# China’s Critical Minerals Strategy in Africa

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Paul Nantulya*

Par Paul Nantulya*

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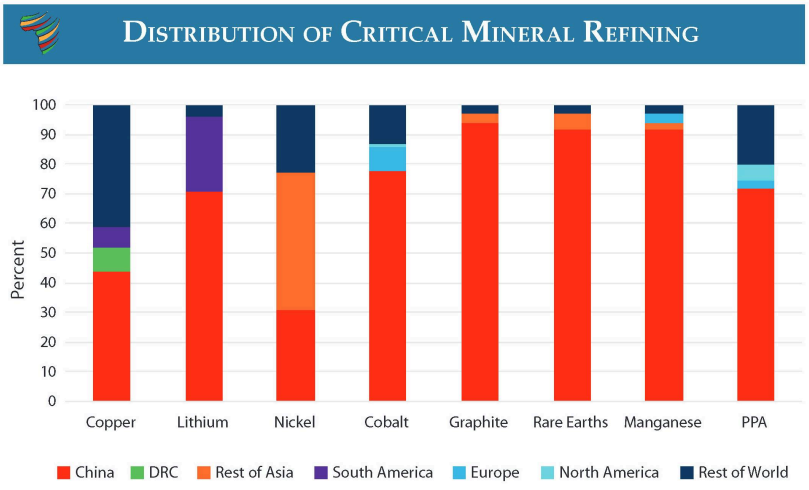
China has gained a dominant position in Africa’s critical minerals sector through long-term investments in mining and refining capacity—factors that make it challenging for African countries to advance up the value chain.

Trucks loaded with copper prepare to leave Tenke Fungurume Mine, one of the largest copper and cobalt mines in the world, in southeastern Democratic Republic of Congo. (Photo: AFP/Emmet Livingstone)

Global demand for critical minerals—nickel, graphite, manganese, cobalt, copper, lithium, and rare earth minerals—used in defense and aerospace systems, electronic vehicles (EV), semiconductors, artificial intelligence, and medical devices, is surging. China now controls over half of global critical minerals production and an estimated 87 percent of processing and refining. China also produces nearly 70 percent of rare earth minerals, manufactures 93 percent of high-strength rare earth permanent magnets, and is responsible for 95 percent of the necessary heavy processing of critical minerals.




*Data source:* IEA

While China’s critical minerals strategy has emphasized its processing and refining capabilities, Beijing has diversified upstream by acquiring major African mining assets, including Botswana’s Khoemacau copper mine (2023), Mali’s Goulamina lithium mine (2024), and Tanzania’s Ngualla rare earth mine (2025). Illustratively, the world’s largest EV maker, the Chinese company BYD, secured six African lithium mines, ensuring sufficient feedstock (or raw materials) through 2032.

China weaponizes its dominant position in refining critical minerals by limiting exports to rivals, requiring licenses for products containing even minimal Chinese content, and banning exports with potential military uses. This has set off a push by competitors to establish China-free supply chains.

**Critical minerals** refer to a broad category of minerals vital for modern technologies central to national security, energy, and industrial applications—from cobalt to purified phosphoric acid (PPA). They are considered “critical” for their economic importance. As a result, their composition may vary by country.

**Rare earth elements** are a subset of critical minerals comprising 17 elements (the 15 lanthanides plus scandium and yttrium) that are primarily needed for permanent magnets in electric motors, wind turbines, lasers, electronics, and other advanced technologies. They are not necessarily “rare” but are found in low concentrations and are difficult, expensive,

and environmentally hazardous to mine.

