C-MINK
Critical Minerals Information and Knowledge Hub

UNU INRA

AFRICA REDEFINING CRITICAL MINERALS FOR A SHARED FUTURE: SOUTH–SOUTH SOLIDARITY IN ACTION

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Content

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CAUTION

Introduction

COP 30 and CMINK: the global south solidarity opportunity

As the world converges at COP 30, Africa and its partners across the Global South have a unique opportunity to turn solidarity into strategy. The decarbonization agenda can no longer be a race between regions — it must become a collaboration among equals. South–South partnerships can foster a new kind of multilateralism, one that is built on shared knowledge, joint technological development, and collective investment, co-creating strategies and policies that promote green value chains and scale up decarbonization efforts. The collective experiences of Africa, Latin America, and Asia show that the future of sustainable development depends on cooperation by co-designing solutions that speak to their shared histories and ambitions. COP 30 offers a stage to renew this politics of solidarity, where the South leads not from the periphery but from the centre — as architects, agents, and enablers of a just, green, and inclusive world.

At the heart of Africa's mineral transformation lies the need for knowledge — not just data, but insight that connects science, policy, and practice. The Critical Minerals Information and Knowledge Hub (C-MINK) was conceived precisely to fill this gap: to serve as a platform that curates, convenes, and translates knowledge into action. At its core, the Critical Minerals Information and Knowledge Hub (C-MINK) is more than a knowledge initiative — it transforms insight into strategic foresight and lays the groundwork for strengthening Africa's leadership in the governance of its mineral wealth. In doing so, it positions the region to craft a distinctly African voice in the emerging global architecture of critical minerals. C-MINK recognizes that there are gaps in knowledge related to critical minerals that government and regional institutions must contend with. Moreover, it is positioned to uncover and address those gaps. It asks the following pointed questions:

- **Who is setting the agenda for the governance and exploitation of critical minerals?**
- **Who defines the rules of the game?**
- **Who has the power to design those rules?**

C-MINK brings policymakers, researchers, and investors together in a shared space to make informed decisions on mineral governance, value-chain development, and regional integration. Its ambition to link African expertise with that of other Global South regions allows it to draw on collaboration, shared learning, and foresight rooted in evidence. In a world where the race for critical minerals is as much about information as it is about geology, C-MINK acts as Africa's compass — ensuring that the continent's mineral wealth is guided by intelligence, not impulse; by shared learning, not extraction.

C-MINK is unique in that it turns epistemic power on its head. It juxtaposes competing knowledge systems, revisits asymmetrical power dynamics, and interrogates governance in terms of norms, structures, and agency across the mineral value chain. It offers a complete 360-degree perspective, recognizing knowledge deficits, and working to surface, interrogate, and bridge these divides.

1.1.1 Mineral Order and the Paradox of Extraction

Mineral wealth has never been neutral — it has always been shaped by politics, geography, and power. In Africa, whose subsoil holds more than a third of the world's mineral reserves, scarcity has never been the defining challenge. The real struggle is over control — control over who benefits, who decides, and who captures value.

Today, the world is redrawing its energy map. It is driven by three converging forces — the imperative of an increasingly urgent energy transition, the acceleration of the digital transformation, and the global race for control over emerging technologies. Africa stands at the crossroads of all three. The continent's vast renewable energy endowments represent an impressive potential lever to drive the global shift toward decarbonization. In addition, its youthful and vibrant, tech-savvy population positions it within the digital revolution, while its arsenal of mineral and metal reserves make it indispensable to the technologies that will define the next industrial era. The continent has important access, being both the object of global competition and the instrument of large-scale decarbonization. In short, Africa has the resources the world needs. The world's green future runs through African soil. Indeed, its geographical and geological endowments have become central to the world's clean-energy ambitions. Africa holds about 30% of the global mineral reserves that are essential for low-carbon technologies (see annex 1),[1] with exploration spending rising by 12% in 2024, driven by the demand for green minerals. [2]

The continent's task is clear: to stay ahead of this fast-changing landscape, to anticipate rather than react, and to build the guardrails that can transform resource abundance into lasting prosperity.

Yet, the race to build a climate-safe future rests on a paradox. The Global South is host to many of the transition minerals, including cobalt, lithium, graphite, nickel, manganese, copper, and rare earths. The world's decarbonization agenda is, to some extent, powered by the geological enrichments of the South, of which Africa is an important player. However, Africa continues to operate at the periphery of its own resource destiny. Although the region has essential tools that are critical to the global transition, it does not host the value-creating industries and is not yet a large-scale manufacturer of batteries, turbines, or semiconductors — the drivers of high-value production. The ambition of a green economy starts with unmistakable clarity: the raw materials to realize this outcome originate in Africa, Latin America, and parts of Asia, while the value is realized in industrial corridors across Europe, North America, and East Asia. What emerges is a striking geographical mismatch between resource endowment and industrial capacity.

For over a century, Africa's natural endowments and resources have powered the industrial revolutions of others. Its wealth has supplied, enabled, and sustained an economic system driven by the machinery of globalization. Today, history must take a different trajectory, and African countries must choose a different course by refusing to be drawn once again into upstream extraction: exporting raw ores, importing finished technologies, and remaining spectators of the value they generate. The future may be green, but the architecture of power shaping that future remains anything but equitable.

1.1.2 The Geography of the Green Transition

The global green transition has become a theatre of geopolitical competition. The Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) serves as a microcosm of how these geopolitics unfold — its dynamics, shaped by more than 190 participating countries, provide both a stage for contestation and a production house for forging cooperation and enabling solidarity.

Critical minerals reflect the current geopolitics in which global powers are contestants in a race for control and influence. The United States, the European Union, and China are all pursuing mineral-security strategies as matters of national priority. Industrial policies such as the US Inflation Reduction Act (IRA) and the EU's Critical Raw Materials Act (CRMA) are re-ordering global trade and investment patterns.

The African Union's African Green Minerals Strategy (AGMS) is a continental policy framework intended to correct the long-standing imbalance of exporting raw materials without beneficiation. Adopted in February 2025, the AGMS provides Africa's blueprint for transforming its role from raw-material supplier to value creator, enabling exporters to process minerals locally and use them as catalysts for industrialization and sustainable development.

With its vast resources, expanding markets, and strategic geography, Africa is central to the world's green transition. The continent commands roughly one-third of the world's mineral reserves that are essential for renewable energy technologies. However, it does not yet host the refineries, fabrication plants, and advanced research ecosystems that can convert geological endowments into industrial capacity and sustainable development. Africa continues to be perceived largely as a supplier of raw materials to other regions — the central challenge now is how to escape the cycles of energy insecurity and environmental degradation that this role perpetuates.

1 Harnessing Sub-Saharan Africa's Critical Mineral Wealth, IMF (2025), https://www.imf.org/en/News/Articles/2024/04/29/cf-harnessing-sub-saharan-africas-critical-mineral-wealth

2 Underexplored and Undervalued: Addressing Africa's Mineral Exploration Gap, CSIS (2025), https://www.csis.org/analysis/underexplored-and-undervalued-addressing-africas-mineral-exploration-gap

1.1.3 Navigating Asymmetries of Value and Power

The paradox displays a striking asymmetry between resource ownership and value capture. Global capital continues to flow toward extraction while bypassing beneficiation, innovation, and manufacturing.[3] Without changing the way minerals are developed, governance systems will continue to reflect investors' risk preferences, rendering national development priorities almost invisible. The "tail wagging the dog" remains a common experience.[4] These imbalances tend to externalize environmental harm, leaving communities with a trail of destruction — degraded soils, polluted waterways, and landscapes beyond repair. Extractive infrastructure is too often built to serve profit, while value chains and job creation are registered offshore. What the green transition must avoid is becoming fragile, unequal, and entangled with the very injustices it claims to transcend.[5]

