#TheAfricaRoundtable

Policy Brief

# Towards Value Addition for Africa's Critical Minerals

## Key Issues for Policymakers

**4 December2025 | Berlin**

This Policy Brief was created for the ninth edition of *The Africa Roundtable* by

ACET African Center for Economic Transformation

**Authors**
Julius Gatune & John Asafu-Adjaye
*African Center for Economic Transformation (ACET)*

**Global Perspectives Initiative**
*Global Perspectives Initiative* is a non-profit and independent dialogue platform based in Berlin, Germany. Global Perspectives works towards enhanced engagement and responsibility for sustainable development by German and European decisionmakers and aims to strengthen African perspectives in policy making. To this end, *Global Perspectives* regularly brings together decision-makers from business, academia, politics, media, and civil society to discuss new approaches, provide new impulses and raise awareness on the common opportunities and challenges the two neighboring continents are facing.

**The Africa Roundtable**
*The Africa Roundtable* is the forum for decision-makers from the political, business and civil society spheres in Europe-Africa cooperation. It deals with pressing issues and challenges of the neighboring continents and develops partnership-based solutions and models for future cooperation. Twice a year, the Africa Roundtable gathers its participants, alternating between the European and the African Continent. Prior publications ensure a fact-based discussion, which is concluded with action recommendations. Regular text contributions in pre- and postprocessing, complete the program and ensure a continuous dialogue.

Policy Brief

# Towards Value Addition for Africa's Critical Minerals

## Key Issues for Policymakers

### BACKGROUND

The world is on the cusp of a massive transition spurred by the ongoing digital and green transition– the so-called Twin Transition.[1] This is occurring amid heightened geopolitical tensions that are driving a surge in demand for minerals. The digital transition has driven increased demand for minerals used in communication, processing devices, and related infrastructure. Examples include Tantalum (or Coltan), Tin, and Tungsten—the 3Ts —which are fueling conflicts in Africa. The green transition is fueling demand for so-called green materials used to produce, store, and transmit solar, wind, and other renewable energy. The rising global tensions will lead to increased military spending and a higher demand for critical resource materials (CRMs), some of which (e.g., rare earth elements, REEs) are needed in armaments production.

CRMs may be defined as minerals or metals that are: (i) essential for the functioning of modern technologies, economies, or national security, and (ii) there is a risk that their supply chains could be disrupted. CRMs may not be critical for many African countries because they do not process or use them. Additionally, many African countries do not depend on global supply chains for CRMs. However, from an African perspective, we define criticality as minerals that are in demand due to the three transitions mentioned above. These minerals also have the potential to drive economic transformation and help build regional and global supply chains across the continent.

Africa is estimated to hold approximately 30 percent of the world's proven CRM supplies. The continent already contributes significantly to the production of cobalt, graphite, manganese, platinum group metals (PGMs), and chromium. For example, the Democratic Republic of the Congo (DRC) accounts for approximately 74 percent of global cobalt production. It holds about 50 percent of the global proven reserves, while South Africa, Gabon, and Ghana collectively account for over 60 percent of global manganese production.[2] Most of Africa's CRMs are exported in their raw

---

[1] Gao, X., T. W. Hansen, P. R. Blind, and B. S. Lund. (2024). The EU's Twin Transitions towards Sustainability and Digital Leadership: A Coherent or Fragmented Policy Field? *Regional Studies*.

[2] International Monetary Fund, IMF (2024). Digging for Opportunity: Harnessing Sub-Saharan Africa's Wealth in Critical Minerals. Regional Economic Outlook, Analytical Note, Sub-Saharan Africa.

form. For example, the DRC exports approximately 97 percent of its cobalt, mostly unprocessed, to China.[3] Only 2 percent of these minerals' exports end up in other African countries. By focusing on raw commodity exports, African countries are losing substantial potential revenues. Local processing of CRMs would not only significantly boost profits and increase tax revenues, but it could also help create higher-skilled jobs and enable countries to diversify their economies, thereby reducing their vulnerability to commodity price swings. More crucially, they can be the basis for green industrialization and for integrating Africa into global green economy value chains.

African countries, however, face multiple challenges in setting up mineral processing facilities. Key among these challenges are difficulties securing financing, a lack of technical capacity, inadequate infrastructure, the scarcity of affordable and clean energy, and insufficient regional collaboration. Future projections indicate an exponential rise in demand for CRMs as advanced countries rush to secure supplies for their energy and digital transitions. This scramble for minerals has led to an escalating rivalry between the United States and China, both eager to control critical mineral supply chains. As a result, there has been a recent increase in multilateral, bilateral, or state-to-state agreements between African countries and Western countries aimed at securing access to CRMs.

