Leveraging Value Addition, Beneficiation and Transition Minerals for Sustainable Industrialisation in Ghana and Nigeria

Summary

Ghana and Nigeria, rich in transition minerals such as bauxite, manganese and lithium, face challenges in maximising value through beneficiation and domestic processing. While the global energy transition creates unprecedented demand for these minerals, both countries need significant policy reforms and investments to realise sustainable, mineral-driven industrialisation. This brief analyses barriers and presents strategic interventions to ensure these resources contribute to broad-based, equitable development, rather than perpetuating the 'resource curse' narrative and reality.

Introduction

Africa, which hosts a significant share of the world's transition minerals, is a critical player in the global push for renewable energy. Ghana and Nigeria, with vast reserves, have a historical legacy of exporting raw materials and capturing only a small share of the value chain. The need for transformation is urgent if these transition minerals are to catalyse sustainable economic growth and support the shift towards green industrialisation.

Problem Statement

Despite abundant resources, Ghana and Nigeria remain at the lower end of the mineral value chain. Governance shortfalls, underinvestment in energy and transport infrastructure, weak local content policies and limited human capital with the required skills, restrict both countries' ability to benefit from the rising global demand for transition minerals. Without policy and institutional reforms, the opportunity risks becoming a new form of resource curse, further entrenching inequality and squandering development potential.

Policy Options/Alternatives

One policy option for the two countries is continuing the export of raw minerals with limited local processing. However, the two countries can also consider implementing incremental reforms such as enforcing local processing quotas, enhancing mining sector governance and establishing more strategic public-private partnerships in mineral value chains. Alternative approaches include regional integration through the creation of cross-border mineral processing and value-addition hubs facilitated by the African Continental Free Trade Agreement (AfCFTA), as well as linking mineral beneficiation efforts to renewable energy investments to reduce costs and emissions. The countries also have an opportunity to utilise government-backed bonds, blended finance and risk-sharing facilities to unlock capital for exploration and processing projects. Responsible business conduct in transition minerals projects can be promoted through strong environmental, social and governance (ESG) frameworks that benefit local communities and maintain environmental standards.

Analysis

Local beneficiation offers substantial value upliftment, enhanced tax revenue and job creation, but this requires capital, skills and reliable infrastructure. Ghana's attempts at aluminium and lithium processing show market and feasibility constraints, while Nigeria's conditional licensing for local processing has attracted some foreign direct investment but faces scaling challenges. Robust governance and clear regulatory frameworks are essential for attracting investment and ensuring local value capture. However, corruption risks and jurisdictional ambiguities remain hurdles for both countries. Furthermore, both countries need strategic public investment in power, roads, ports and geoscience data to support industrial transformation. Lastly, economies of scale, achievable through regional collaboration (e.g. AfCFTA), are critical for globally competitive mineral processing operations.

Recommendations

1. **Develop Integrated Transition Minerals Strategies:** Through transition minerals strategies aligned with national and continental frameworks like the Africa Mining Vision (AMV) and African Green Minerals Strategy (AGMS), the two countries can prioritise minerals, set targets for value addition and plan beneficiation activities.
2. **Update Legal and Governance Frameworks:** Nigeria can amend the Minerals and Mining Act to explicitly include transition minerals and clarify jurisdiction between federal and state authorities. Ghana on the other hand, can modify fiscal regimes to enhance value from transition minerals through flexible equity stakes and performance-based royalties.
3. **Close Infrastructure Gaps:** Both countries can invest public and private funds to address infrastructure gaps in roads, rail, ports and energy networks vital for downstream processing. The two countries can focus on renewable energy for mineral beneficiation to reduce costs, enhance reliability and meet decarbonisation goals.
4. **Promote Regional Integration:** Nigeria and Ghana can negotiate 'cumulation' clauses to recognise regional content and facilitate cross-border value chains, as part of utilising AfCFTA to increase intra-African mineral trade and support regional processing hubs. The countries can also pursue joint ventures and shared infrastructure with neighbouring countries to achieve economies of scale in battery manufacturing, refining and mineral research.
5. **Invest in STEM, Vocational Training and University-Industry Partnerships:** Innovation to boost mineral processing, engineering and renewables can be promoted with centers of excellence in green tech and value chains, diaspora engagement, knowledge transfer, and industrial mentorship encouraged to fast-track sector growth.

Conclusion

Ghana and Nigeria stand at a pivotal juncture. With targeted policy reforms, renewed governance, infrastructure investments and robust regional collaboration, they can shift from export-dependent models to become continental leaders in the beneficiation and industrialisation of transition minerals. Failure to act risks reinforcing patterns of underdevelopment. With bold action, these nations can ensure their minerals empower a just, sustainable energy transition and broad-based economic progress.

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