1.2 Energy as an indispensable lever of criticality towards decarbonized economies

1.2.1 Critical minerals – whose critical matters?

The phrase "critical minerals" generally refers to minerals that are indispensable for the technologies required to power modern economies, such as batteries, semiconductors, renewable-energy systems, and electric vehicles. Their "criticality" lies not only in their industrial importance, but also in their vulnerability to supply-chain disruptions.[6] In general, criticality can be contingent on a range of factors, including the ability to ensure energy security and technological progress, their economic and strategic importance to key industries, their limited substitutability and high market concentration, and their exposure to supply-chain risks caused by geopolitical tensions, environmental constraints or the concentration of refining capacity. [7]

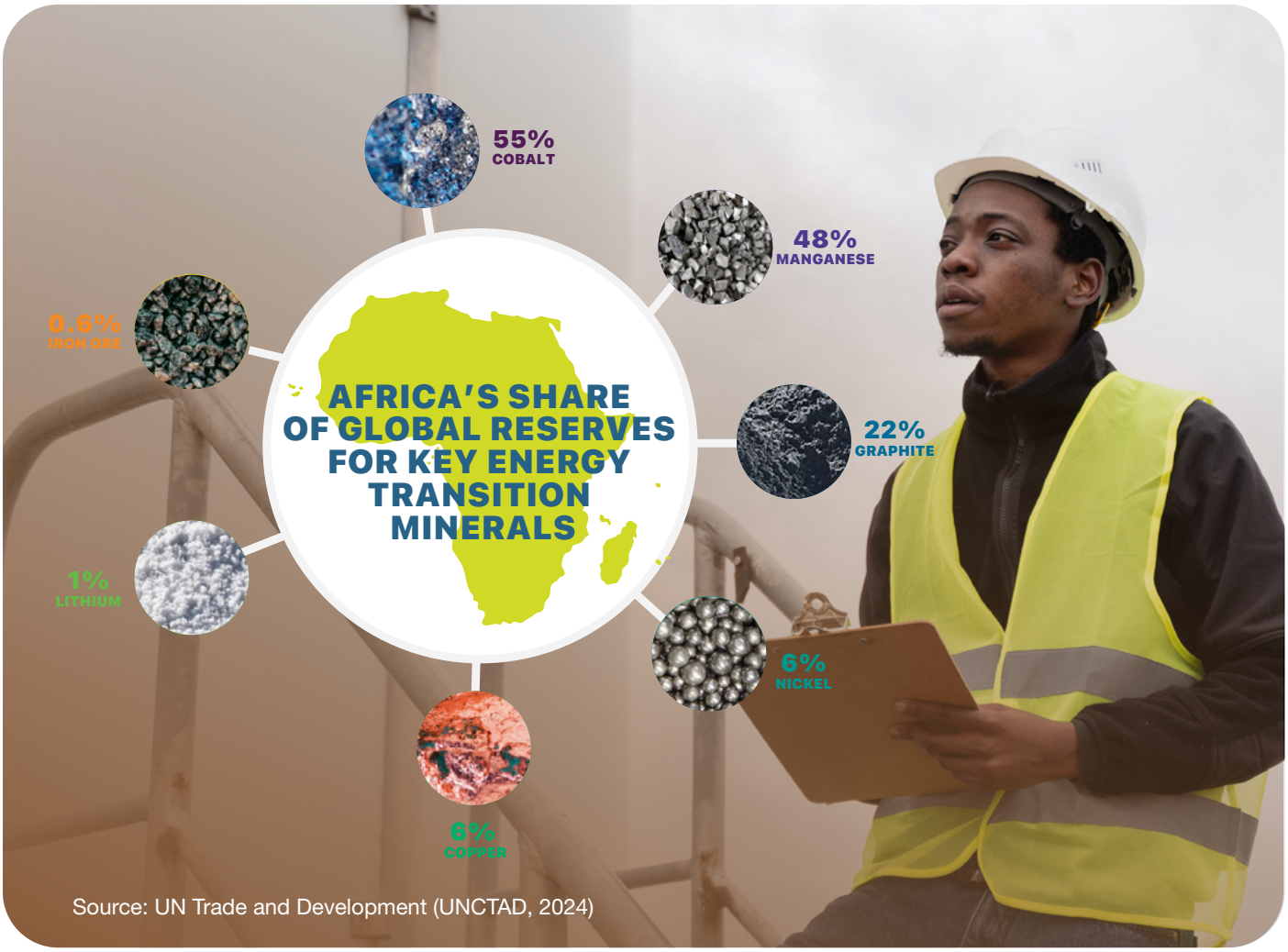
Critical does not mean universal: it is context-dependent, being shaped by each country's industrial structure, technological ambition, and geopolitical positioning. However, today's definitions of criticality are being rewritten through the prism of global power competition, energy transition imperatives, and national security priorities.

For Africa, criticality must extend beyond serving external industrial needs. Africa's own definition of criticality is still evolving.[8] The continent's African Critical Minerals Strategy is therefore an attempt to articulate what is critical for Africa — how the continent aligns its resources with energy security, structural transformation, and green industrialization.[9] In doing so, Africa can begin to shift from acting as an intermediary for the rest of the world to becoming an enabler in the global clean-energy economy.[10]

Energy security and industrial capacity form the twin pillars of Africa's claim to mineral sovereignty. Without secure, affordable, and sustainable energy systems, the continent cannot power the industries required to process its own resources. Likewise, without industrial capacity — the ability to refine, manufacture, and innovate — Africa will remain confined to the periphery of global value chains.[11] Mining critical minerals without embedding them into domestic production systems simply reinforces the structural asymmetries of the past. The challenge lies in the continent's ability to channel its mineral wealth into the infrastructure, technologies, and institutions that can sustain a low-carbon industrial revolution from within.[12]/[13] Turning its mineral assets into strategic power will enable the region to position itself as a partner of worth, thereby achieving both energy independence and economic renewal.

Thus, criticality is contextually defined and shaped by national and regional factors, being contingent over time within a rapidly evolving ecosystem driven by technology, industrial strategy, and geopolitics. However, long before criticality emerged on the global agenda, the principles of the African Mining Vision (AMV)[14] had already envisaged that mineral wealth must be aligned with broader development goals: promoting inclusive growth, creating jobs, and enabling industrialization and value creation.[15]

3 South African Institute of International Affairs (SAIIA). (2024). Navigating Governance Challenges in African Critical Mineral Value Chains.
4 Extractive Industries Transparency Initiative (EITI). (2022). The Energy Transition and Critical Minerals in Ghana: Diversification Opportunities and Governance Challenges.
5 Boafo, J. (2024). "The race for critical minerals in Africa: A blessing or a curse?" Energy Policy, 180, 113722.
6 International Energy Agency (IEA). Global Critical Minerals Outlook 2025
7 U.S. Geological Survey (USGS). (2024). "What are Critical Minerals?" U.S. Department of the Interior.
8 Africa's Green Minerals Strategy (AGMS). (2025, February). Africa's Green Minerals Strategy. African Union. Retrieved from https://au.int/sites/default/files/documents/44539-doc-AGMS_Final_doc.pdf
9 Unlocking the Potential of Critical Minerals Extraction for Africa's Structural Transformation (Weng, L., 2025). Centre for Sustainable Structural Transformation (SOAS University of London). Retrieved from https://www.soas.ac.uk/sites/default/files/2025-
10 Policy Center for the New South. (2025, July 22). Africa's Energy Future Must Be Written in African Ink. Retrieved from https://www.policycenter.ma/publications/africas-energy-future-must-be-written-african-ink
11 Weldegiorgis, F. S. "The interplay of mineral and energy security: A nexus perspective." Journal of Cleaner Production, 2023.
12 International Energy Agency (IEA). (2025). Stepping Up the Value Chain in Africa: Minerals, materials and manufacturing. Retrieved from https://iea.blob.core.windows.net/assets/8e98c60a-41e9-4c5c-9299-81e79c267a27/SteppingUptheValueChaininAfrica.pdf
13 Africa's Green Minerals Strategy (AGMS)." African Union, February 2025.
14 African Union. (2009). Africa Mining Vision: Transparent, equitable and optimal exploitation of mineral resources to underpin broad-based sustainable growth and socio-economic development. Addis Ababa: African Union.
15 African Development Bank (AfDB) & Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF). (2025, August). Critical Minerals for Africa's Inclusive Growth and Development. African Development Bank



As the world races toward low-carbon development and pressure mounts to bring emissions down to the 1.5-degree safe threshold, the energy transition — both a culprit of the current emissions overshoot and an enabler of decarbonization — is a critical lever for how countries worldwide can achieve greater energy security and wean themselves off fossil fuel-driven growth.