To date, Africa's agenda and goals have largely been overlooked in discussions surrounding CRMs, which have primarily focused on how Western countries can access these minerals or on countering China's growing global influence. However, given Africa's unique position as a significant source of CRMs, there is an opportunity to forge a new era of collaboration among Africa, the Global North, and China that will strengthen local capacities to harness CRMs for sustainable development across the continent. The paper argues that, because no single country has the capacity to address all these challenges, regional collaboration is key to developing green regional value chains across the continent.

## 1 DISTRIBUTION OF AFRICA'S CRITICAL MINERALS

Africa produces 23 CRMs, with 36 countries producing at least one mineral.[4] The least produced minerals are PGMs, produced by Zimbabwe and South Africa, and arsenic and vanadium, produced by Morocco and South Africa, respectively. There is considerable regional disparity in mineral production. Central Africa accounts for

[3] Altiparmak, S.O., Waters, K., Thies, C.G. and Shutters, S.T. (2025). Cornering the market with foreign direct investments: China's cobalt politics. Renewable and Sustainable Energy Transition7(2025)100113.

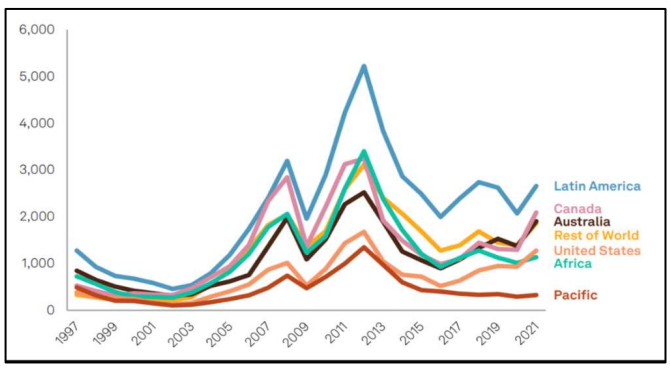
[4] The list includes aluminum, arsenic. Bauxite, chromium, cobalt, copper, graphite, iron, lead, lithium, manganese, nickel, niobium, rare earths, PGMs, silver, tantalum, tin, titanium, tungsten, vanadium, zinc, and zircon. Source: World Mining database.

the bulk of production of key CRMs, including cobalt, tantalum, manganese, copper, tin, and niobium. Southern Africa is the other key region, leading in the production of Platinum Group Metals (PGMs), chromium, zirconium, graphite, vanadium, iron, nickel, rare earth elements, and lead. West Africa has the largest number of countries (11) producing CRMs, followed by Central Africa with four countries. Production of many of these minerals has been increasing over the past decade.

Africa is yet to fully realize the potential of its mineral resources. This situation is largely driven by the generally low level of geological knowledge in many countries. Indeed, Collier and Laroche (2015) point out that resource extraction per square kilometer in Africa is about 20 percent of the Organization for Economic Cooperation and Development (OECD) average.[5] Africa's total extraction volume could easily grow fivefold; however, mineral deposits must be found before they can be exploited.

Geological data is key to attracting investments in mining. However, Africa has not been able to attract exploration investment. For example, sub-Saharan Africa's mining exploration budget in 2021 was the second lowest in the world (see Figure 1), roughly half that of Canada's, despite having triple Canada's surface area. Latin America is the most attractive region for mineral exploration, accounting for 20 percent of the exploration budget ($40 billion). Africa's share of the exploration budget was 12 percent in 2022 ($24 billion), and the trend indicates it has been falling somewhat. Between 1997 and 2021, Canada's exploration budget rose by 62 percent annually, followed by 39 percent in Australia, 37 percent in the U.S., and 29 percent in Latin America, while Africa's budget grew by only 12 percent. Further, most exploration remains concentrated on gold rather than on minerals critical to the clean energy transition.[6]

*Figure 1. Mining Exploration Budgets by Region, 1997-2021 (USD millions)*




*Source: S&P Global (2022)*

[5] Mineral assets of sub-Saharan Africa are worth about $45,000 per square km. In comparison, known subsoil assets in the OECD are estimated at $265,000 per square km (Collier and Laroche, 2015).

[6] Baskaran, G. (2022). Could Africa replace China as the world's source of rare earth elements? Brookings Institution – Africa in Focus Blog. December 29.

