Policy Insights

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Africa's Critical Minerals: Boosting Development Amid Geopolitical Challenges

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African perspectives
Global insights

Executive summary

Africa's large reserves of critical minerals could boost continental industrialisation, while helping global measures against climate change. However, geopolitical tensions between the US-led Group of Seven (G7) and China are adding to some of the structural factors hindering African efforts to move up critical mineral value chains. This policy insight compares the role of Chinese actors in the Democratic Republic of Congo (DRC) and Zimbabwe's mineral sectors with emerging counter-initiatives led by G7 partners. It shows that while this engagement is allowing some African countries to move beyond exporting raw ore, zero-sum thinking among external partners could complicate continental plans for value addition.

Introduction

As African countries try to claw back developmental momentum after the COVID-19 pandemic, they face compounded challenges. First, infrastructure backlogs are worsening ongoing debt and climate crises. This is a significant challenge to both individual countries' development plans and the AU's Agenda 2063, its 50-year development vision and strategy.

Second, African choices of international cooperation partners are increasingly conditioned by geopolitical pressures. Growing tensions between the US-led grouping of G7 countries and China are complicating African options by politicising their choice of development partners.

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Critical minerals bring these two issues together. These elements are mostly defined according to their importance to technological applications with large economic impacts. They include relatively scarce battery metals such as cobalt and lithium, as well as more broadly available elements such as copper. Rare earth minerals are a subset of critical minerals defined by their scarcity and their use in components (such as permanent magnets) crucial to a range of advanced technological and defence products. African countries have some of the world's largest deposits of minerals such as cobalt, essential to a wide range of technological and military applications. Many of these countries hope to use these valuable deposits to boost national development. However, they face numerous barriers, including growing geopolitical pressure and a lack of practical planning by African governments for concrete ways to move up critical mineral value chains. The continent faces the danger that earlier mining regimes growing from colonialism will simply be repeated. These saw minerals being exported in raw form, with refining and other forms of value addition enriching colonial powers. Instead of being enriched themselves, African communities paid the environmental and social costs of the original extraction.

This policy insight places African plans for benefiting from critical mineral resources in the context of geopolitical competition. It maps the involvement of Chinese companies in key critical mineral sectors, including cobalt and copper in the DRC and lithium in Zimbabwe. This presence is contrasted with G7-led initiatives to limit risk related to Chinese involvement in critical mineral supply lines. Both trends are reviewed in the context of African developmental outcomes driven by critical mineral wealth.

The policy insights argues that, despite mineral-focused development plans put forth by African actors, the critical mineral debate is frequently dominated by the needs and priorities of external actors. Specifically, external private sector and government preoccupations with risk and a broader geopolitical framing have dominated the current conversation. In the process, African considerations around economic opportunity; beneficiation; modes of mineral-driven industrialisation; environmental, social and governance (ESG) standards; and how to achieve broad-based benefits have received less attention.

Despite mineral-focused development plans put forth by African actors, the critical mineral debate is frequently dominated by the needs and priorities of external actors

The policy insights outlines Chinese entities' early-mover advantage in establishing themselves in the African critical mineral sector and how their role is shifting as African governments demand more value from these resources. It then sketches counter-responses from G7 governments and companies, showing both the strengths and limitations of these initiatives. It concludes by suggesting ways in which African governments can prioritise better outcomes from these interactions.

Critical minerals and African development strategies

The overlap of the climate crisis and geopolitical tensions around supply chains has focused global attention on African minerals. However, the emphasis on the competition for access among external actors has arguably drawn focus from the evolution of minerals-focused development strategies of African actors. This policy insight lacks the space to fully describe these plans, but it will provide a brief outline of recent initiatives.

The adoption of the AU's African Mining Vision (AMV) in 2009 provided a shared basis for planning focused on mining resources. While the AMV preceded the current focus on critical minerals, it was designed to address a key African paradox underlying current debates around these elements: the persistence of poverty and underdevelopment despite the continent's valuable mineral reserves.

> The adoption of the AU's African Mining Vision in 2009 provided a shared basis for planning focused on mining resources

The AMV emphasised fair benefits from mining to both local communities and host governments, with holistic environmental and social safeguards to be built into mining projects. It also advocated the diversification of mining economies 'so that Africa can move from its historic status as an exporter of cheap raw materials to manufacturer and supplier of knowledge-based services'.[1] This would include diversifying both upstream and downstream mining economies and linking mining activity to broader integrated infrastructure development. In addition, there would be greater African control of mineral surveying and other forms of mining-related knowledge economies. Involving and safeguarding local communities via both enhanced ESG protection and responsible artisanal mining form an important aspect of this planning.