Whatever the stakes or definitions of criticality, Africa's role in the global mineral ecosystem remains indispensable. The continent is home to nearly 30 percent of the world's mineral reserves, making it central to the global clean-energy transition. In 2022, South Africa emerged as the world's leading producer of rhodium and platinum—minerals essential for manufacturing hydrogen fuel cells and automobile catalytic converters. In 2023, the Democratic Republic of Congo (DRC) accounted for approximately 74 percent of global cobalt output, a key component in lithium-ion batteries.[16] Gabon and South Africa together contributed over 53 percent of the world's manganese production, another mineral critical for battery manufacturing.[17] Namibia remains the third largest uranium producer globally, Zambia's copper exports rose 18% in 2024, and DRC's cobalt output reached 75% of global supply, reinforcing Africa's strategic importance.[18]

A recent IEA report anticipates that the demand for critical minerals is likely to quadruple by 2040, from electric batteries and energy storage to wind turbines, solar panels, and advanced electronics, and with net-zero ambitions driving mineral demand to nearly six times current levels.[19]

16 Ibid.
17 Ibid.
18 Underexplored and Undervalued: Addressing Africa's Mineral Exploration Gap, CSIS (2025), https://www.csis.org/analysis/underexplored-and-undervalued-addressing-africas-mineral-exploration-gap
19 International Energy Agency. (2024). Mineral requirements for clean-energy transitions. Retrieved from https://www.iea.org/reports/the-role-of-critical-minerals-in-clean-energy-transitions/mineral-requirements-for-clean- -transitions.

BOX 1: The Democratic Republic of the Congo (DRC) - A Global Cobalt Powerhouse

The DRC produces roughly 70–75 % of the world's mined cobalt, anchoring global battery and clean-energy supply-chains.[20] Efforts to refine more of the metal domestically have boosted the value-added exported, —but the sector remains exposed to commodity-cycles. Indeed, a steep price drop since 2022 highlights how fragile growth can be when based on raw-material exports. [21] The DRC's abundant hydropower potential, low-cost power and rich resource base make it an ideal site for precursor-battery production: plant investment costs could be significantly lower than in developed economies, offering the prospect of lower emissions and stronger local value-chains. Yet structural and social challenges persist. Under the 2007 SinoCongolais des Mines (Sicomines) agreement, Chinese firms secured favourable tax and customs terms (including tax-exemptions until 2040) [22] which critics argue reinforce foreign control of strategic assets. Environmental costs—including deforestation, water-pollution and forced evictions—are associated with exploration and mining. Amnesty International and others have documented widespread labour exploitation in the cobalt supply-chain, and in the eastern DRC, some regions remain mired in conflict. Paradoxically, while the DRC is central to the world's green-transition future, it still faces one of the largest energy-access deficits in Africa. The net result is that, despite enormous mineral wealth and global significance, the DRC's development path remains vulnerable. Value-capture, governance, diversification and social inclusion will determine whether the country can turn its mineral dominance into sustainable growth.

What is deemed "critical" in one country or region may vary in another; definitions evolve over time, influenced by technology, industrial strategy, national and regional priorities and geopolitical dynamics. The United States defines criticality through the lenses of national security, economic essentiality, and supply-chain vulnerability, emphasizing risks of disruption and strategic dependence.[23] In Africa, given its chequered history of mineral development, criticality must instead align with development priorities and the goal of using resources to drive innovation, technological advancement, inclusive growth, and structural transformation. The literature shows that criticality can be characterized in the following ways:

- **Functional and Developmental Relevance**
  Critical minerals are those that are indispensable to Africa's own transformation, enabling infrastructure development, renewable energy expansion, modern technologies, and strategic industries such as agro-processing, transport electrification, and digital manufacturing. Their value must be judged not only by their global demand but by their contribution to Africa's structural transformation.
- **Supply-Chain Vulnerability and Sovereign Risk**
  Africa's mineral criticality must account for the vulnerabilities of its own supply chains, from dependence on foreign refineries and logistics corridors to exposure to trade disruptions, export controls, and political instability. Building regional processing capacity and resilient intra-African supply chains is therefore a strategic imperative.
- **Substitutability and Market Concentration**
  The degree to which a mineral's supply is dominated by a few countries or companies — and the difficulty of finding alternatives — heightens its strategic importance. For Africa, the challenge lies not only in overcoming dependence on external processors, but also in avoiding new forms of dependence through unilateral trade or concession agreements.
- **Economic Importance and Strategic Value**
  A mineral is critical for Africa if it can generate inclusive growth, advance energy security, and create the foundations for industrialization, innovation, and technology sovereignty. Minerals that catalyse regional value chains, create high-skilled jobs, or enable renewable-energy independence should be prioritized in national and continental planning.

The global discourse celebrates the energy transition as a sovereign choice — every nation's right to chart its path toward low-carbon prosperity. Yet for many African countries, this sovereignty is circumscribed by the asymmetrical terms of trade, finance, and technology. The so-called "choice" of transition is shaped by others: by the financing conditions set in Northern capitals, by the standards defined in Brussels and Washington, or by technologies designed in Shanghai or Seoul.

Commodity exports keep African economies at the base of the value chain, where volatility and vulnerability intersect. To transform this trajectory, regional processing and value addition must be viewed not as optional industrial ambitions but as imperatives for sovereignty. Building domestic refining, battery assembly, and component manufacturing can unlock new multipliers across skills development, research capacity, and digital infrastructure.

20 U.S. Geological Survey (2025), 2022 Minerals Yearbook, https://pubs.usgs.gov/myb/vol1/2022/myb1-2022-cobalt.pdf
21 African Development Bank (AfDB) & Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF). (2025, August). Critical Minerals for Africa's Inclusive Growth and Development. African Development Bank
22 Center for Strategic and International Studies (2025), Building Critical Minerals Cooperation Between the United States and the Democratic Republic of the Congo, https://www.csis.org/analysis/building-critical-minerals-cooperation-between-united-states-and-democratic-republic-congo
23 U.S. Geological Survey. (2024, September 29). What are critical minerals?

South–South cooperation offers a pathway to rewrite the logic of value chains by linking Africa's mineral wealth to the manufacturing strength and technological know-how of other emerging economies. Through coordinated industrial policy and regional integration, Southern nations can begin to move from being rule-takers in the global economy to rule-shapers in the green transition.

1.2.2 Political economy dynamics: from geological endowment to the power to govern

The central question is not whether Africa is critical to the transition — that much is evident. The real question is how to turn geological endowment into the power to govern. Control over resources must translate into control over rules, standards, and outcomes. That requires a shift from extractive governance to transformative governance, from managing the resource to mastering its political economy.

This transformation begins with a narrative: Africa must redefine what "critical" means in terms not only of the minerals' role in global decarbonization, but also of their function in continental transformation. Critical minerals should be critical for industrialization, regional infrastructure, food security, and digitalization — the engines of long-term resilience and sovereignty.

The continent must also build the collective capacity to negotiate through the continental frameworks, regional blocs, and strategic partnerships that align mineral governance with the African Union's Agenda 2063. Fragmented nations cannot counter-balance concentrated global power — but a united front can turn resource wealth into leverage for investment, innovation, and fair market access.

1.3 The Broader Development Imperative

Critical minerals are not just commodities for export — they represent an opportunity to forge a new social contract between the state, the market, and citizens. Managed properly, critical minerals can finance infrastructure, diversify African economies, and secure access to clean and affordable energy.[24] But without a deliberate policy shift, they risk deepening the very extractive path that development has long sought to escape.