## 2 NATIONAL-LEVEL POLICIES TO SUPPORT MINERAL-BASED GREEN INDUSTRIALIZATION

Many African countries have now implemented a variety of local content (LC) policies. Some countries have specific LC targets, while others have none. For example, the DRC requires at least 30 percent of a company's capital stock to be held by Congolese citizens, and 60 percent of the technical staff or executives in Joint Venture (JV) companies to be Congolese.[7] On the other hand, Sierra Leone's local content policy gives no formal targets; it is essentially a statement of intention. An analysis of LC policies across 17 countries shows that they are mainly focused on local ownership, local procurement, and local employment.[8]

While the renewed focus on leveraging CRMs to drive economic development is laudable, concerns arise that the way many LC policies have been framed may not capture the expected benefits. While LC policies can serve as a foundation for industrialization, the ones we have analyzed here tend to focus on mining rather than processing and manufacturing. This is likely because downstream activities are much harder to bring into a country because global production networks are already well established. For example, Switzerland is by far the most important center for commodity trading, accounting for two-thirds of international trade in base metals. These global trading and manufacturing networks are much harder to reorganize. However, increased concern about CRM security in the Global North has created an appetite for reorganizing supply chains. This provides an opportunity for national LC laws to stimulate green industrialization.

A recent analysis of mining competitiveness by the Fraser Institute showed that although African countries generally have high mining potential, they tend to have poor policy environments, as measured by their Policy Perception Index (PPI) scores that deter exploration investment (Figure 2).[9] This sets off a vicious cycle: less investment means less data available and thus lower mining potential, which further depresses investment. On the other hand, improving the policy environment can attract investment, further enhancing mining potential and starting a virtuous cycle. Access to basic geological data is key. This is mainly done through country geological survey entities. Studies conducted in Australia, Canada, Chile, and the United States found that every $1 that the State invests in geoscience creates an

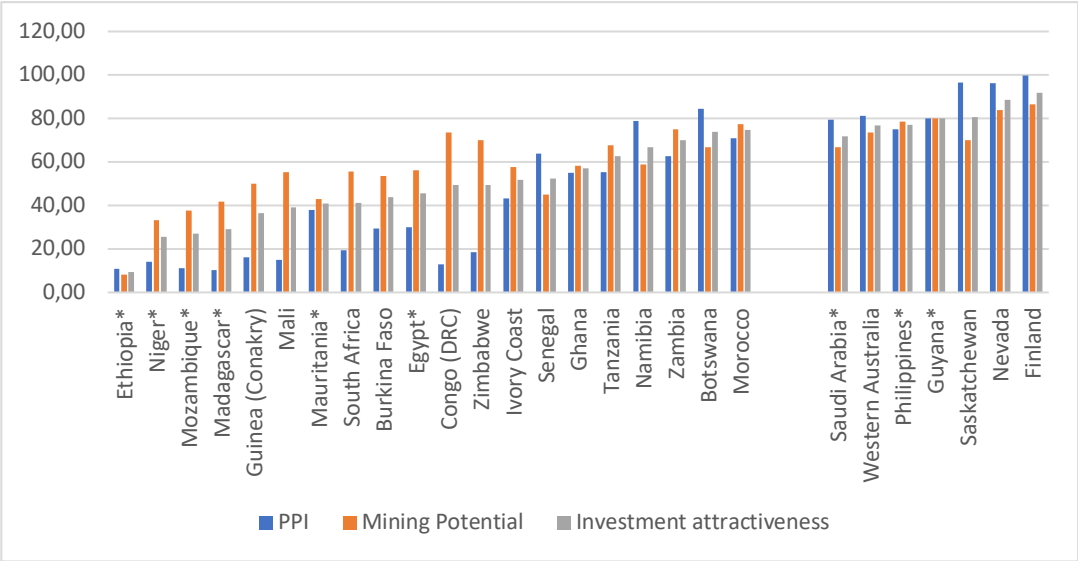
[7] Akele, P.O.M. and Takor, A.M. (2020). The Republic of Congo creates a new legal framework for local content**.** Centurion Law Group. February 13

[8] Gatune, J. (2024). Engaging the private sector for inclusive extractive industries and sustainable value chains in Africa. In 'A Look at Local Content Policy and Practice in Africa'. In *Routledge Handbook of Natural Resource Governance in Africa*, (eds.), Besada, H., D'Alessandro, C., and Galla, T. London: Routledge.

[9] The PPI measures the effects of government policy on attitudes towards exploration investment.

opportunity to attract $5 in mineral exploration investment within 3-5 years, which culminates in a direct return on investment of $125 in the medium to long term.[10]

*Figure 2. The Fraser Institute Investment Attractiveness Index Scores for Selected African Countries*




*Source: Mejia and Aliakbari (2024)*

## 3 REGIONAL COLLABORATION TO DEVELOP GREEN REGIONAL VALUE CHAINS

As indicated earlier, Africa produces 23 minerals, with 36 countries producing at least one. Therefore, there is generally insufficient scale to make mining competitive. Furthermore, countries struggle to capture the benefits of CRMs due to a lack of skills, access to technology, investment, and infrastructure. Given that no one country has the capacity to develop all the needed skills, a regional approach could help address these challenges. Regional collaboration has several benefits. First, regional procurement would be more attractive to extractive companies due to economies of scale and a greater pool of available skills. Second, a regional approach could ensure a coherent LC policy that prevents a race to the bottom in fiscal frameworks where countries compete to provide incentives. Third, a regional strategy can have countries specializing in different nodes of the value chain (VC) and would be essential to fully leverage the diversity of CRMs. Green industrialization requires combining multiple minerals scattered across the region. Finally, a regional approach would create a bigger market that could attract investments.