In the wake of the AMV, several African multilateral actors generated mining strategies and dedicated institutions to pursue these goals. These include the African Minerals Development Centre (AMDC) initiated by the AU and the UN Economic Commission for Africa. The AMDC is dedicated to cooperation with both member states and regional economic communities to develop mining strategies with broad developmental benefits, including by advocating enhanced geological and geospatial surveying by African actors.[2]

Another key institution drawing on the AMV is the African Natural Resources Management and Investment Centre situated within the African Development Bank (AfDB). The centre provides skills and advice to national governments to foster the inclusive development of natural resources, including via policy inputs, advocacy and skills transfer.[3] One of

1 AU, "AMV: African Mining Vision", February 2009.

2 UN Economic Commission for Africa, "About AMDC", https://archive.uneca.org/pages/about-amdc.

3 African Development Bank, "About the African Centre for Natural Resources Management and Investment", https://www.afdb.org/fr/topics-and-sectors/initiatives-partnerships/african-natural-resources-centre/about-the-african-natural-resources-centre.

its key innovations is the formulation of an approach document providing the basis for the continent's first comprehensive plan to maximise critical mineral resources.[4] The document provides a holistic view of mineral-driven development with a focus on broadening African knowledge bases related to mining, fostering responsible mineral stewardship and building integrated continental value chains in line with the African Continental Free Trade Agreement.[5] It prepares the ground for the continent's first comprehensive critical minerals strategy, which is expected to be published soon.

In addition, several resource-rich African countries have formulated ambitious national development plans based on value addition to natural resources, for example Namibia's Green Hydrogen and Derivatives Strategy.

Promising as these initiatives are, their implementation is sometimes hampered by the range of structural barriers facing African governments. These include large electricity demand, inflated risk perceptions among external investors, information asymmetry and power gaps in the negotiation of contracts.

> The contemporary geopolitical disputes around African critical minerals partly grew from Western reactions to accelerated Chinese development

Chinese involvement in African critical minerals: Early-mover advantage amid challenges

The contemporary geopolitical disputes around African critical minerals partly grew from Western reactions to accelerated Chinese development. Western actors are showing increasing anxiety about Chinese mass production (eg, electric vehicles [EVs], solar energy components and batteries) and Chinese companies' strong presence in Global South extractive sectors. This presence is helping to build Chinese control over supply lines of the commodities used in this production. Such concerns are reshaping Western actors' relationship with resource-rich developing countries.

4 African Natural Resources Management and Investment Centre, "Approach Paper to Guide Preparation of an African Green Minerals Strategy" (ANRC, Abidjan, December 2022).

5 Jerry Ahadjie, "Pillars of the African Green Minerals Strategy" (Presentation, Resource Management Week Seminar, UN Economic Commission for Europe, Geneva, 25–28 April 2023).

In the words of US President Joe Biden,[6]

> China controls most of the global market in these minerals. And the fact [is] that we can't build a future that's made in America if we ourselves are dependent on China for the materials that power the products of today and tomorrow.

This affirms a broader trend: Chinese companies are now reaping the benefits of having moved early to establish themselves in key extractive sectors during the 2000s and 2010s, at a moment of low interest from more established Western competitors.

The DRC provides a salient example of this early-mover advantage. China's involvement in the highly strategic copper and cobalt sectors dates back to the first decade of the current century, with the landmark $6.2 billion Sicomines resources-for-infrastructure deal coming in 2008. Since then, Chinese entities have combined proactive investment and shrewd navigation of the DRC political landscape (for example, by cultivating relationships with key officials) to centralise their presence in the Central African commodities sector.[7]

Some Chinese actors benefited from close relations with then-president Joseph Kabila's regime, raising concerns among external powers that invested hugely in the post-conflict stabilisation of the DRC. Felix Tshisekedi's assumption of the presidency in 2019 ended this relationship and inaugurated a tumultuous period for Chinese investments in the DRC's mining sector. Pressure increased from May 2021, when Tshisekedi started to question the effectiveness of Chinese mining contracts. Visiting the mining province of Lualaba for the first time, he was reported as saying that it is out of the question that multinationals should continue to enrich themselves at the expense of the Congolese people. The comment arguably hinted at the Sicomines revision process that started in August 2021.[8]

In his sights were two key agreements: the emblematic Sicomines contract (a joint venture between a Chinese consortium and Congolese state miner Gécamines) and a 2016 joint venture between Gécamines and China Molybdenum (CMOC) in the Tenke Fungurume Mining (TFM) project. The latter is one of the world's largest cobalt mines. The Tshisekedi administration complained about the incomplete delivery of infrastructure promised as part of the Sicomines deal. It also charged that the mineral reserves had been understated, demanding additional mineral royalties from the TFM operation.