The world needs Africa, not for its resources alone, but rather for its leadership. This leadership should be anchored in the continent's ability to enable growth while advancing decarbonization, and in its capacity to manage green industrialization despite having one of the world's lowest carbon footprints. If Africa gets the transition right, it will occupy a vanguard position in global development — no other continent has had to industrialize under such constraints.

Even from an industrialization perspective, Africa's trajectory has always been distinct. It cannot follow Europe's path, having been positioned historically as part of the peripheral structure that fuelled the Industrial Revolution. Nor can it replicate Asia's experience, which was supported by external financing and donor backing, primarily from the United States. Africa faces a different reality of constrained fiscal space, limited access to concessional finance, and an ecological bandwidth that cannot accommodate brown, carbon-intensive growth.

Yet within these constraints lies Africa's opportunity. Its resources can hoist it into a leadership role — not merely as a supplier of raw materials, but as a manager of its own governance systems and a driver of innovation. Leadership, in this context, means managing resources wisely, building the institutions that underpin trust, and redefining the moral and developmental compass of the global green transition.

If history has locked Africa into extraction, the future must be about emancipation through cooperation.[25] The question is not whether the world needs Africa — it does, profoundly — but whether Africa can use that indispensability to reclaim economic sovereignty. The continent's minerals can be more than the raw inputs of the next industrial revolution; they can be the basis of a new developmental covenant grounded in justice, reciprocity, and shared prosperity.

South–South collaboration, regional value chains, and climate-conscious industrialization together hold the key to this transformation. Africa's mineral wealth can either reinforce dependency or rewire the global transition toward equity. The choice is not predetermined — but it must be deliberate, coordinated, and sovereign.

24 Byiers, B. (2023). Navigating Green Economy and Development Objectives: Opportunities and Risks for African Countries. ECDPM Discussion Paper 339.

25 United Nations Economic Commission for Africa. (2021). A Trip to 2030: Fostering Leadership and Transformative Change for Economic Diversification in Central Africa

2.1 Looking inwards and outwards: regional integration and south/south cooperation

2.1.1 Critical Partnerships for a Critical Future

Critical partnerships are essential for Africa's transformational mineral development. In essence, Africa's transformation begins at home. Looking inward first, the continent must deepen regional integration to turn its shared mineral wealth into shared industrial futures. The experience will need to pool infrastructure, align fiscal and industrial policies, and develop cross-border value chains in order to maximize profits, secure regional dividends, and create the scale needed for competitiveness.[26]

The Lobito Corridor linking Zambia, the DRC, and Angola to the Atlantic is not merely a transport project; it is a test case for how regional collaboration can be translated into collective industrial capacity.[27] Corridors such as Lobito or Walvis Bay–Trans-Kalahari can evolve from logistical backbones into battery corridors that move more than commodities — they move ideas, technologies, and regional value creation. Reliable energy access, rail-to-port efficiency, and digitalized customs systems are as critical to competitiveness as geology itself. The Lobito Corridor secured $2.3 billion in new investments in 2024–2025 through AfDB and US-EU initiatives, expanding its capacity by 40% to link copper and cobalt exports to Angola's ports. [28]

To make corridors work as instruments of industrial policy, Africa must institutionalize corridor authorities with investor-facing mandates and harmonized standards. Lessons from Asia and Latin America point to a threefold innovation formula: blended finance, green-specialized economic zones (SEZs), and open-data frameworks to anchor investor confidence.

26 Solan'g, S. O. (2025). Regionalizing African Mineral Value Chains. Resource Governance Institute. Retrieved from https://resourcegovernance.org/sites/default/files/2025- Afreximbank / African Continental Free Trade Area Secretariat. (2024). Regional Value Chains and Intra-African Trade Promotion. Retrieved from https://media.afreximbank.com/afrexim/Regional-Value-Chains-and-Intra-African-Trade

27 International Institute for Environment and Development (IIED). (2025, June). The Lobito Corridor: Opportunities and Challenges for a Just Transition. Organisation for Economic Cooperation and Development (OECD). (2025, April). The Lobito Corridor: Background Note

28 EU (2025). Connecting the Democratic Republic of the Congo, Zambia, and Angola to Global Markets through the Lobito Corridor. https://international-partnerships.ec.europa.eu/policies/global-gateway/connecting-democratic-republic-congo-zambia-and-angola-global-markets-through-lobito-corridor_en

Policy innovations to emulate include:

- Establishing corridor authorities empowered to regulate access, resolve disputes, and coordinate infrastructure and industrial standards.
- Deploying blended finance and public guarantees to attract investment in midstream processing and logistics infrastructure.
- Designating Special Economic Zones (SEZs) with fast-track issuing of green permits for refining, recycling, and clean-tech industries.
- Implementing open-access rail concessions to foster competition and ensure the inclusion of local and regional operators.
- Developing regional traceability and ESG frameworks to enhance transparency, accountability, and credibility in global markets. When corridors become industrial platforms, midstream processing — refining, precursor manufacturing, and recycling — can take place within Africa rather than abroad. This shift transforms trade corridors into developmental arteries capable of delivering both sovereignty and scale.

Africa's potential to transform its mineral resources into an economic boon goes far beyond merely playing host to these endowments: it requires building the infrastructure that can turn potentiality into actuality. Economic and material beneficiation must go hand in hand with strategic and geopolitical positioning, thus allowing Africa to reclaim its rightful place on the global stage as both a supplier of choice and an investor of worth.[29]

Local value creation must therefore sit at the heart of mineral development transformation. The Democratic Republic of Congo (DRC) has begun to show what this means in practice. By refining and processing cobalt domestically, the country increased its mineral value from 5.8 percent per kilo at extraction to 16.2 percent after basic processing.[30] This resulted in a thirty-six-fold increase in revenue — from roughly $167 million to $6 billion by 2022.[31]

29 AfDB and IGF 2025.
30 Ibid.
31 Ibid.

These examples illustrate how a regional trade in minerals is already emerging, though still modest in scale. In 2023, only about 12 percent of Africa's mineral exports were traded within the continent: copper concentrates moved from the DRC to Zambia for processing, nickel ores from Zimbabwe to South Africa, and manganese from South Africa to Namibia. Such exchanges mark the early steps toward a regional value network, one that, if deepened, could strengthen Africa's industrial base and collective bargaining power.[32]

However, value addition is only the beginning. Processing alone cannot guarantee stability. The benefits remain exposed to supply shocks, market distortions, and price volatility. Sustainable value creation must therefore extend beyond beneficiation to encompass diversified industrial linkages, sound fiscal regimes, and coordinated governance to shield against the cyclical nature of global mineral markets.

Looking outward, Africa must complement regional integration with strategic South–South cooperation. The global demand for energy-transition minerals presents a transformative opportunity — but only if Africa moves beyond mere extraction. According to recent research, if the continent were to add value to its transition-critical materials, it could unlock as much as US $32 billion in annual exports of processed minerals, while the International Energy Agency (IEA) projects that, with downstream processing and manufacturing, Africa's mineral value chain could increase to US $120 billion by 2040.[33]

For Africa to realize this potential, beneficiation must sit at the heart of its mineral strategy, refining, processing, manufacturing, and capturing the full economic value of its endowments.[34] Partnerships across the Global South can accelerate this agenda, offering lessons in mineral governance, coordinated industrial policy, and infrastructure-led transformation.[35]

Africa's most promising experiment in industrial collaboration — the Zambia–DRC Battery Council — embodies this dual vision. It seeks to move from extraction to electrification by manufacturing battery precursors and components on African soil, leveraging shared copper and cobalt reserves.[36] While the initiative has faced predictable constraints — financing gaps, grid limitations, and misaligned incentives — these challenges are solvable.[37] A regional battery ecosystem, rooted in upgraded power systems and harmonized standards, could deliver both scale and competitiveness.

In short, Africa's inward and outward gazes must converge — integration at home, cooperation abroad — to turn its minerals from a story of extraction into one of transformation.