Two possible regional approaches are emerging and could be a good starting point: leveraging areas where Africa already has global production dominance; leveraging

[10] Republic of South Africa. (2022). *Report on the economic return of state-funded geoscience programs*. Department of Mineral Resources and Energy, Pretoria.

existing footholds in the EU and the US; and leveraging emerging cross-border transport corridors.

### 3.1 Leveraging areas of production dominance

Africa accounts for much of the production of certain CRMs. Southern Africa dominates PGMs; Central Africa dominates cobalt, copper, and manganese; East Africa dominates graphite production; West Africa has a substantial share of bauxite production; and North Africa dominates phosphates. This provides nodes around which clusters could be built. The 2022 landmark agreement between Congo and Zambia to develop battery VC clusters is an example of this approach**.** The two countries have joined forces, with backing from the private and public sectors, to establish Special Economic Zones (SEZs) to process nickel, manganese, and cobalt locally to produce batteries and electric vehicles (EVs). South Africa is already building a hydrogen economy based on its PGM minerals. The Platinum Valley Initiative is set to transform hydrogen fuel cell production across the continent. Given that Zimbabwe is also rich in PGMs and Namibia has a strong hydrogen ambition (with support of the EU), a Southern Africa Green Hydrogen complex could be established.

### 3.2 Leveraging existing footholds in the EU and US markets

Some countries have existing partnerships to supply the EU and US markets, including memorandums of understanding with the EU that are already being implemented. The logistics of transporting minerals from extraction sites to processing facilities and then to export markets require robust and specialized transport networks. These include trains, trucks, storage areas, specialized port facilities, and efficient customs processes.

To address these needs, several transport corridors targeting CRMs are being developed or revamped. These transport corridors tend to cross multiple countries, forming regional corridors. These corridors can be the catalysts for regional collaboration. For example, Zambia is the epicenter of three transport corridors. The Tazara railway (funded by China) links the Zambian copper mines to the Tanzanian port of Dar Es Salaam. The Lobito Corridor, funded by the United States (and G7), links Zambia and DRC mines to the Lobito port on the Angolan Atlantic coast, while the Nacala Corridor, funded by Japan, links Zambia and Malawi to the Nacala port on the Mozambique coast of the Indian Ocean. Given that Malawi, Tanzania, and Mozambique have significant deposits of graphite, copper, cobalt, and nickel along these corridors, there is an opportunity to build a battery complex. However, these corridors should not be seen solely as transport corridors. Efforts must be made to locate other SEZs near them to achieve maximum impact.

### 3.3 Incentivizing the regional approach

Although there is a good case for Africa to develop regional VCs, Schulze (2025) argues that there are fundamental challenges as China, the EU, and the United

States all seek to strengthen domestic value creation, and thus Africa will have to compete with China, and Western industrial nations, all of which are increasingly protecting their own industries and markets and further perpetuating the old model of Africa as an exporter of commodities. Indeed, it has been argued that the minerals transport corridor projects risk prioritizing external mineral needs over African industrial development and regional integration. While this is a real danger, a coordinated approach can help forestall this.

More crucially, conditions to support processing in Africa are emerging. For example, there is an appetite for countries in the Global North to support processing in Africa. The United States, for example, has provided financing for graphite processing in Mozambique and has also supported the proposed Congo-Zambia partnership, while the EU has signed minerals agreements with various African countries. The EU and US desire to reduce China's dominance in CRM processing provides African countries with leverage to shape new CRM VCs. Africa can present an economic case to these partners for processing on the continent. For example, the cost of establishing and operating a 10,000-tonne battery precursor facility in the DRC would be 40 percent lower than in Poland, given Europe's higher energy, labor, and land costs.[11]

Additionally, the African Continental Free Trade Area (AfCTA) can play a key role in reducing trade barriers and developing infrastructure, potentially uniting fragmented critical mineral markets for larger-scale operations and forming regional value chains that draw on both raw and processed mineral inputs. The huge market created by AfCTA can be a catalyst for investment in critical mineral VCs.