While the resultant Sicomines contract renegotiation process and the dispute between CMOC and Gécamines raised speculation about the future of Chinese mining investments in the DRC, their outcome proved otherwise.

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6 The White House, "Remarks by President Biden at a Virtual Event on Securing Critical Minerals for a Future Made in America", February 22, 2022.

7 Patrick Anderson, "Cobalt and Corruption: The Influence of Multinational Firms and Foreign States on the Democratic Republic of the Congo", *Journal for Global Business and Community* 14, no. 1 (March 2023).

8 Politico.cd, "Kolwezi : Le Président Félix Tshisekedi visite les entreprises KCC et SICOMINES" [Kolwezi: President Félix Tshisekedi Visits KCC and SICOMINES Companies], May 13, 2021.

In the agreements reached by the involved parties, Beijing emerged strong, having neither lost any of its mining assets nor seen its position or stakes in these joint ventures weakened. The strong performance of Chinese companies in the DRC in 2023 demonstrates their current centrality in the country's copper-cobalt industry. Following the signing of the agreement with Gécamines that ended the dispute, CMOC became the world's leading cobalt producer, overtaking Switzerland's Glencore.[9]

CMOC's cobalt output increased by 174% in 2023 compared to the year before, reaching 55 526 metric tonnes.[10] Its growth has also been made possible by the start of production at its Kisanfu cobalt mine (KFM) – the world's largest cobalt reserve, acquired from the US company Freeport-McMoRan in 2020. KFM went online in the second quarter of 2023.[11]

The doubts that briefly surrounded Chinese mining companies in the DRC quickly dissipated. They continued high levels of copper and cobalt production, despite the sharp fall in cobalt prices on the international market. Due to this growth, the DRC has become the second-largest copper producer after Chile and ahead of Peru.[12]

In 2023, Chinese companies produced 2 361 821.02 metric tonnes of copper and 91 853.19 metric tonnes of cobalt, representing 75% and 67% of national production, respectively.[13] In terms of presence, 36 of the 62 producing companies in the DRC were Chinese.[14]

Chinese entities' rapid consolidation of their dominance of the DRC's critical mineral sector happened despite significant market volatility

CMOC plans to increase its investments in TFM and KFM operations. In its 2024 first quarterly financial report, the group announced that it had produced 147 494 metric tonnes of copper and 25 202 metric tonnes of cobalt at TFM and KFM, corresponding to increases of 122% and 392%, respectively, compared to the same period last year.[15]

Chinese entities' rapid consolidation of their dominance of the DRC's critical mineral sector happened despite significant market volatility, as well as political complications

9 Despite this challenge, Glencore remains one of the largest external investors in the DRC's minerals sector and controls major projects, including Mutanda Mining and Kamoto Copper.

10 Hong Kong Stock Exchange, "CMOC Group Limited: Annual Results Announcement for the Year Ended 31 December 2023", January 2024.

11 Bloomberg News, "CMOC Takes Glencore's Cobalt Crown as Output Jumps 170%", *mining.com*, January 4, 2024.

12 Marco Aquino and Felix Njini, "Congo Overtakes Peru on Copper Output, Still Behind on Exports", *Reuters*, March 22, 2024.

13 Democratic Republic of Congo, Ministry of Mines, "Statistiques Minieres Parcielles et Provisoires pour l'Exercise 2023" [Partial and Provisional Mining Statistics for the Financial Year 2023], January 2024.

14 DRC, Ministry of Mines, "Statistiques Minieres Parcielles et Provisoires".

15 Hong Kong Stock Exchange, "CMOC Group Limited".

within the DRC. These complications were due to a presidential election and change of power to a new leader, as well as growing conflict in the east of the country. CMOC's resolution of its dispute with Gécamines also revealed its ability to navigate the treacherous waters of DRC politics to an extent that few outside actors can equal. Finally, it demonstrated a willingness to absorb temporary losses in the service of a long-term dominance of the sector. In its royalty dispute with Gécamines, CMOC waited out an export ban of around a year.[16] Similarly, its subsequent high levels of production (and the stockpile built up over that year) caused a global cobalt price crash. Instead of limiting production to push up prices, the company indicated it would increase production, a move interpreted as being aimed at keeping shareholder-sensitive Western competitors out of the race.[17]

The wax and wane of Western engagement in the DRC's critical mineral sector

China's continued and strengthened presence has come to the dismay of many Western actors anxious about its influence in the DRC's[18] mining sector. Western governments arguably underestimated Beijing's ability to manoeuvre in the Congolese political environment. They also mistook Kinshasa's pressure on Chinese companies as a determination to lessen Chinese influence in the country rather than as a way of extracting additional value from that centrality.