2.1.2 South–South Collaboration as a Strategic Pivot

Critical minerals are not only about resources — they are about relationships, governance, and the partnerships that transform geology into strategy. In an era of fractured geopolitics and contested green transitions, Africa's most powerful lever lies in how quickly it can test and scale new solutions within the South–South arena.

Across the Global South, a distinct "southern playbook" for resource governance is emerging, one that privileges collective learning, policy courage, and ecological realism. For many developing countries, critical minerals are not merely high-value exports — they are the scaffolding of a new model of green industrialization that is redefining structural transformation for the twenty-first century.[38]

Structural transformation today is not just about producing more — it is about producing differently. It requires reconfiguring economies and institutions to create high-value jobs, stimulate innovation, and secure a sustainable energy future.[39] Yet, Africa faces sharper constraints — financial, infrastructural, and ecological.[40] The continent cannot replicate the carbon-intensive trajectory that European nations once followed, not least because it has limited ecological bandwidth within an already constrained global carbon budget. This reality compels a new development paradigm — one that is low-carbon, resource-efficient, and socially inclusive by design.

32 Ibid.
33 IEA Report 2024.
34 International Growth Centre. (2025). How Africa Can Make the Most of Critical Minerals. Retrieved from https://www.theigc.org/blogs/how-africa-can-make-most-critical-minerals
35 International Monetary Fund. (2024). Digging for Opportunity: Harnessing Sub-Saharan Africa's Wealth in Critical Minerals. IMF Regional Economic Outlook: Sub-Saharan Africa.
36 Resource Governance Institute. (2023, December 20). The DRC–Zambia Battery Plant: Key Considerations for Governments.
37 United Nations Economic Commission for Africa (UNECA). (2024, April 15). Zambia and DRC to implement an innovative transboundary battery and electric-vehicle industry Special Economic Zone.
38 Resource Governance Institute. (2024). Developing Around Critical Minerals in the Global South. Retrieved from https://resourcegovernance.org/events/beyond-extraction-developing-around-critical-minerals-global-south
39 United Nations Economic Commission for Africa (ECA). (2022, November 23). Africa should accelerate industrialization while pursuing low-carbon transition. Retrieved from https://www.uneca.org/stories/africa-should-accelerate-industrialization-while-pursuing-low-carbon-transition. Olaoye. (2025). "Structural Transformation and Sustainable Development in Sub-Saharan Africa." African Journal of Economic and Management Studies. DOI:10
40 Ibrahim Foundation. (2022). Africa's Critical Minerals: Africa at the Heart of a Low-Carbon Future. Retrieved from https://mo.ibrahim.foundation/sites/default/files/2022-11/minerals-resource-governance.pdf

The governance of minerals is now the governance of transition itself. Defining what is critical must become a sovereign act — deciding what is extracted, why, how, and for whom. Critical minerals must serve critical development goals. This demands a rethinking and a reimagining of governance systems that braid policy, finance, and production around the principle of shared value.

The "southernization" of mineral governance offers a pragmatic and forward-looking solution anchored in the lived experiments of the Global South.[41] Countries such as India, Indonesia, Brazil, and Chile have demonstrated that context-specific governance can successfully combine ambition with discipline.[42] Their experiences are not templates to copy but living laboratories from which Africa can adapt lessons to its own realities.

41 Brazil & Latin America. Critical Minerals Governance Strategies of Latin America. (2025).
42 India. India's Critical Minerals Strategy: Geopolitical Imperatives and Energy Transition Goals. Finnish Institute of International Affairs. (2024).

2.1.3 Southern Leadership and Lessons in Practice

Indonesia – Strategic Protectionism and Policy Courage
Indonesia has demonstrated that disciplined industrial policy can tilt global supply chains. Hence, by placing a ban on unprocessed ore products and mandating domestic smelting, Jakarta forced investment to relocate, building midstream capacity, jobs, and leverage. When market access is conditional and policy assertiveness is exhibited, it can transform dependency into negotiation power.

Chile – State Participation with Market Discipline
Chile's model of processing lithium and copper succeeded through effective public–private partnerships and a clear national strategy. The government combined equity stakes with strict performance requirements on value addition and R&D. This approach also strengthened fiscal resilience and institutional credibility — both essential levers of long-term success. Crucially, state participation in Chile's model is not synonymous with state control; rather, public interest is embedded within private enterprise.

Peru – Social License and Procedural Justice
Peru's experience demonstrates that investing in strong governance makes sense. The government also used both consultation and benefit-sharing strategies quite early in project design, and this disabled the potential for social conflict and built trust. Africa can also adopt similar inclusive and transparent approaches that foster stability and competitiveness.

Zambia–DRC – Integration for Industrial Scale
Within Africa, the Zambia–DRC initiative to co-develop battery precursor manufacturing marks a decisive step toward shared industrialization. The concept — shared minerals, shared power, shared markets — offers a continental prototype. Its challenges in finance, logistics, and regulation are solvable through pooled offtake agreements, harmonized standards, and regional delivery units that anchor accountability and scale.

2.1.4 The Political Economy of Southernization

Across these examples lies a set of political economy dynamics. The Asian experience demonstrates how the region has been able to combine resource policy with industrial strategy, as well as a range of other instruments, such as export controls, processing mandates, and infrastructure clusters embedded within deep finance-technology ecosystems. In Latin America, success has emerged from the region's institutional maturity and long-standing tradition of resource sovereignty, even as it continues to grapple with dependency on extraction.

Africa, by contrast, has the clearest normative framework — from the African Mining Vision to the emerging African Critical Minerals Strategy — but it remains constrained by fragmentation, logistics bottlenecks, and financing gaps. Despite these challenges, the institutional barriers remain considerable, e.g. the gaps between policy ambition and plant-level execution, and between sovereignty and refinery.

Closing these gaps will not come easily. The region will need to align its policy rhetoric with political coordination. This means that deliberate efforts must be taken to move from frameworks to factories. This requires national governments, regional blocs, and continental institutions to converge around clear and coherent industrial pathways, fiscal coherence, and shared infrastructure investment.

2.1.5 Toward a Southern Compact for Shared Prosperity

The next phase of transformation will depend on collective intelligence and cooperative power. A Southern Compact for Shared Prosperity, building on initiatives like C-MINK, could provide the institutional architecture for a new resource order. By federating research, pooling finance, and aligning standards, such a compact would move the Global South from reactive participation to rule-shaping leadership.

Africa, Latin America, and Asia share not just mineral wealth but histories of extraction and aspirations for sovereignty. The task now is to convert those shared struggles into a shared strategy. The minerals of tomorrow must power not only the global transition but also a Southern renaissance, one grounded in justice, collaboration, and innovation.

Yet solidarity without justice is fragile. A transition that makes technological or economic sense but fails to make human sense risks building on sand. Justice is not a moral luxury; it is the stabilizing force that gives sustainability its meaning. The absence of justice is as potent and as destabilizing as the greenhouse gases the world is seeking to eliminate. A truly just transition must reconcile economic logic with social legitimacy, ensuring that prosperity and dignity rise together.

The story of critical minerals is ultimately a story of justice. Questions of ownership alone cannot address the broader dimensions of justice — procedural, distributive, and intergenerational — that define the challenges ahead. It is not only about owning resources, but about owning the future those resources make possible. Africa's minerals have transformed economies elsewhere, even as its own economies remain locked in the starting blocks.

If trade flows continue to favour the export of raw materials, Africa's resource rents will remain small, jobs scarce, and governance fragile. This pattern locks nations into the margins of global production, sustaining a subordinate role in the very transition they make possible. The green economy risks becoming yet another colour of dependency unless the architecture of trade itself changes.

Redesigning the new order is not just about where minerals move, but also about how justice moves with them. Without it, corridors become conduits of extraction once more; with it, they become arteries of transformation.

Justice in the age of the green transition is not an abstraction; it is measurable in trade flows, in factories built, in skills retained, and in communities empowered. A trade-led transformation means that more value stays within Africa's borders: that copper is refined locally, that cobalt feeds regional battery industries, that lithium powers African-made vehicles, and that revenues are reinvested in social goods like health, education, and renewable energy.