### 3.4 Creating special economic zones

Special Economic Zones are crucial in the regional approach. SEZs offer a structured environment with tailored policies that can attract the necessary investment to build processing infrastructure. In this regard, Africa can learn from Indonesia, which has been successful in utilizing this strategy. Indonesia's resource nationalism approach to value chain development worked for several reasons. First, Indonesia has market power in nickel production, giving it bargaining power with investors, particularly the Chinese. Second, it had an industrial policy that articulated a clear national strategy with clearly stated priorities. Third, the government invested in the necessary infrastructure to facilitate the processing and export of nickel.[12] Finally, there was an extensive range of fiscal incentives to attract foreign direct investment.

---

[11] Logan, S. and Acheampong, T. (2025). From ore to more: Mineral partnerships for African industrialization. European Council on Foreign Relations. August 28.

[12] Indonesia leveraged the Belt and Road Initiative to build the infrastructure and negotiated with China to build the SEZs and related infrastructure.

## 4 THE ROLE OF GLOBAL PARTNERSHIPS

Africa today has several mineral partnership agreements with countries in the Global North, the Middle East, and Asia. These agreements, including the recent memorandums of understanding with African countries, such as the Lobito Corridor project (with the United States) and the EU-Namibia agreement, risk perpetuating past extractive models by failing to adequately address local priorities, including governance, economic transformation, community participation, and environmental sustainability. There is a need to redefine the mining agreements with China, the US, and the EU to deliver more benefits to governments and local communities.

### 4.1 The China engagement

China is by far the largest buyer of Africa's CRMs. In 2020, it imported about a third of Africa's mineral and metal exports, valued at $16.6 billion. This was an increase of 28 percent from 2018, highlighting China's increasing reliance on African minerals. Chinese investments in CRM projects have been estimated at $8–10 billion.[13] In general, Chinese agreements are not publicly available, making it difficult to ascertain their details. However, they tend to be bundled with infrastructure projects, including railways, shipping routes, and other projects in mineral-rich areas under the Belt and Road Initiative (BRI).[14] China also imposes few conditions, such as on governance, human rights, and environmental sustainability, on African governments regarding various agreements, making their offers attractive. China also provides generous incentives to its companies, including low-interest loans and tax breaks, to reduce the risk companies face.

Given the competition for Africa's CRMs, China is beginning to relocate production nodes to Africa. Morocco is a recent beneficiary of this shift. For example, one of the largest battery manufacturers in China, Gotion High-Tech, is setting up a factory in Morocco to better serve the European market. Building on Indonesia's and other experiences, Africa, as a bloc, could leverage the BRI to not only build infrastructure for mining but also develop SEZs in designated industrial parks. African countries can also negotiate a free trade agreement based on the AfCTA to open new markets for Chinese products, but at the same time mandate Chinese joint venture investments in green technologies manufacturing in return for market access.[15]

### 4.2 The US engagement

---

[13] Baskaran, G. (2022). Could Africa replace China as the world's source of rare earth elements? Brookings Institution – Africa in Focus Blog. December 29.

[14] Fifty-three countries in Africa are participating in the BRI. As of 2023, investment under the BRI was estimated $21.7 billion. See de Féligonde, A. and Benoît, B. (2023). Putting Africa at the heart of the global energy transition, thanks to its 'critical minerals.' Africa Report. January 27.

[15] China developed using this model as Western companies sought to access China's huge consumer market.

The United States has initiated the Mineral Security Partnership (MSP) that aims to diversify the sourcing of CRMs away from China and give priority to allies[16] and has invited representatives from Tanzania, Mozambique, Namibia, the DRC, and Zambia to recent MSP working meetings. There is clearly a window of opportunity to rethink and reshape the US-Africa relationship. These examples show that the United States is getting involved, using both traditional and non-traditional tools, e.g., funding infrastructure to reach mines. There is clearly a window to rethink and reshape the US-Africa relationship. However, rather than each country trying to seek to be part of MSP groups, Africa should negotiate as a bloc in the MSP and seek to negotiate a free trade agreement to incentivize CRM processing in Africa.[17] Africa should also seek to incentivize JVs with US companies that can not only help transfer technology but also access financing. To support this, African countries should develop a suite of economic diplomacy instruments to help the private sector work hand in hand with the U.S. government in a coordinated government approach.

**4.3 The EU engagement**

The EU engagement strategy is guided by the Critical Raw Materials Act (CRMA), which was enacted in 2023. The act aims to strengthen the resilience of critical raw material supply chains by reducing reliance on single suppliers, enhancing sustainability and circularity, and ensuring long-term availability for strategic industries. The EU's agreements typically include provisions for establishing a joint roadmap to steer future cooperation and emphasize partnerships between producer and consumer countries.

