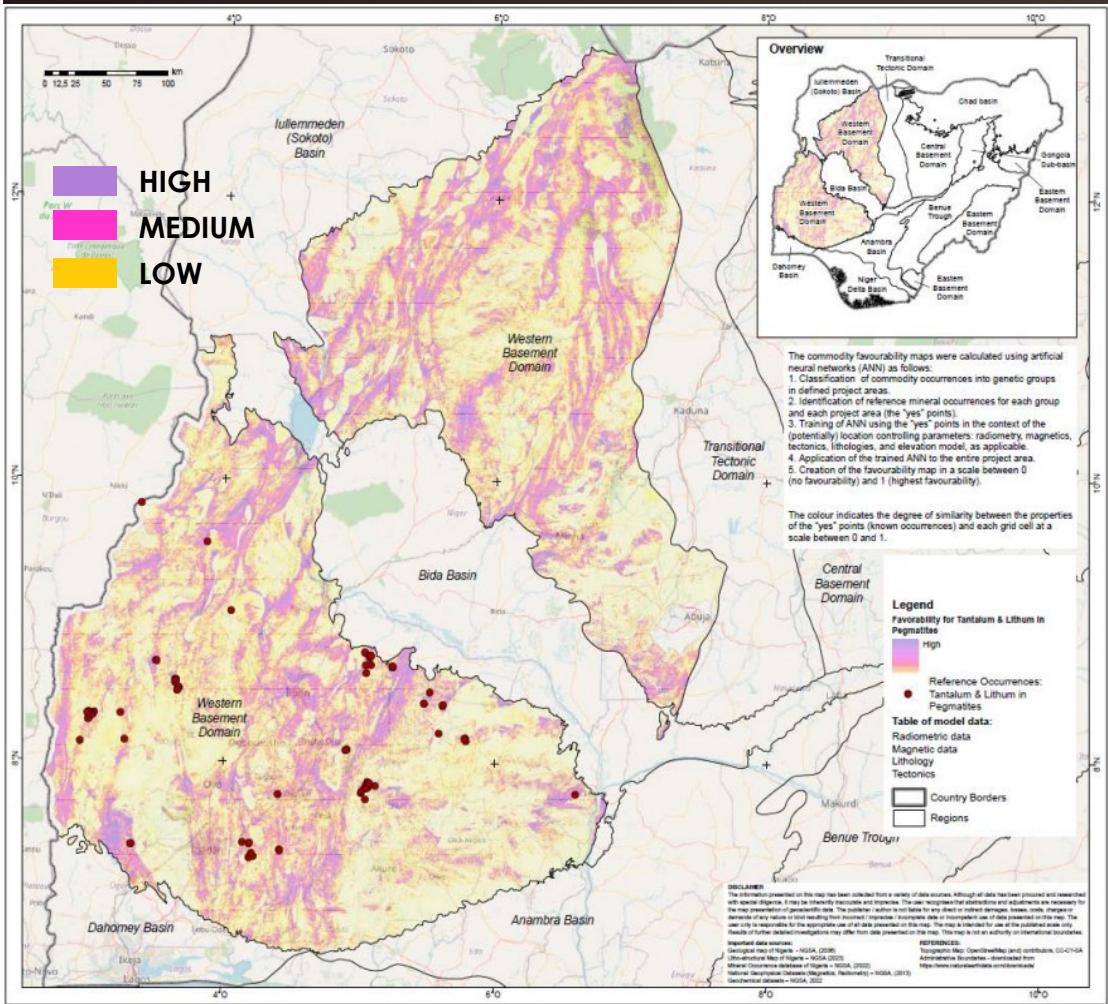


Mineral	Quantity of Minerals Produced in 2023 (kg)	Number of issued licences valid in 2022	Locations
Lithium	744,502,000	823	Nasarawa, Kwara, Kogi, Ekiti, Cross Rivers

Recent developments in lithium exploration and processing in Nigeria:

- 2022-2023: National Integrated Mineral Exploration Project - Rare Metal Pegmatite Study (Nigerian Geological Survey Agency, 2023).
- Q1 2024: First industrial lithium processing complex commissioned in Nasarawa State (Alake, 2025).
- 2024: Mining Sector Investment Facilitation Project supported by the World Bank and Federal Ministry of Solid Minerals Development (Barth & Pizano, 2024).
- Q4 2024: Solid Minerals Development Fund launched to pursue investments that would de-risk Nigerian mining sector. (Solid Minerals Development Fund, 2024)
- 2024- 2025: Over 6 additional lithium processing projects under construction in other states (including: Kaduna, Kebbi, Abuja) (Alake, 2025) (Anyago, 2025).