> The strong Chinese presence in the DRC is partly due to the vacuum left by Western companies in the late 1990s and early 2000s

Like many African countries, the DRC (at least officially) has resisted picking sides between Beijing and the G7 grouping in the face of growing geopolitical pressure over crises such as Ukraine and Gaza. Interviews with Congolese stakeholders in 2023 showed that they were far more driven by a need to rebalance their agreements with Chinese companies than by any geopolitical agenda.

The strong Chinese presence in the DRC is partly due to the vacuum left by Western companies in the late 1990s and early 2000s, when some firms divested due to fears of

16 Andy Home, "West Challenges China's Critical Minerals Hold on Africa", *Reuters*, February 16, 2024.

17 Home, 'West Challenges China's Critical".

18 Olivier Liffran, "How Washington Pushed Tshisekedi to Renegotiate Kabila's China Contracts", *Africa Intelligence*, June 25, 2024.

an unstable political and economic landscape and bad governance in the mining sector. Growing civil society pressure around conflict minerals[19] and a tightening of legislation in the US and EU governing foreign business practices hastened some of this divestment.[20] This response to domestic pressure arguably missed the wider implications of these choices, resulting from the growing importance of critical minerals in an accelerating climate crisis. More conclusively, it also revealed challenges embedded in Western economies' traditional split between the public and private sectors. While it is easy to overstate the level of coordination between the Chinese party-state and Chinese firms, the gap is narrower than in Western countries, where firms' shareholder priorities outweigh their role in state-led strategy.

The most significant example occurred in 2015, when US mining company Freeport-McMoRan decided to sell its shares in TFM to China's CMOC. Few in Washington foresaw the implications of that acquisition for both the world and US strategic interests. Five years later, despite heightened US–China tensions, little attention was paid when Freeport sold an additional stake in KFM (arguably the largest cobalt reserve in the world) to CMOC. The choice was partly driven by the relative absence of buyers from other Western countries. In fact, the conclusion of the deal was delayed by uncertainty about whether Lundin, a Canadian company that owned a minority share of the TFM mine, would exercise its right of first offer to acquire Freeport's majority stake. However, Lundin opted to sell its stake to CMOC as well.[21] Anglophone business press coverage at the time focused on the difficulty faced by Western firms in leaving the DRC, rather than on the strategic importance of the assets they were selling off.[22] The shift in Western discourse about critical minerals became clear about five years later, when outlets such as the *New York Times* retroactively characterised the sale in alarmist geopolitical terms.[23]

> This view of critical minerals as a space of competition with China has reshaped Western engagement with mineral-rich countries in Africa

This view of critical minerals as a space of competition with China has reshaped Western engagement with mineral-rich countries in Africa. Since 2022, the US and European governments have adopted measures and strategic policies aimed at re-engaging critical

19 See, for example, Global Witness, "US Conflict Minerals Law", November 15, 2017.

20 The US Dodd Frank Act and EU Conflict Minerals Regulation Reporting Requirements are examples.

21 Kip Keen, "Experts Say Tenke Fungurume Sale Is Good for Lundin, but Risk Remains", S&P Global, October 15, 2016.

22 See, for example, Bloomberg, "Freeport Investors in DRC Limbo as Tenke Mine Sale Drags On", *Engineering News*, September 24, 2016.

23 Eric Lipton and Dionne Searcey, "How the US Lost Ground to China in the Contest for Clean Energy", *New York Times*, November 21, 2021.

minerals-producing countries such as the DRC[24] as part of their larger global strategy to establish a China-free critical minerals supply chain. These policies include the Minerals Security Partnership (MSP), the US Inflation Reduction Act (IRA), the US Battery Materials Initiative, a proposed Critical Minerals Buyers Club,[25] the EU's Critical Raw Materials Act and the EU's Global Gateway.

In December 2022, the US signed a trilateral Memorandum of Understanding (MoU) with the DRC and Zambia to develop a local value chain of critical minerals and EV batteries in the DRC. It followed the two countries' earlier bilateral agreement to jointly build an EV battery sector and evolved in parallel with similar initiatives between the EU and African countries.[26] Almost two years later, the trilateral MoU has not translated into any tangible agreements between the parties.