Partnerships are increasingly focusing on the green transition under the EU-Africa Global Gateway Investment Package. This EU partnership model expects the private sector to take the lead in driving investment, bolstered by bilateral investment treaties or provided incentives. However, given the high levels of risk associated with extractive projects, these investments have not materialized as expected. For example, the EU's strategic partnership with Namibia has not significantly stimulated European investment in the country's critical mineral sector despite Namibia's favorable political stability and investment environment. Similarly, Zambia has not attracted private-sector investment despite several projects being granted strategic project status under the EU's CRMA.[18]

---

[16] Canada, Australia, Finland, France, Germany, Japan, South Korea, Sweden, the United Kingdom, and the European Commission.

[17] The MSP also includes a provision for financial incentives that allow minerals to be sourced from countries with which the United States has a free trade agreement. However, to date, only Morocco has benefited from this.

[18] Schulze, M. (2025). The Strategic Raw Material Partnership between the EU and Zambia. SWP Comment 2025/C 19, 06.05.2025, 8 Seiten doi:10.18449/2025C19.

Two approaches to rethink the Africa-EU engagement are proposed. First, Africa needs to engage the EU as a bloc. Africa needs to develop a blueprint for engagement that can be based on the African Green Minerals Strategy (AGMS). In this regard, it is necessary to examine overlaps between the (AGMS) and the EU's CRMA to prioritize areas of engagement. Second, there should be joint green Industrialization efforts. The EU and Africa have a shared vision on green transition, and each has comparative advantages. Africa has the green minerals and a youthful workforce, while the EU has the technologies and finances, but it is facing labor shortages.

A win-win situation can be established in which Africa supplies green mineral products and labor to the EU, and the EU supplies technologies and financing. A circular migration model can enable youths trained in green skills and entrepreneurship in the EU, helping to close labor gaps. They can then return to Africa (supported with finances and JVs) to become African green entrepreneurs.

Regarding partnerships, Africa can learn a lot from Indonesia about best practices in creating SEZs (see Box 1). Indonesia's collaboration with China was successful for several reasons. First, Indonesia had an industrial policy that articulated a clear national strategy with clearly stated priorities. Second, the government invested in the necessary infrastructure and provided an extensive range of fiscal incentives to attract foreign direct investment.

**Box 1. Best practices in SEZ development in Africa: Lessons from Indonesia's Nickel Strategy**

Indonesia's rich mineral endowment, including nickel, tin, bauxite, and copper, is essential to the production of clean energy. Indonesia has 42 percent of the world's nickel reserves and a 50 percent share of global production. From 2019 to 2022, investment in Indonesia's nickel mineral-processing sector surged from $3.6 billion to $11 billion, raising the value of Indonesia's nickel exports from $3 billion to $30 billion. The value added in the secondary sector as a share of GDP rose from 21.5 percent in 2015 to 30.4 percent in 2023 (Simmons and Marcilly 2024) This dramatic rise can be attributed to the expansion of smelting and refining facilities, which increased the value-added component of the mining sector and bolstered the country's export capabilities for higher-value nickel products.

The outcome was achieved through a two-pronged strategy: a phased ban on the export of raw nickel and incentives for value addition through the development of SEZs. This led to a surge of investment, mainly from China. The SEZs are strategically located near resource-rich areas and are designed to provide companies with the necessary infrastructure, utilities, and administrative support to streamline operations and reduce costs.

Recognizing that bureaucratic processing and procedures have historically been significant barriers to investment, the government implemented a one-stop service. In addition, the parks were provided with infrastructure such as power plants, water-treatment facilities, transportation networks, and ports. The government also provided subsidies and other incentives such as tax holidays and import duty exemptions. The SEZ policy has generally been a success. The Indonesia Morowali Industrial Park is an example of a successful SEZ that has attracted over $8 billion in investment.

## 5 COLLABORATING WITH INTERNATIONAL FINANCIAL INSTITUTIONS TO IMPROVE FINANCING

Given the growing need for financing, the continent would need to enhance access to affordable and sustainable finance by deepening its financial sectors, mobilizing and leveraging domestic resources, and vastly expanding the inclusion and contribution of private finance. This would need collaboration with International Financial Institutions (IFIs), including multinational development banks (MNBs), Development Finance Institutions (DFIs), and public/national development banks (PDBs).[19] The IFIs can help by deploying blended finance structures that combine public development funding with private investment capital to create risk-return profiles that can attract commercial investors whilst achieving development objectives. The IFIs can further de-risk mining projects through grants, concessional financing, and long-term investment strategies. They also bring expertise in project preparation, environmental and social standards, and policy dialogue, which enhance project sustainability and stakeholder acceptance.