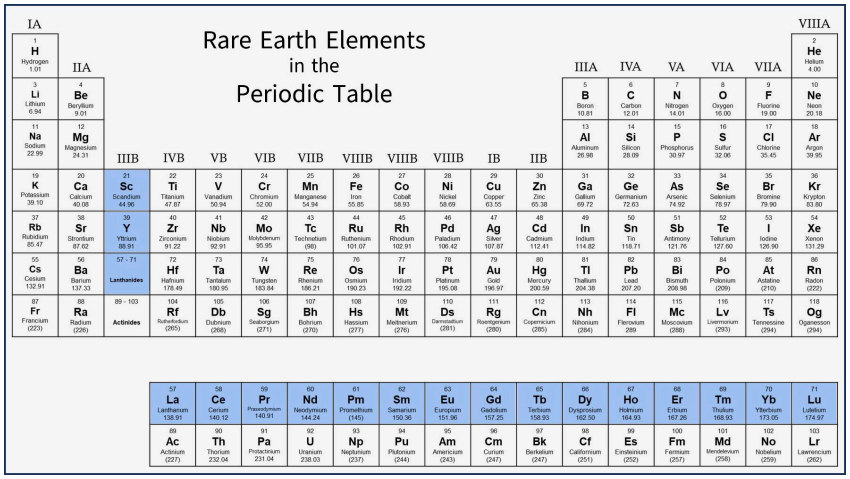



Image: Emeka Udenze

China's dominance extends to critical mineral infrastructure in Africa. Through its One Belt One Road strategy, also called the Belt and Road Initiative (BRI), China has a stake in the rail, ports, and power grid networks linking Africa's critical minerals to global shipping lanes. China makes 90 percent of the world's solar panels and is projected to supply 60 percent of renewable energy capacity by 2030. Meanwhile, Chinese policy banks issued $24.9 billion in BRI-linked mining loans in the first half of 2025 alone, higher than in 2024, itself a record year for Chinese critical mineral financing. To lessen China's grip on Africa's critical minerals sector will require counterbalancing China's strong position in mining, refining, production, and financing of the sector.

With large shares of reserves in cobalt, coltan, lithium, nickel, manganese, platinum, rare earths, among other minerals, Africa is central to the global rush for critical minerals. Despite this, Africa remains at the bottom of the value chain and not a prime beneficiary of this mineral wealth. The Democratic Republic of the Congo (DRC) epitomizes this paradox—rich in minerals but poor, conflict ridden, and reliant on raw material exports.

## How China Dominates Critical Minerals

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China has been focused on the critical minerals sector for decades. In the late 1950s, it invested in rare earth processing and, by the 1970s, produced advanced rare earth products. By 2000, Chinese firms, many of which are state-owned enterprises (SOEs), controlled over half of global output through China's vertically integrated mineral ecosystem.

Western firms initially facilitated China's rise as a mining power. Many established operations in China in the 1990s, lured by abundant labor and high profits. However, they were strictly required to transfer technology and skills. Once China achieved full-cycle manufacturing capabilities, foreign participation in separation and refining was restricted—sectors that China now dominates.

After gaining domestic expertise, major Chinese SOEs expanded abroad under the 1999 "Go Out" strategy. They benefitted from generous subsidies and tax credits to capture markets, especially in the Global South. This accelerated under the BRI—a key element of the Go Out strategy that seeks to build economic corridors linked to China.

From 40 mines in 1999, Chinese overseas mine ownership reached 1,250 by 2022. Between 2000 and 2021, Beijing provided $57 billion in aid and credit for "transition minerals" (key inputs for renewable energy technologies) in developing countries. Roughly $24 billion of this went to Africa, making China Africa's largest financier of mineral projects and granting China resource access and political influence. It also increased Africa's debt-servicing burden.

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The preferential treatment Chinese SOEs get from governments enables them to outbid competitors and lock in supplies. At the same time, it can discourage African countries from enforcing regulations—leaving them vulnerable to environmental, labor, and health exploitation. For example, Zambian civic groups have accused the government of downplaying a toxic spill in 2025 in the Kafue River caused by Sino Metals Leach Zambia, one of Zambia's top taxpayers.

## Features of China's Critical Minerals Strategy

### *High Risk Tolerance*

Chinese SOEs, supported by extensive subsidies and public financing, operate with an unusually high risk tolerance, absorbing losses over many years to dominate markets and gain footholds even in politically unstable regions. Most target brownfield projects (those with preexisting facilities) rather than greenfield ventures (those where production facilities are built from the ground up), requiring high upfront costs.