The US has also relied on partner countries in its global initiatives focused on reducing the dominance of Chinese actors in critical mineral supplies. This includes the signing in February 2024 of an agreement between Gécamines and the Japan Organization for Metals and Energy Security. This MoU pledges to[27]

> create a framework for coordination in mineral exploration, production, and processing in alignment with our shared commitment to the Partnership for Global Infrastructure and Investment (PGI)'s development of the Lobito Corridor, a G7-driven rail and logistics corridor linking the mining region of southern DRC with the Angolan port of Lobito. The MoU will create a framework for cooperation in the areas of mining and mineral resources to expand business opportunities for the parties.

The signing was first announced by the US State Department, which presented the agreement as an important victory for the MSP, a US-led initiative created in June 2022, in which Japan is an active member.

Similar G7 synergies are at play in the EU's re-engagement with the DRC through the Global Gateway global infrastructure provision initiative. On the sidelines of the Global Gateway summit in October 2023, the EU signed an MoU[28] with the Congolese government on cooperation on critical minerals. The MoU, if implemented, aims to create a comprehensive partnership between the EU and the DRC in the critical minerals supply chain.

24 See, for example, UN Economic Commission for Africa, "Producing Battery Materials in the DRC Could Lower Supply-Chain Emissions and Add Value to the Country's Cobalt", November 24, 2021.

25 Cullen S Hendrix, "Why the Proposed Brussels Buyers Club to Procure Critical Minerals Is a Bad Idea" (Policy Briefs 23-26, Peterson Institute for International Economics, Washington DC, May 2023).

26 See, for example, AfricaMaVal, "Building EU-Africa Partnerships on Sustainable Raw Materials Value Chain", https://africamaval.eu/.

27 US Department of State, "The Minerals Security Partnership Announces Collaboration in Minerals Exploration, Production, and Processing Between GECAMINES in the Democratic Republic of the Congo and JOGMEC in Japan", Media Note, February 5, 2024.

28 European Commission, "Global Gateway: EU Signs Strategic Partnerships on Critical Raw Materials Value Chains with the DRC and Zambia and Advances Cooperation with the US and Other Key Partners to Develop the 'Lobito Corridor'", Press Release, October 26, 2023.

The MoU stated that both parties would adopt a roadmap for its implementation within six months, meaning April 2024. So far, no roadmap has been published.

Although they read differently, both the US and EU MoUs target the same goal: lessening Chinese involvement in critical mineral supply chains. However, so far, many of these geostrategic plans have not translated into completed projects on the ground.

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The success of these initiatives relies heavily on private sector cooperation, since these countries do not have state-owned mining companies. The difficulty of compelling the US and European private sector to (re)engage with the DRC remains one of the biggest challenges facing cross-cutting geopolitics-infused initiatives such as the MSP, the IRA and the EU's critical raw materials policies. It remains unclear how more private firms can be enticed. Many of the factors that drove some of them out of the DRC (corruption, difficulty of doing business, infrastructure gaps) are still salient. In addition, these companies also tend to be wary of the danger of cobalt sourced from small-scale artisanal miners entering their supply chains. This would expose them to ongoing campaigns in Western countries against conflict minerals and the use of child labour in artisanal mining.[29]

Getting private companies involved is key to the success of these initiatives. In particular, this would demonstrate the ability of US and European actors not only to satisfy demand from producing countries for local processing but also to be reliable and viable alternatives to Chinese investments.

Basic refining

At least three Chinese lithium concentrators (factories that do basic refining from raw ore) went online in Zimbabwe between 2023 and 2024.[30] The move was largely the result of a December 2022 ban by Zimbabwe on raw lithium exports.

Beyond mere processing, Zimbabwe demanded that mining companies also upgrade to advanced lithium processing and refining to produce battery-grade lithium for EVs within five years.

29 Jennifer Wu and Janet Wong, "Child Labour in Cobalt Mining" (Portfolio Insights, JP Morgan Asset Management, New York, 2024).
30 "Zulu to Commence Lithium Processing", *The Herald*, September 22, 2023.

This demand is in line with the general trend among critical minerals-producing countries around the world towards local processing. It also comports with the AU's 2009 AMV. Similar policies have been implemented by several other African countries, including Namibia and Nigeria.[31]

The AU's AMV called for mineral-producing countries to develop refining and beneficiation industries in the medium term to boost resource-based development. Critical minerals were not a prominent concept at the time, but the AMV understood the need to refine minerals locally to ensure that African countries could benefit more from their mineral resources. Critical minerals arguably focus greater attention on some of the factors that held back those earlier ambitions, including electricity supply gaps and massive Chinese refining capacity.