African countries can also seek alternative financing sources for CRM processing. Countries are increasingly using sovereign wealth funds to support CRM development. For example, Angola's sovereign wealth fund has invested about $20 million in the mining exploration company, Psana's Longonjo rare earth project. In Ghana, the government plans to use its fund to support the development of a domestic battery and electric vehicle ecosystem. Other countries are expanding the role of PDBs. For example, the Industrial Development Corporation of South Africa, the Development Bank of Southern Africa (DBSA), and Tanzania's Community Rural Development Bank have provided $179 million in financing for Tanzania's Mahenge

[19] DFIs are usually publicly owned but can also be jointly owned by governments and private investors (e.g., CDC Group, DEG, etc.). On the other hand, PDBs are fully publicly owned by national, regional or local governments (e.g., Development Bank of Southern Africa, DBSA).

Graphite Project to fast-track ongoing exploration activities and infrastructure development.[20]

To enhance access to finance, an integrated VC financing approach would be required. This would require proposals for mine development to include associated processing infrastructure, linking project finance to industrial base development rather than simple extraction activities. We propose the following integrated VC financing approach for CRMs. Here, rather than raising funding for individual mines, countries would seek to build a broader fund to drive green industrialization.

Local banks would also be supported to participate and develop needed capacities. The components of this fund would include: an infrastructure package comprising roads, power, and SEZs; R&D and skills development; support for the development of JVs and technology transfer arrangements; and the development of strong Environmental, Social, and Governance (ESG) principles. The development of this financial ecosystem will require Governments to deploy various policy instruments to facilitate technological diffusion and encourage investments in midstream and downstream operations. For example, governments can provide financial incentives, such as tax breaks, to attract private investments in refining and processing activities, and R&D subsidies and grants to target refining and processing technologies, while technology transfers can be facilitated through partnerships and knowledge-sharing agreements. For this idea to work, however, a regional approach would be needed, and regional governance bodies should be set up to raise funding and manage the projects.

## 6 ADDRESSING THE LOCAL ENVIRONMENTAL AND SOCIAL IMPACTS

The production of CRMs and other minerals/metals is a major contributor to GHG emissions because it relies on carbon-based fossil fuels. Without appropriate policies to address the issue, the increasing demand for CRMs needed for the net-zero transition will contribute to future GHG emissions. CRM mining can also impact water use and pollution. This is because production of these materials requires large amounts of water, and the processing and extraction can have significant impacts on waterbodies and groundwater. In areas of water stress, water used for mineral production can compete with other demands, such as drinking water, sanitation, agriculture, leisure, tourism, and biodiversity support.

[20] Kilian, A. (2024). Regional Financial Institutions Bolster African Critical Mineral Value Chain. Energy Capital & Power. October 10.

The key environmental impacts of CRM mining in Africa include water contamination, soil degradation, loss of agricultural land, deforestation, habitat loss, and respiratory risks from air pollution and dust. A significant amount of the local environmental impacts is caused by informal (and often illegal) artisanal small-scale mining (ASM). Although ASM supports large informal livelihoods in mining communities, it exposes workers (including children) to toxicants and dangerous working conditions.

The factors that contribute to the socioeconomic costs of CRM mining include social disruption from the forced relocation of communities, loss of rights to land and water resources, and pollution and health concerns. Other causes of social disruption are from the large influx of itinerant workers into mining communities. The injection of mine workers into local communities also attracts sex workers and other types of illegal activities. All of this contributes to the destabilization of social relations, exacerbates existing gender inequalities, and increases incidents of crime, alcoholism, drug abuse, domestic violence, prostitution, people trafficking, and sexual exploitation, and sexually transmitted diseases in local communities. Additionally, armed conflicts are being fueled by these minerals.

To address the environmental and socioeconomic impacts of CRM mining, policies are needed to strengthen environmental governance and regulation, promote sustainable (green) mining practices, and promote regional and international collaboration on the issue. Countries need to adopt and enforce stringent environmental standards for exploration, extraction, processing, and mine closure, with provisions for biodiversity protection, water management, and waste disposal. Special attention is needed to formalize the ASM sector, emphasizing the scaling of safe-technology adoption (mercury-free processing), formalizing miners into co-ops with access to finance and training, and strengthening monitoring and coordinated enforcement to protect livelihoods while restoring degraded land.

Finally, regional and international collaboration would be vital in effectively addressing the negative impacts of CRM mining. Countries need to work together to harmonize mining and environmental standards through the African Mining Vision (AMV) and the AGMS. The AU should support joint monitoring initiatives for transboundary waters and ecosystems affected by mining. Finally, countries need to embrace global initiatives such as the Extractive Industries Transparency Initiative and the Global Battery Alliance to build responsible supply chains.

## 7 ACTION POINTS FOR COLLABORATION WITH THE GLOBAL PARTNERS AND IFIS

Based on the foregoing discussion, the following recommendations are made for African governments, the AU, global partners, IFIs, and public development banks.