The willingness of Chinese firms to operate in conflict zones also serves a strategic purpose—reducing competition and positioning themselves for long-term access to critical resources. This strategy, however, carries costs. Chinese workers have been attacked in volatile areas across Central, Eastern, and Southern Africa, as well as the Sahel. Persistent instability also fosters corruption, labor exploitation, and environmental degradation—problems that often draw criticism and resentment of Chinese mining firms.

### *State Backing*

China's SOEs benefit from generous government support, including roughly $200 billion in subsidies annually and political risk insurance. Chinese diplomats frequently negotiate directly with host governments on the behalf of Chinese SOEs, maximizing leverage and facilitating entry into Africa's mining belts. This government backing has enabled Chinese SOEs to gain an outsized share of the African minerals sector. Of 166 Chinese-owned mining projects globally, 66 are in Africa, more than in any other region (and likely an undercount). Chinese government subsidization of Chinese mining SOEs—facilitating the ability to manufacture at scale and low price—comes at a cost for Africa's mining sector, which faces uphill challenges to compete and turn a profit.

### *Diversified Access*

Chinese firms employ a variety of instruments to secure and maintain a foothold in Africa's mining sector:

- **Offtake agreements** that guarantee future mineral deliveries regardless of owners
- **Farm-in contracts** that fund exploration for future production rights
- **Leasing deals** that supply Chinese technology and equipment for fixed periods
- **Minority shareholding** as junior partners
- **Outright acquisitions**

This layered approach allows Chinese entities to function simultaneously as miners, financiers, engineers, and long-term buyers. This anchors Chinese influence well beyond mere physical mine ownership and mining rights.

### *Linking Critical Infrastructure*

Chinese firms also dominate Africa's infrastructure sector. Chinese companies are building one in three and financing one in five major infrastructure projects in Africa. They are, similarly, installing 23 GW of power in 27 countries—about 20 percent of regional capacity. They also operate in over a third of African ports—higher than any other region—giving Beijing extensive logistical reach.

> Chinese firms dominate Africa's infrastructure sector.

Much of this infrastructure network is relevant to mining. Zambia's 100 MW Chisamba solar power plant was built by the Chinese energy SOE Power China to operate First Quantum Minerals, partly owned by Jiangxi Copper Company. Similarly, the DRC's 240 MW Busanga hydropower plant supplies the Chinese SOE Sicomines' vast cobalt-copper complex.

Transportation corridor projects reinforce the influence of Chinese entities on Africa's critical minerals sector. The 1,860 km Tanzania–Zambia Railway (TAZARA)—now undergoing an upgrade following a $1.4 billion investment from the China Civil Engineering Construction Corporation (CCECC)—links Zambia's Copperbelt to Dar es Salaam in Tanzania. CCECC will manage the railway line under a 30-year concession. Copper and cobalt mined from China's Sicomines in the DRC also travels to Tanzania via TAZARA, as well as to South Africa via Zambia ending in Durban and Richards Bay. Likewise, a Chinese-led consortium is funding Guinea's 650 km Simandou Railway connecting the world's largest iron-ore deposit to the Atlantic Ocean.

Chinese firms are embedded at every stage of these corridors—road construction, trucking fleets, rail operations, rolling stock, maintenance, and financing—giving them significant influence over the timing, cost, and reliability of Africa's mineral exports.