When trade becomes inclusive, it redistributes opportunity. It shifts agency from boardrooms abroad to communities at home. It replaces the logic of extraction with the logic of participation. In this sense, trade policy is not peripheral to justice — it provides justice with its infrastructure. Through trade, Africa can transform minerals into manufacturing, manufacturing into markets, and markets into sovereignty.

Source: Center for Strategic and International Studies (CSIS, 2025)

2.2 Just transition an essential architecture of the transition

A just transition demands more than decarbonization; it requires decolonization.[43] The moral architecture of the global green economy must be reconstructed so that those who host the world's critical minerals can also host the industries, technologies, and innovations they make possible.[44] Justice cannot be outsourced: it must be embedded in the rules that govern finance, trade, and access to technology.

This new moral compact begins with reciprocity — that Africa's resources are traded on terms that reflect their true social and ecological value. It extends to recognition — that African expertise, innovation, and leadership are central to the world's journey to sustainability. And it culminates in redistribution — that wealth created by the global energy transition is shared more equitably across societies and generations. While the global transition is being played out in the interest of a safer planet and the need to scale up resources that will enable wider penetration of renewables and expand energy access, there is a persistent injustice that lies at the heart of the logic of the green transition. This injustice stems from the unequal distribution of value in wealth creation, which percolates from the national to the individual level — from the macro to the micro — where a cobalt or lithium miner earns only a fraction of the profits, while the multinational battery manufacturer claims the lion's share.

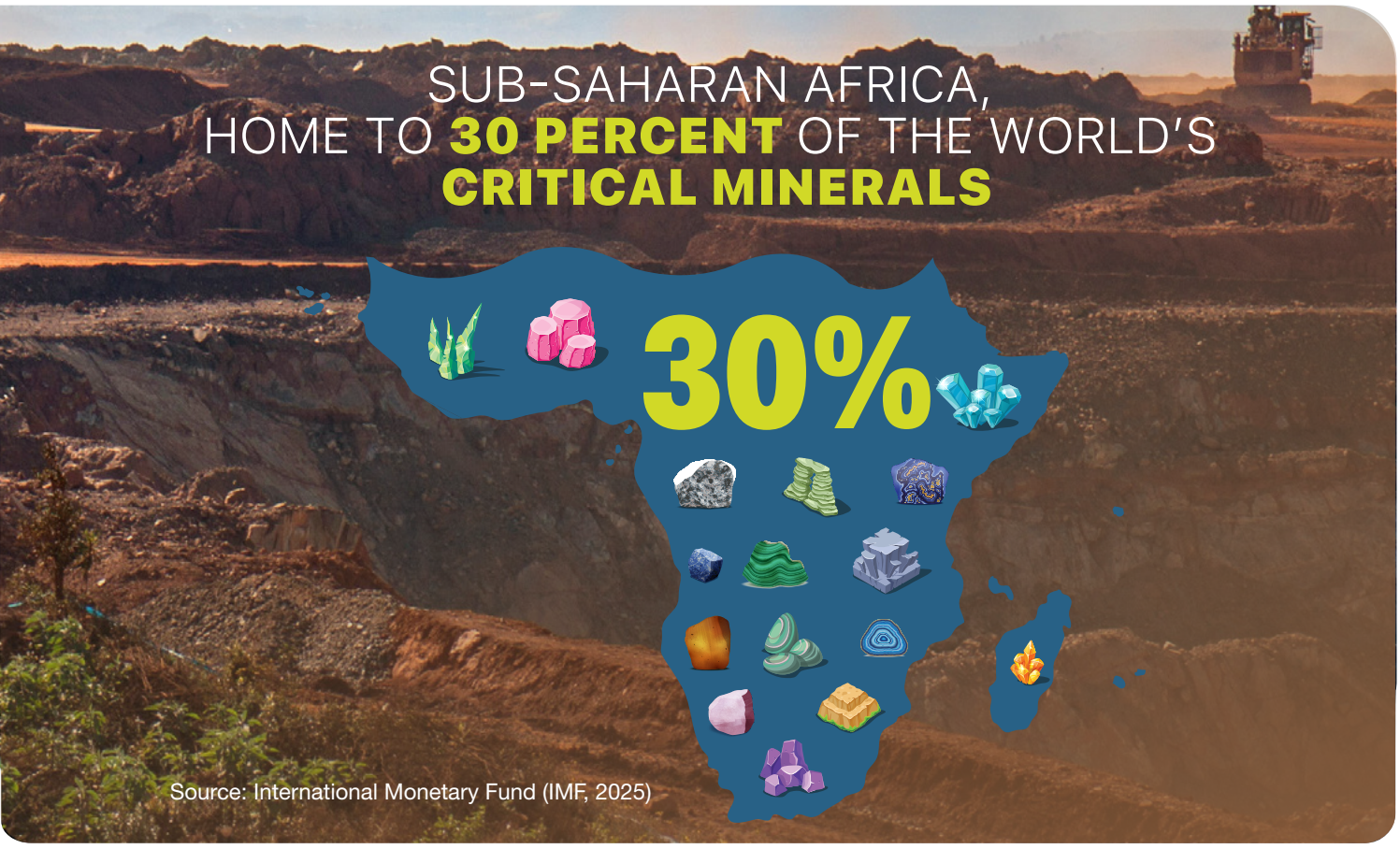
Meanwhile, the miner in Lubumbashi must contend with a full spectrum of health risks — from toxic exposure and unsafe shafts to shortened life expectancy. These power dynamics and asymmetries reveal the travesty of the extractive logic that continues to underpin and even catalyse the green economy. How can companies place a higher premium on the mineral than on the miner whose labour makes the transition possible? How can institutions and governments in mineral-rich countries focus on counting outputs rather than confronting the full scale of human and social vulnerability triggered by extraction?

This moral imbalance compels new forms of governance, a renewed call to action, and a heightened urgency to rethink the just transition — to turn it on its head and move towards a redefinition of what a just transition truly means — one that cannot be measured merely in accounting terms or by revenues from mineral exploitation, but in terms of welfare, security, fairness, inclusivity, safety, dignity, and environmental stewardship.

A justice-based green transition recognizes that prosperity, peace, and planetary stability are intertwined. It situates trade as a mechanism for restoring a balance — between North and South, between extraction and transformation, between today's consumption and tomorrow's inheritance.[45]

By asserting agency in trade negotiations, shaping standards, and deepening South–South partnerships, Africa can move from being a rule-taker to a rule-shaper. This requires coordinated trade and investment frameworks that prioritize beneficiation, climate-smart industrialization, and the fair taxation of global value chains. Justice, in this sense, is not reactive; it is an organizing principle for governance, diplomacy, and development.

43 Scheer, A. et al. (2024). Unjust Minerals: Investing in the changes needed for a just transition in the mining sector.
44 Zhou, R. K. (2024). Epistemic justice and critical minerals — Toward a planetary politics of transition (in Resources Policy).
45 Resource Governance Institute. (2025). Just transition and mining in Africa (Briefing)



2.2.1 Equity and justice as two faces of the same coin

Equity will be measured not by the number of mines opened, but by the number of industries born from them.[46] Not by tonnes exported, but by technologies built. Not by pledges made at climate summits, but by policies implemented at home. When trade flows begin to circulate value rather than extract it, the continent will have redefined what global justice means in practice.[47]

This is the promise of a new trade–industrial order, one that replaces extraction with inclusion, dependence with dignity, and scarcity with shared prosperity. Africa's minerals may fuel the world's transition, but its people must shape its direction.

The green transition will succeed only when it is also a just transition. Justice is the compass that keeps sustainability aligned with humanity. Africa's agency in trade and industrial transformation is therefore not an act of defiance but an act of balance — a reassertion that development, when fairly governed, can repair both economies and ecosystems.