Indonesia set an important precedent by banning the export of raw nickel in 2020. The impact of that ban may have inspired authorities in Zimbabwe. Indonesia's ban on raw nickel exports prompted Chinese companies – important players in Indonesia's nickel and bauxite industries – and others to invest massively in nickel processing and refining. This allowed Indonesia to produce today's battery-grade nickel and thus become an important actor in the world's EV battery supply chain.

Zimbabwe intends to repeat Indonesia's success, especially as several Chinese companies present in Indonesia, such as Zhejiang Huayou[32] and Tsingshan Group,[33] are also present in Zimbabwe, where they mine lithium.

> When the Zimbabwean government announced a ban on the export of raw minerals, including lithium, Chinese companies were thus the first to be targeted

When the Zimbabwean government announced a ban on the export of raw minerals, including lithium, Chinese companies were thus the first to be targeted.

Their first reaction was to oppose the ban and raise various systemic challenges and deficits that would make it difficult to meet Zimbabwe's demand to produce battery-grade lithium.

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31 Thomas Reilly, "African Raw Material Export Bans: Protectionism or Self-Determination?" Global Policy Watch, May 21, 2024.

32 "Huayou Cobalt Boosts Nickel Capacity in Indonesia", *Reuters*, July 25, 2023.

33 *Reuters*, "Tsingshang Starts 50,000t Nickel Plant in Indonesia", Mining.com, August 21, 2023.

For example, Zhejiang Huayou Cobalt, which currently operates Zimbabwe's Arcadia lithium mine after acquiring it for $422 million from Australia's Prospect Resources, complained in May 2022 that,[34]

> [f]or each tonne of battery-grade lithium carbonate production, it needs 2 800 kWh of green renewable power, 500-600 cubic meters of natural gas, 2.2 tonnes of concentrated sulfuric acid (98.5%), 2 tonnes of first-class sodium carbonate, 20 kg of first-class sodium hydroxide, 4 tonnes of heavy calcium powder, and 1.6 tonnes of food-grade carbon dioxide.

The different reactions of Chinese companies in Indonesia and Zimbabwe underscore the contrasts in the economic and industrial environments. Zimbabwe's current industrial landscape lacks many prerequisites for the development of advanced critical mineral processing. The country faces a significant energy deficit[35] and does not have a robust industrial chemical sector, which makes it difficult for companies to meet those demands.

However, Chinese companies have made an enormous effort to launch various lithium concentrators in the country to produce concentrated lithium spodumene (an initial refining process that separates it from ore). It is still far from what Harare expects,[36] but it is one of Africa's most significant steps towards local processing.

Despite the many challenges, the Zimbabwean government remains adamant. In November 2023, at the inauguration of Sinomine's Bikita mine concentrator, Zimbabwean President Emmerson Mnangagwa expressed his wish to see mining companies go further in processing.[37] In early January 2024, the government reminded mining companies that they had until March 2024 to come up with a plan on how they intend to meet Zimbabwe's goals of producing battery-grade lithium within five years.[38]

The Indonesian and Zimbabwean experiences may stand as a lesson for the DRC, which is also calling for local refining and the production of EV battery precursors and EV batteries.[39] While the electricity plants meant to power these refineries have tended to be closed-loop systems linked to the specific installation, they have the potential to provide anchor demand, which could then support the provision of electricity to local communities. In theory, such an arrangement could boost industrialisation and community electrification at the same time, but it would depend on political will in the national government.

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34 *Reuters*, "China's Huayou Faces Clash with Regulator over Zimbabwe Lithium Project", Mining.com, June 28, 2022.

35 "Zimbabwe Miners Say Costs, Power Shortages Dampen 2023 Growth Prospects", *Reuters*, November 9, 2022.

36 Nelson Banya and Nyasha Chingono, "Zimbabwe Orders Lithium Miners to Submit Refinery Plans by March 2024", *Reuters*, November 30, 2023.

37 Banya and Chingono, "Zimbabwe Orders Lithium Miners".

38 Banya and Chingono, "Zimbabwe Orders Lithium Miners".

39 "La RDC pourra abriter la première usine de fabrication des batteries électriques en Afrique" [The DRC Could House the First Electric Battery Manufacturing Plant in Africa], *Radio Okapi*, October 5, 2022.

Although the Indonesian example might be the goal, the DRC will likely experience the same objections as Zimbabwe because it faces many of the same structural barriers. Advanced mineral refining and processing is an energy-intensive industry and with an electricity deficit of 900MW for the mining industry,[40] the DRC cannot meet the current needs of its mining companies. Some of these companies are forced to import electricity from Zambia or to use generators, which adds to operating costs. Cobalt refineries would likely require much more energy.