### 7.1 African governments and the African Union

**Enhance regional-level collaboration to develop green value chains.**
This could be done by developing green industrial strategies, including the creation of regional hubs specializing in different value chain nodes based on the region's CRM endowments. The strategies should also leverage the existing transport corridors by locating SEZs along them. Sub-regional institutions should also be created to manage the SEZs. Regional collaboration to enhance green value chains can also be enhanced by reforming national-level LC and local value addition (LVA) policies and aligning them with regional policies and the Africa Mining Vision. A regional approach should also be adopted in enhancing geological knowledge. We propose establishing a geological exploration fund and creating regional geological survey organizations to improve the collection of geological data.

**Leverage the AfCFTA to promote the development of regional green value chains**.
This could be done in several ways. These include expanding the AfCFTA's industrial policy framework to include an Africa-wide industrial policy protocol that prioritizes value addition in CRM production and other strategic sectors and developing common investment codes and fiscal regimes under the AfCFTA's protocol on investment to promote cross-border value chains. The AfCFTA's Rules of Origin can also be adjusted to recognize regional inputs such as ores mined in one country and processed in another as 'African content'. The continent's infrastructure challenges can be addressed by integrating infrastructure development under the AU's Program Infrastructure Development for Africa (PIDA) directly with AfCFTA trade facilitation measures. Environmental and labor standards under AfCFTA can be strengthened by incorporating sustainability and ESG standards for CRM processing under a new 'Sustainable Trade Protocol'.

### 7.2 Global partners

**Redefine agreements with China, the EU, and the United States and seek new partnerships.**
Renegotiate existing agreements and establish new ones to prioritize mineral beneficiation, local value addition, and community involvement. Regarding agreements involving transport corridors (e.g., the Lobito Corridor), there is a risk that they will become resource extraction points, reinforcing the traditional model.

Countries along the corridors should negotiate as a bloc to ensure value creation and the transfer of technology and skills. Mining agreements should be a component of a broader green industrialization strategy. Additionally, efforts should be made to ensure that artisanal and small-scale miners are integrated into CRM value chains and provided with financial and training support. There are opportunities to form new partnerships in the Middle East. Saudi Arabia and the United Arab Emirates are already involved on the continent. There is a need to negotiate with these new partners on similar terms.

### 7.3 International Financial Institutions and Public Development Banks

**Collaborate with MDBs, DFIs, and PDBs to de-risk private sector investment and improve financing.**

This can be done by collaborating with MDBs and DFIs to deploy and scale innovative instruments, such as blended finance, green bonds, and sustainability-linked bonds, to attract private-sector finance for CRM projects. Finance for CRMs can also be enhanced by establishing a Green Industrialization Fund in collaboration with MDBs such as Afreximbank or the African Development Bank. The Green Industrialization Fund can be deployed to support feasibility studies, shared facilities, and technology transfer for processing hubs.

**Abbreviations**

| | |
|---|---|
| **AfCFTA** | African Continental Free Trade Area |
| **AGMS** | African Green Minerals Strategy |
| **AMV** | African Mining Vision |
| **ASM** | Artisanal and small-scale mining |
| **BRI** | Belt and Road Initiative |
| **CRM** | Critical resource material |
| **CRMA** | Critical Raw Minerals Act |
| **DBSA** | Development Bank of Southern Africa |
| **DFIs** | Development Finance Institutions |
| **DRC** | Democratic Republic of the Congo |
| **ESG** | Environmental, Social, and Governance |
| **EU** | European Union |
| **EVs** | Electric vehicles |
| **G7** | Group of seven industrialized countries |
| **IFIs** | International Financial Institutions |
| **JV** | Joint Venture |
| **LC** | Local content |
| **LVA** | Local value addition |
| **MNBs** | Multilateral Development Banks |
| **MSP** | Mineral Security Partnership |
| **OECD** | Organization for Economic Cooperation and Development |
| **PDBs** | Public Development Banks |
| **PGMs** | Platinum Group Metals |
| **PIDA** | Program Infrastructure Development for Africa |
| **PPI** | Policy Perception Index |
| **REEs** | Rare earth elements |
| **R&D** | Research and development |
| **SEZs** | Special Economic Zones |
| **US** | United States of America |
| **VC** | Value chain |

**Publisher**
Global Perspectives Initiative
gemeinnützige UG (haftungsbeschränkt)
Dorotheenstraße 3
10117 Berlin

**Project Management**
Stephanie Igunbor
s.igunbor@globalperspectives.org

**Press Contact**
Corinna Robertz
c.robertz@globalperspectives.org

**Layout**
Melissa Meierhöfer
m.meierhoefer@globalperspectives.org