BOX 2: Lithium in Africa

Lithium in Africa: Global demand for lithium is projected to grow eightfold by 2040[48], driven by the rapid expansion of electric vehicles, energy storage, and AI technologies. Africa is emerging as a strategic supplier, with Zimbabwe hosting extensive hard-rock lithium deposits and Ghana recently discovering commercial reserves.[49] Raw spodumene concentrate sells for about US $670–685 per tonne, while processed, battery-grade lithium carbonate fetches US $9,000–12,000 per tonne, revealing enormous value gaps. [50/51] To capture this value, Namibia, Ghana, and Zimbabwe have banned the export of unprocessed critical minerals, including lithium, signalling a push for downstream value addition and industrialisation. Zimbabwe, after its 2022 export ban, is targeting a US $12 billion mining economy by 2030. [52]

46 Riggs, R. A. (2025). "Grounding critical minerals in values-centred approaches." Sustainability Science.
47 Publish What You Pay & Resource Justice. (2024). How Can Africa Make the Most of Its Transition Minerals.
48 Financial Times (2024), Tough terrain ahead for investors in energy transition minerals, https://www.ft.com/content/54123a3a-ffb3-4429-a846-9da08b863e9a
49 Center for Strategic and International Studies (2023), Prospects for U.S. Minerals Engagement with Africa, https://www.csis.org/analysis/prospects-us-minerals-engagement-africa
50 EnergyX | Energy Exploration Technologies, Inc., (2025), Lithium Prices in Q2 2025: Market Snapshot, https://energyx.com/blog/lithium-prices-in-q2-2025-market-snapshot/
51 Devere (2025), Insights Lithium Price Outlook 2025: Oversupply Weighs on Prices, https://www.devere-group.com/lithium-price-outlook-2025-oversupply-weighs-on-prices/
52 Energy Capital and Power (2024), Unlocking Africa's Potential: The Critical Minerals Boom and economic growth, https://energycapitalpower.com/unlocking-africas-potential-the-critical-minerals-boom-and-economic-growth/

3.1 Redesigning the Mineral Order: Justice, Governance, and Transformation

Redesigning the new mineral order begins with a reckoning — an acknowledgment that Africa cannot build a just transition on the scaffolding of an unjust past.[53] The continent's mineral economies were historically structured as extraction enclaves, designed to export wealth outward rather than circulate prosperity inward. To correct this imbalance, Africa must design an order that integrates justice into the architecture of growth, one where governance, infrastructure, and equity reinforce each other rather than compete.

Most of Africa's mineral wealth will remain potential, failing to produce prosperity if the foundations are weak. The connective infrastructure — roads, rail, power grids, ports, and digital networks — must be built not as afterthoughts to extraction but as instruments of transformation.[54]/[55] The same infrastructure once created to serve external metropoles must now be reimagined to serve Africa's industries, cities, and citizens. This is not just an engineering challenge — it is a political one. Infrastructure determines who benefits and who remains excluded.

The transition to a low-carbon economy offers a generational chance to rebuild these foundations. Corridors must evolve from transport routes into development compacts, multi-country platforms that combine trade logistics, power generation, industrial processing, and digital connectivity.[56] They must anchor a new mineral order where Africa defines its own criticality, captures its own value, and commands its own markets.

Governance is the linchpin. The new order demands capable, transparent, and proactive states that do not merely regulate extraction but steer industrialization. Every successful mineral economy rests on such governance guardrails — the fiscal, institutional, and infrastructural mechanisms that align resource extraction with national development.[57] Comparative experiences from Asia and Latin America demonstrate the architecture of success:

- Strong governance frameworks that subordinate mining to national priorities.
- Transparent fiscal regimes that secure fair rents and reinvest in social goods.
- Robust local content policies linking extraction to manufacturing and skills development.
- Sustained investment in energy, transport, and human capital to power downstream industries.

Africa's challenge is not only geological; it is profoundly institutional. Many countries still compete through tax concessions or regulatory leniency, attracting investment in the short term, but losing leverage in the long term. The result is a pattern where raw ores are exported, revenues leak offshore, and innovation stalls.[58] This is the political economy of dependency — abundance without autonomy, growth without transformation.

Learning from the South offers both inspiration and caution. Asia captures the largest downstream share because it has deliberately fused resource policy with industrial strategy, backed by dense infrastructure and finance ecosystems.[59] Latin America, though richer in institutional traditions, remains more extraction-centric, even as it advances new models of state participation.[60] Africa has the clearest policy vision — from the African Mining Vision to the Critical Minerals Strategy — yet it struggles with policy-to-plant translation that would turn sovereignty into refineries, frameworks into factories.[61]/[62]

Redesign, therefore, is not just a technical project but a justice project. It is about redistributing power across the value chain and ensuring that communities see tangible returns from the wealth beneath their feet. Transparency, accountability, and fair participation must be treated not as moral ideals but as conditions of competitiveness. A green transition built without justice will be as destabilizing as the carbon crisis it seeks to resolve.

To avoid the mistakes of the past, Africa must govern for the future — anticipating rather than reacting. This means embedding environmental safeguards, labour rights, and social inclusion into the very fabric of competitiveness. Justice, in this sense, becomes the ultimate measure of success: not how much Africa exports, but how much it uplifts.

53 Resource Governance Institute. (2025). A Global Call for Equity in Mineral Value Chains at COP30.
54 African Development Bank & International Institute for Sustainable Development. Critical Minerals for Africa's Inclusive Growth and Development. August 2025.
55 Natural Resource Governance Institute. (2025). Regionalizing African Mineral Value Chains: Requirements for Success.
56 Lobito Corridor. The development of the Lobito Corridor offers immense opportunities for trade, economic transformation, development and regional integration. International Energy Agency. Stepping Up the Value Chain in Africa: Minerals, materials and manufacturing
57 International IDEA. Mineral Resource Governance in Africa: A Comparative Study. (2025)
58 South African Institute of International Affairs. (2025). Embedding Minerals Sovereignty in Africa's Mining Value Chains
Resource Governance Institute. (2025). Regionalizing African Mineral Value Chains: Requirements for Success.
59 Hilman Palaon. (2025, August 15). Why downstreaming policies in Asia struggle to deliver. East Asia Forum.
60 M. Arsel. (2016). The extractive imperative in Latin America. (Rep. 94876). EUR Nijmegen.
61 African Union. (2009). Africa Mining Vision: Transparent, equitable and optimal exploitation of mineral resources to underpin broad-based sustainable growth and socio-economic development. Addis Ababa: African Union.
62 African Union. (2025). Africa's Green Minerals Strategy. Addis Ababa: African Union.

Governance holds the key to Africa's mineral transformation. The new mineral order demands capable, transparent, and accountable institutions that can bridge the gap between extraction and transformation. Effective governance is not only about regulation; it is about direction — steering mineral policy, fiscal design, and industrial strategy toward long-term public value.

Every successful mineral economy rests on a foundation of such guardrails — fiscal, institutional, and infrastructural mechanisms that align extraction with inclusive development. Comparative experiences from Asia and Latin America demonstrate the architecture of success:

- **Strong national frameworks** that integrate mining into broader industrial and energy strategies.
- **Transparent fiscal regimes** that capture a fair share of rents and reinvest them in infrastructure, innovation, and social protection.
- **Robust local content and procurement policies** that connect extraction to domestic value chains and job creation.
- **Sustained investment in enabling infrastructure** — transport, energy, water, and human capital — that underpins industrial diversification.

To these, Africa must now add a new generation of governance measures:

1. Institutional Coordination and Capacity

- Establish continental and regional coordination bodies under the African Union and RECs (Regional Economic Communities) to harmonize standards, align incentives, and pool negotiation expertise.
- Strengthen mineral oversight agencies with mandates that cut across ministries of mining, finance, industry, and environment, ensuring policy coherence from pit to port.
- Create regional centres of excellence for mineral governance and fiscal analysis to generate evidence-based policymaking and support the negotiation of complex investment contracts.
- Professionalize public institutions through training and peer exchanges with other Southern counterparts (e.g., Indonesia's industrial policy units, Chile's mining commission).