To address that issue in Indonesia, Chinese mining companies invested billions in coal-energy projects to power their refineries, to the dismay of environmental organisations and human rights activists.

The DRC, for its part, can count on its enormous hydroelectric potential from the Congo River, which would allow it to produce clean minerals using clean energy. This, in turn, would address one of the major criticisms often made against mining critical minerals. However, so far, the country's ambitious hydropower plans have not taken off.[41]

> Beyond these infrastructure gaps, a key challenge is to adopt a comprehensive strategy for critical minerals

Beyond these infrastructure gaps, a key challenge is to adopt a comprehensive strategy for critical minerals. The success of local refinery projects will eventually depend on the country's overall critical minerals strategy. However, the DRC has not yet developed an industrial strategy for its cobalt sector.

In contrast, copper processing is quite advanced, with the country currently exporting copper cathode refined to 99.99% purity. In contrast, cobalt processing only reaches a maximum of 35% purity.[42]

40 AfDB, "African Energy Marketplace: Democratic Republic of Congo", https://www.afdb.org/en/topics-and-sectors/initiatives-partnerships/africa-energy-market-place/aemp-round-1/drc#:~:text=The%20Democratic%20Republic%20of%20Congo,for%20the%20city%20of%20Kinshasa.

41 Daphne Psalidakis and Bate Felix, "Congo Still Has Difficulty Securing Investments in Inga Power Project – President", *Reuters*, September 20, 2023.

42 Precious Minerals DRC, "What We Do", https://preciousmineralscongo.com/.

Could engagement by Chinese battery makers spark manufacturing in the DRC?

China's official rhetoric emphasises its willingness to work with the DRC to develop its mining and development objectives, although this is a rather broad commitment without any set benchmarks. Congolese attempts to secure more concrete action from Chinese companies have failed to yield results.

In December 2022, at the height of the dispute between CMOC and Gécamines, Tshisekedi spoke on the phone with the heads of CMOC and CATL (the world's leading manufacturer of EV batteries) about the matter, but nothing came of it. The tension between CMOC – in which CATL took a 24.6% stake in October 2022[43] – and Gécamines was certainly a contributing factor.

In July 2023, following Tshisekedi's visit to China in May 2023, the Congolese Minister for Industry, Julien Paluku, travelled to Shanghai to meet the heads of CMOC and CATL to discuss the issue once again. Reports from the Congolese side, unconfirmed by the companies, mentioned a partnership between CATL, CMOC and the DRC to produce EV batteries.[44]

Now that the dispute between Gécamines and CMOC has been resolved and CMOC has resumed its $2.5 billion investments in its operations in the DRC, discussions with the Congolese authorities will likely resume. Overcoming the barriers to high-level processing will be a key topic.

> The Congolese government will have to produce a comprehensive strategy outlining, among others, its objectives and the timeline for achieving them

For the DRC to get more from the partnership, these discussions with Chinese companies should focus on more comprehensive engagement from both parties to achieve national targets. To this end, the Congolese government will have to produce a comprehensive strategy outlining, among others, its objectives and the timeline for achieving them.

43 Tang Shihua, "CATL Dips Despite Plans to Hike Battery Capacity, Acquire Second-Biggest Stake in CMOC", *Yicai*, October 10, 2022.

44 "Chaine de valeur des batteries électriques : Julien Paluku obtient l'accompagnement de CMOC et son partenaire CATL" [Electric Battery Value Chain: Julien Paluku Obtains Support from CMOC and its Partner CATL], *Le Quotidien RDC*, July 6, 2023.

Such a comprehensive strategic policy would also define the scope for engagement with other partners in a way that could challenge G7 countries' focus on limiting Chinese influence in supply chains.

In its pursuit of local mineral processing, the DRC is officially driven by an economic and industrial agenda rather than a political one. Overall, it remains agnostic about the current geopolitical tensions between China and the West over critical minerals access. The DRC has repeatedly expressed its intention to distance itself from any geopolitical conflict.

Discussions with Congolese stakeholders[45] have revealed their openness to any form of bilateral or multilateral partnership that would further the government's objectives. In theory, DRC calls for EU–China or US–China cooperation in the country should not be ruled out.

The DRC's challenges are complex and multi-dimensional, and it would be difficult for a single partner to provide optimal solutions. However, current US and European initiatives' security and geopolitical agendas limit the possibility of such engagements.