### China's Mine to Rail, Road, and Port Corridors in the DRC

| Mining Cluster | Connecting Land Infrastructure | Connecting Sea Infrastructure |
|---|---|---|
| **Tenke Fungurume Copper and Cobalt Mine**<br>Lualaba province, 223 km northwest of Lubumbashi<br><br>**Chinese role:**<br><br>The Chinese SOE, CMOC Group Limited, holds an 80% stake | **Benguela Railway**<br>Tenke-Kolwezi-Dilolo-Lobito owned by the Benguela Railway Authority (Angola)<br>**Chinese role:**<br><br>Rehabilitated by China Railway Construction Corporation (CRCC) in 2015<br><br>China Communications Construction Company (CCCC) holds 32.4 percent of Mota Engil (part of the consortium that operates the railway).<br><br>China Railway Rolling Stock Corporation (CRRC) supplies container rail wagons. | **Lobito Port (Angola)**<br>Owned and operated by the Porto do Lobito EP<br><br>**Chinese role:**<br><br>China International Trust Investment Corporation (CITIC) Construction Group and Shandong Port Group hold a 20-year concession for port operations. |
| **Kamoa Kakula Mine**<br>Lualaba Province, 25 km west of Kolwezi<br>**Chinese role:**<br><br>Joint venture between Zijin Mining (40 percent) and the<br>Canadian firm Ivanhoe (40 percent) | **Benguela Railway**<br>Kolwezi-Dilolo-Lobito<br><br>**Chinese role:**<br><br>See above. | **Lobito Port**<br><br>**Chinese role:**<br><br>See above. |
| **Sicomines Copper and Cobalt Mine**<br>Mutshatsha, Kolwezi District, capital of Lualaba Province, southern DRC<br><br>**Chinese role:**<br><br>Sicomines is majority-owned (68 percent) by a consortium of Chinese-backed companies with financing from China EXIM and China Development Bank (CDB) | **Kolwezi-Zambia-Tanzania Corridor**<br><br>**Road link 1:** Kolwezi-Likasi-Lubumbashi-Kasumbalesa border (Zambia)<br><br>**Road link 2:** Kusumbela-Ndola-Kapiri Mposhi (switch to rail from Kapiri Mposhi (Zambia) to Dar-Es-Salaam (Tanzania) on TAZARA)<br><br>**Kolwezi-Zambia-South Africa Corridor**<br><br>**Road link 2:** Kapiri Mposhi-Chirundu-Beitbridge Road Corridor (Zambia-Zimbabwe-South Africa).<br><br>**Road link 3:** Beitbridge to Durban and Richards Bay via Expressways<br><br>**Chinese role:**<br><br>Chinese firms are embedded in road construction, upgrades, and maintenance in sections along road links 1 and 2 in the DRC and Zambia. They are also often involved in coordinating trucking fleets.<br><br>On the TAZARA routes, Chinese firms provide loans, maintenance, and rolling stock. Chinese traders and buyers are also involved along both road links. | **Port of Durban and Richards Bay (South Africa)**<br><br>**Chinese role:**<br><br>Shanghai Zhenhua Heavy Industries is involved in port expansion in Durban.<br><br>Chinese firms have previously been involved in shipbuilding and repair work at Richards Bay.<br><br>Both ports have hosted Chinese naval port calls and exercises. |
| **Manono-Kitolo Lithium Mine Complex**<br>Tanganyika province, southern DRC<br><br>**Chinese role:**<br><br>Chinese battery manufacturer, CATL, holds a 24% share<br><br>Jinxiang Lithium owns a 55% share in a joint venture to produce lithium at the site | **Manono-Lubumbashi-Tanzania Corridor**<br><br>**Road Link 1:** Manono-Kabalo-Kamina-Likasi Lubumbashi.<br><br>**Road Link 2:** Lubumbashi-Kasumbalesa-Kapiri Mposhi (TAZARA)<br><br>**Chinese role:**<br><br>Chinese firms (CCECC, CRCC) are active in the rehabilitation of sections of these road links and rolling stock supply (TAZARA). | **Dar-Es-Salaam Port (via TAZARA)** |

### *Resource-Backed Finance*

Resource-backed finance (RBF) deals allow mineral-rich but cash-poor states to repay Chinese infrastructure loans with mineral exports. First introduced on the continent in Angola's oil sector in the 1990s, RBFs now exist in the DRC, Equatorial Guinea, Ethiopia, Sudan, Sudan, South Sudan, and Zimbabwe, among others.

These deals offer financing alternatives but are often opaque, mispriced, and vulnerable to commodity shocks. In 2024, the African Development Bank criticized RBF's for undervaluing African resources, undermining fiscal transparency, and causing African countries to lose control of their mineral resources. Characterized by sharp imbalances in power, such deals favor lenders over cash-strapped African borrowers, opening the door to exploitation.