2. Transparency and Accountability

- Create and improve governance frameworks like the Extractive Industries Transparency Initiative (EITI) to normalize disclosure related to revenues so that they are made public, and so that contracts, impacts on the environment, and benefits to the community become more transparent.
- Encourage a culture of digital transparency platforms that allows citizens and parliaments to see and follow the flow of money in real time for production, exports, royalties, and social investments.
- Invest in making parliamentary oversight and public reporting on how mineral revenues are spent a regular part of the system. This should include making public data on how much money is spent on local development.
- Institute stringent laws against capital flight by giving independent audit authorities and anti-corruption bodies the power to work together across borders to stop illegal financial flows.

3. Governance of the environment and society

- Make environmental and social protection safeguards an ordinary aspect of being competitive, and not just a burden of compliance. This includes clear climate disclosure obligations and rehabilitation funds.
- Establish mandatory community development agreements (CDAs) that include clear commitments to local content and social investment.

4. Develop Regional ESG Certification Frameworks

- Establish Africa-wide Environmental, Social, and Governance (ESG) certification frameworks that are harmonized with international benchmarks but tailored to reflect African contexts and realities. Such systems will enhance credibility, strengthen compliance, and build investor confidence in Africa's mineral governance standards.

5. Strategic Foresight and Adaptive Regulation

- Where relevant, create foresight units in key ministries responsible for mineral development to follow shifts in global markets and to stay in tune with technological innovation and demand cycles. These units will ensure that governance remains agile, evidence-based, and responsive to emerging trends.

Conclusion.

Africa's bold leap – championing decarbonizing and defining criticality

Africa has the resources the world needs for a transition away from brown economies — but ownership does not mean control. Its resources should not trigger a new 'scramble'; rather, they should create new opportunities for investment, for managing political-economy dynamics, and for building a rule-based governance architecture. The infrastructure that once sustained extraction for others must remain a relic of the past; it should not follow the region into the twenty-first century. New urgencies and exigencies demand new modes of conduct — infrastructure that connects beneficiation to value creation, and policy frameworks that align sovereignty with sustainability.

Africa's criticality is obvious to the rest of the world, given its rich endowments in mineral resources, but its criticality must extend beyond geology to leadership. With less than four percent of global emissions, Africa is already a green continent — a region to emulate. Yet to claim this leadership, it must get its foundations right: building the infrastructure for beneficiation, positioning itself geopolitically as both a supplier of choice and an investor of worth, strengthening regional corridors to reduce supply-chain vulnerabilities, and ensuring that environmental and social safeguards prevent its mineral wealth from becoming a poisoned chalice.

To achieve this, Africa must first look inward — deepening regional integration, pooling infrastructure, harmonizing fiscal and industrial policies, and expanding cross-border value chains. It must also look outward by forging critical partnerships with the rest of the Global South. There is much to learn from partners who share similar histories and ambitions: from Indonesia's assertive industrial policies to Chile's state-led innovation, and from the Zambia–DRC collaboration on battery processing to Brazil's blend of renewable energy and mineral governance. These "southernization" levers can elevate Africa's mineral policy from supplier status to sovereign strategy.

However, the lessons of the South also return us to the enduring imperatives of governance, trade, and justice. Africa cannot repeat the mistakes of the past; it must learn from them and grasp the autonomy to craft a truly sovereign mineral policy. The continent can serve the world with the resources it needs for decarbonization, but it can also lead the process.

For once, the global urgency to decarbonize does not position Africa solely as a victim of externalities but as a central actor in the solution. The very minerals that underpin the energy transition — lithium, cobalt, copper, nickel, manganese — are abundant across African soil. This shifts the narrative from burden to opportunity, from passive recipient to strategic enabler of global carbon abatement.

Africa, which neither caused the climate overshoot nor benefited from the carbon-intensive industrial past, now finds itself at the heart of the technologies that are designed to reverse it. If managed with foresight, this historical irony can become a turning point: the continent that bore the costs of externalities can now claim rightful value for the services it provides to the planet's low-carbon future.

The demand for critical minerals offers Africa a dual advantage. Economically, it creates new pathways for industrialization and investment — linking extraction to manufacturing, renewable energy deployment, and value chain integration. Politically, it allows Africa to assert control and sovereignty over the terms of engagement, ensuring that profits from mineral exports are reinvested domestically in infrastructure, innovation, and social development.

In effect, Africa can trade its mineral resources not as raw commodities but as strategic inputs into a decarbonized world, commanding fair returns for their contribution to global climate goals. By capturing value through local processing, technology partnerships, and equity stakes in downstream ventures, African countries can transform mineral wealth into climate wealth — a source of both economic growth and planetary stewardship.

This inversion of roles — from object of control to agent of control — is redefining the continent's political economy. It positions Africa not at the receiving end of global climate finance but at the epicentre of global climate solutions, where resource governance, industrial capacity, and environmental responsibility intersect. For the first time, Africa can hold both the resources and the rights to shape the terms of a cleaner, fairer, and more resilient world.

COP 30 thus offers more than a negotiating platform; it is a test of solidarity politics — a moment for the Global South to lead not from the margins but from the centre. By standing together as architects, agents, and enablers of a just, green, and inclusive mineral order, Africa and its partners can redefine what a fair energy transition looks like — one powered not by dependency, but by shared sovereignty and vision.

Annex 1

Table 1: Key Critical and Transition Minerals in Africa

Mineral	Key African Producers	Main Uses	Relevance to Energy Transition
Cobalt (Co)	DRC, Madagascar	Batteries for electric vehicles, aerospace alloys	Essential for lithium ion batteries and energy storage
Lithium (Li)	Zimbabwe, Namibia, Mali, DRC	EV batteries, renewable energy storage, electronics	Key for decarbonizing transport and power systems
Manganese (Mn)	South Africa, Gabon, Ghana	Steel production, battery cathodes	Improves battery stability and reduces cobalt reliance
Copper (Cu)	Zambia, DRC, Namibia	Electrical wiring, motors, power grids	Core to renewable energy infrastructure and EVs
Nickel (Ni)	South Africa, Madagascar	EV batteries, stainless steel	Vital for high energy density batteries
Graphite (C)	Mozambique, Tanzania, Madagascar	Battery anodes, lubricants	Critical for battery performance and longevity
Platinum Group Metals (PGMs)	South Africa, Zimbabwe	Hydrogen fuel cells, catalytic converters	Supports hydrogen economy and emission reduction
Chromium (Cr)	South Africa, Zimbabwe	Stainless steel, alloys	Enables clean steelmaking and corrosion resistance
Rare Earth Elements (REEs)	Burundi, Malawi, Madagascar, Tanzania	Wind turbines, EV motors, electronics	Essential for magnets and renewable energy technology
Vanadium (V)	South Africa, Namibia	Grid scale batteries, steel alloys	Used in redox flow batteries for energy storage
Uranium (U)	Namibia, Niger	Nuclear power generation	Supports low carbon baseload energy
Bauxite (Al)	Guinea	Aluminium production	Lightweight material for EVs, solar frames, and packaging
Iron Ore (Fe)	South Africa, Mauritania	Steel production	Needed for renewable infrastructure and construction

Source: USGS[59], UNCTAD[60], IRENA[61],IEA[62], IMF[63]

59 U.S. Geological Survey (USGS). (2024). Developments in African industrial minerals for renewable energy, https://www.usgs.gov/publications/developments-african-industrial-minerals-renewable-energy
60 UNCTAD 2023, Critical Minerals and Routes to Diversification in Africa: Linkages, Pulling Dynamics and Opportunities in Medium-High Tech Supply Chains, https://unctad.org/system/files/non-official-document/edar2023_BP1_en.pdf
61 IRENA, Geopolitics of the Energy Transition, https://www.irena.org/Digital-Report/Geopolitics-of-the-Energy-Transition-Critical-Materials
62 International Energy Agency (IEA). Global Critical Minerals Outlook 2025, https://www.iea.org/reports/global-critical-minerals-outlook-2025
63 Harnessing Sub-Saharan Africa's Critical Mineral Wealth, IMF (2025), https://www.imf.org/en/News/Articles/2024/04/29/cf-harnessing-sub-saharan-africas-critical-mineral-wealth

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