# Lithium Favourability in Nigeria (Western Basement Domain)



Source: Nigeria Mining Investment Facilitation Project (Barth & Pizano 2024)

# SDGs Mapped to UN Resource Management Systems (UNRMS)

## SUSTAINABLE DEVELOPMENT GOALS

- **No Poverty  
(Goal-1)**
- **Industry, Innovation & Infrastructure  
(Goal-9)**
- **Climate Action  
(Goal-13)**
- **Gender Equality  
(Goal-5)**
- **Affordable & Clean Energy  
(Goal-7)**
- **Decent Work & Economic Growth  
(Goal-8)**
- **Reduced Inequalities  
(Goal-10)**
- **Responsible Consumption and Production  
(Goal 12)**

## MAPPED TO UNITED NATIONS RESOURCE MANAGEMENT SYSTEMS PRINCIPLES

- **Principle-1** on state rights & responsibilities in management of resources
- **Principle-3** on Integrated & indivisible management of resources
- **Principle-4** on social engagement
- **Principle-7** on value addition
- **Principle-9** on health & safety
- **Principle-10** on innovation
- **Principle-2** on responsibility to the planet
- **Principle-8** on circularity
- **Principle-11** on transparency
- **Principle-4** on social engagement
- **Principle-12** on continuous strengthening of core competencies and capabilities
- **Principle-2** on responsibility to the planet
- **Principle-5** on service orientation for use and reuse of resources
- **Principle-1** on state rights and responsibilities in the management of resources
- **Principle-3** on integrated resources mgt.
- **Principle-12** on continuous strengthening of core competencies and capabilities
- **Principle-4** on social engagement
- **Principle-12** on continuous strengthening of core competencies and capabilities
- **Principle-6** on comprehensive resource recovery
- **Principle-8** on circularity

# Planned Lithium Processing Project in Nigeria



## Feasibility Study; Engagement of 1-2% Lithium Suppliers, Host Community, Offtakers & Manufacturer (from H2 '23)

- **Yr 1 input:** source waste/low-grade mined materials + Yr2 acquisition



Completed Draft Environmental Social Impact Assessment for Lithium Processing Factory. Equip/Train 100+ persons

## EPC contracts in place & Regulatory Permit Issued (Q3 25). Investment Raise (Ongoing)

- **Yr 1 Output:** 50K tons; & 150k tons by Yr 2 lithium Spod. Conc.



Supply Lithium Spodumene Concentrate to global offtakers.

## Repurpose Tailings; Toll SC6 via 3<sup>rd</sup> Party Refiner / Build Li Refinery (from 2027 & beyond)

- **Yr1 Li carbonate/hydroxide 5k tons; & Yr2 20k tons.**



Supply to Battery Original Equipment Manufacturers



# Case Study Recommendations

**ADOPT** integrated resource management policies aligned with UNRMS/AGMS for sustainable production of lithium.

**ESTABLISH** a national UNRMS-compliant reporting system using the Pan-African Resource Reporting Code for lithium projects.

**IMPLEMENT** UNRMS Principle 12 & AGMS Pillar 2 by embedding capacity building agreements in EPC contracts for lithium projects.

**INVEST** in mineral exploration & geological mapping, estimate resource/reserves & optimal location of critical minerals.

**DEMONSTRATE** circularity strategies in lithium processing projects in Nigeria & Africa.

**PROMOTE** capacity building initiatives & fund mineral exploration from tax revenues or private investments/ partnerships.

**STRENGTHEN** innovation ecosystem in clean energy solutions, circular economy, youth-led and community-action for critical mineral production.



Thanks for listening.

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