### *Multisector Integration*

Chinese SOEs and state-subsidized firms tend to operate across multiple sectors. Chinese EV carmaker BYD has its own shipping fleet to deliver its vehicles to global markets. Construction firms like China Railway Engineering Group, Anhui Construction, and NORIN Mining (a subsidiary of the defense conglomerate NORINCO), hold stakes in copper, cobalt, and lithium ventures. Sinohydro, known for hydropower, provides engineering, procurement, and construction services for Gabon's Baniaka iron ore project and participates in Ghana's bauxite-for-infrastructure program. Such integration embeds China deeply within multiple African mining ecosystems.

### *Global Pricing Power*

China's dominance in refining capacity, strategic stockpiling, and industrial subsidies give it significant leverage over global pricing. It can flood markets to weaken competitors or restrict supply to raise prices. The volatile swings in lithium prices since 2023 illustrate the reach of this influence, which damages the economic prospects of competitors.

### Illustrations of China's Dominant Role in Africa's Mineral Sector

#### Zambia: Copper Heartland

Over 600 Chinese firms have invested more than $3.5 billion in Zambia's Copperbelt Province. The China Nonferrous Metal Mining Company (CNMC) entered Zambia in 1998, acquiring an 85 percent stake in operations of the Chambishi mine, which produces roughly 100,000 tons of copper annually—mostly refined in China. In 2003, CNMC expanded into smelting with a $200 million facility producing copper cathodes.

Chinese firms expanded further during the 2007-2009 financial crisis by acquiring distressed Swiss, South African, and Indian assets in Zambia. Their influence grew alongside rising copper prices and BRI investments, which financed the Zambia-China Economic and Trade Cooperation Zone (ZCCZ) in Chambishi—focused on copper and cobalt value chains—and upgrades to the TAZARA Railway.

Chinese firms have pledged another $5 billion in recent years to help Zambia achieve its target of producing 3 million tons of copper annually.

#### DRC: Cobalt Powerhouse

The DRC is the world's largest producer of cobalt. Of the 33 cobalt exporters in the DRC, 24 are Chinese. This includes 8 farm-in deals and 14 joint ventures with either DRC's state-owned Gécamines or where Gécamines is a stakeholder. The showcase initiative is the Tenke Fungurume Mine (TFM), the world's third largest cobalt producer, majority-owned by CMOC Group Limited. Nearly all the DRC's cobalt—regardless of ownership—is refined in China. The Kamoa-Kakula mine, the country's largest copper producer, is co-owned by China's Zijin Mining and Canada's Ivanhoe Mines.

Beijing entrenched its dominance under former President Joseph Kabila through joint ventures with Gécamines and a 2008 Sicomines resource-based finance deal that granted Chinese firms 10 million tons of copper and 600,000 tons of cobalt over 25 years in exchange for $3 billion in infrastructure—expanded to $7 billion in 2024. Chinese partners control 68 percent of Sicomines, fueling criticism in the DRC over the government being a junior partner and leading to calls for the terms of the deal to be made public.

## Africa Striving for More Strategic Outcomes

Africa has long endeavored to gain more control of its mineral supply chain as a means to generate greater growth, jobs, and technical capacity. Structural limitations coupled with the scale, scope, and dominance of Chinese control inhibit Africa's capacity to move up the value chain, however.

> More equitable and beneficial mining arrangements are possible.

At least 13 African countries have enacted export restrictions since 2023 to try and capture more of the value chain. Malawi, rich in rare earths, joined the list in 2025 by banning all raw mineral exports. African governments are also stimulating industries that can consume locally refined products. In 2024, Ethiopia set a goal of having 500,000 EVs on the road by 2030. Kenya, Nigeria, Rwanda, and Tanzania offer duty exemptions for EV assembly. In 2024, Tanzania committed to converting its public fleet to vehicles powered by compressed natural gas (CNG), and Zambia incentivized EV component manufacturers near its mines.

In 2025, the DRC and Zambia launched a transboundary battery and EV special economic zone along their shared mining belt, supported by Africa Export-Import Bank (Afreximbank) and the United Nations Economic Commission for Africa (UNECA). Startups across Africa are assembling electric buses, tricycles, and service vehicles. Such efforts align with the African Mining Vision (2009) and African Commodities Strategy (2019), which call for transparent, equitable, and optimal resource use to drive sustainable development.

Nonetheless, mineral processing is capital-intensive, technologically complex, and environmentally hazardous. Power shortages, high costs, and limited integration despite the African Continental Free Trade Area (AfCFTA) hinder competitiveness.

Beijing's massive investments in next-generation alternative EV technologies—such as sodium-ion batteries, which do not rely on lithium, and lithium-ion phosphate batteries, which do not rely on cobalt, manganese, and nickel—may pose a sharp shift in the markets for these metals.

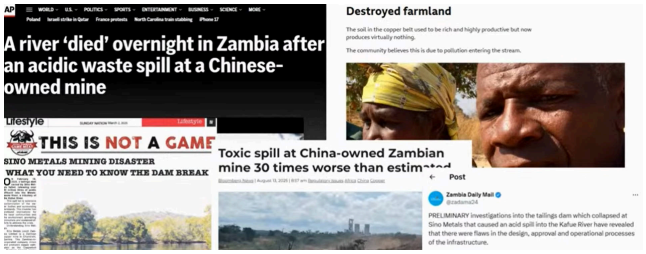
China is the world's largest manufacturer and supplier of sodium-ion and lithium-ion phosphate batteries, controlling the market by up to 98 percent. Meanwhile there is a prevailing assumption that as China moves up the value chain, it will outsource manufacturing to emerging economies. This has not yet happened due to extensive industrial automation in China that keeps products cheap and retains value in China.

> The geopolitics of critical minerals is not just about global competition—it is about whether Africa can harness its resources for real transformation.

Chinese firms—ranging from small private operators to major state-owned companies—have long faced criticism for labor abuses, environmental degradation, regulatory violations, and illegal mining. The acid spill of between 50,000 and 1.5 million tons of heavy metals like arsenic, mercury, and lead by Sino Metals Leach Zambia (a subsidiary of a Chinese SOE) into Zambia's Kafue River in February 2025 is a case in point. The river is a primary water source for most Zambians. Another spill in November 2025 resulted in the leakage of several million cubic meters of electrolytes into the waterways around Lubumbashi, the DRC's second largest city. The incident prompted Congolese authorities to suspend the operations of Congo Dongfang International Mining, a subsidiary of Zhejiang Huayou Cobalt Company.

In West Africa, a survey by leading African extractives experts found that Chinese-linked actors are heavily involved in activities that contribute to environmental damage, illicit mining, and threats to food security, health, and livelihoods.

African communities are responding with increasing sophistication—deploying local monitoring teams, countering disinformation, pursuing strategic litigation, partnering with civil society groups, documenting abuses, engaging investigative journalists, and even teaming up with Chinese environmentalists to hold responsible Chinese actors accountable. In Zambia, the Kafue spill victims launched a landmark High Court case in September 2025.




Media coverage of the Kafue River spill. (Screen capture: Transparency International Zambia)

More equitable and beneficial mining arrangements are possible. The $7 billion Nacala Corridor Development Project, financed by Japan, the African Development Bank (AfDB), Malawi, Mozambique, and Zambia under the Tokyo International Conference on African Development (TICAD) demonstrates how shared financing, civil society oversight, robust private sector engagement, and strict certification can support responsible critical mineral supply chains. Meanwhile, the AU's proposed mineral-producers organization aims to boost Africa's leverage, although stronger coordination and transparency will be key.

## Aligning External Partnerships with African Interests

The geopolitics of critical minerals is not just about global competition—it is about whether Africa can harness its resources for real transformation. To maintain sovereignty over its critical minerals sector and realize its true potential for African citizens, African countries need to adopt best practices for the industry. These include:

- Strict mandates for technology and skills transfer in all mining deals
- Investments in infrastructure and human capital
- Development of downstream processing and manufacturing industries
- Enforcement of transparency and labor standards
- Leveraging regional cooperation
- Curbing illicit mining

To advance African interests from its mining sector will require that African countries create stronger oversight mechanisms to ensure China and other foreign partners uphold these and other environmental, labor, and community oversight standards.

** Geraud Neema, Africa Editor at the China Global South Project, provided valuable insight and expertise for this Spotlight and assisting with data.*

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