In February 2024, it was reported that the US and the EU were in talks to coordinate the core elements of their critical minerals strategies to address China's dominance in critical mineral supply chains.[46]

While waiting for the outcomes of these talks, Western stakeholders are working on the ground to revamp, modernise and maybe extend Angola's Benguela railway to Zambia.[47] The goal is to gain direct Atlantic Ocean access for the region's cobalt and copper and ensure their export to Europe or the US. In October 2023, an MoU was signed between the US, the EU, the Africa Finance Corporation, Angola, the DRC and Zambia to that effect.[48]

The narrative surrounding the Lobito Corridor project reveals the deeply geopolitical nature of US and European engagement.[49] With Chinese firms making up the majority of mining companies in the DRC and Zambia target areas, the question is whether they will be allowed to use the railway. This would be a key developmental issue for the African countries involved, but it may set up a clash with their Western collaborators.

This geopolitical agenda creates a zero-sum context that greatly limits the DRC's options. Due to the power asymmetry structuring the agreement, the DRC cannot fully set the agenda in its discussions with the US and the EU. The country lacks a national strategic policy on critical minerals, while US and European initiatives will likely address Global North needs first.

45 Interviews with Congolese mining stakeholders were conducted under Chatham House rules in March and April 2024.

46 Alberto Nardelli and Iain Marlow, "EU, US to Align Global Minerals Push Against China's Supply Grip", *Bloomberg*, February 9, 2024.

47 White House, "Joint Statement from the United States and the European Union on support for Angola, Zambia and the Democratic Republic of the Congo's Commitment to Further Develop the Lobito Corridor and the US-EU Launch of a Greenfield Rail Line Feasibility Study", September 9, 2023.

48 US Embassy in the Democratic Republic of the Congo, "Signing of the Memorandum of Understanding on the Development of the Lobito Corridor and the Zambia-Lobito Rail Line", Media Note, October 26, 2023.

49 Michael M Phillips, "How the US Is Derailing China's Influence in Africa", *Wall Street Journal*, January 21, 2024.

The DRC's development and industrial agenda may require a multilateral approach, which the West may oppose. The involvement of non-G7 external partners would help reduce the risks of dependence on a single partner and would allow the DRC to benefit from the competitive advantages of having different partners in solving its problems and achieving its objectives. At present it is unclear how much potential exists for this kind of collaboration.

The DRC's development and industrial agenda may require a multilateral approach, which the West may oppose

Conclusion: Elevating African priorities for critical mineral-driven development

Africa's success in the green transition will inevitably involve taking control of the narrative around its resources, setting the norms and policies according to which regional, continental and international debates and coordination should proceed.

So far, conversations around critical minerals in Africa have been shoehorned into the geopolitical frame of the West vs China, driven by external partners' geopolitical or economic demands. These debates, which often happen in Brussels, Paris, London and Washington DC, currently focus on how Western countries can get access to these minerals on their terms, as part of a wider focus on countering Chinese global influence. The debate has rarely been about Africa's agenda and goals. This tendency is worsened by some resource-rich African countries' lack of inclusive development policies for their mineral reserves.

This runs the risk of sidelining crucial African conversations about both industrial strategy and ESG concerns. In addition to the resultant loss of agency, it also casts the mineral industries in a negative light, for example if Zimbabwe were to follow Indonesia's coal-fired path to refining. In addition, there is the poverty-induced preponderance of child labour in the DRC.

Refining and expanding national policy is, therefore, a key step towards better outputs. This should include policies for environmentally and economically sustainable extraction operations that take local communities into account. Policies on refining and manufacturing should state national goals and priorities and should dovetail with the country's broader educational and human resource development strategies. In addition, the horizontal development of adjacent and service sectors linked to extraction and refinement should receive priority, including how to work with external partners in their development.

> While national policy is fundamental, the power imbalance of African states vis-a-vis external partners limits their leverage

While national policy is fundamental, the power imbalance of African states vis-a-vis external partners limits their leverage. For that reason, national approaches should be bolstered through properly negotiated regional approaches that foster the emergence of cross-border economic integration and promote regional stability and development.

Such regional approaches should focus on pooling resources and making the most of the different comparative advantages in each country. The agreement between the DRC and Zambia on the development of cross-border integrated EV battery value chains could be an early example of this kind of cooperation.

However, the DRC–Zambia case also shows the need to balance cooperation and competition. Since critical minerals offer a development opportunity for producing countries, governments tend to rely on local value chains to create national employment, alleviate poverty and benefit from the industry's revenues.

As much as the regional approach will increase resources, it will require concessions from the various participating countries that could conflict with narrow national objectives. For example, a sticking point in the DRC–Zambia deal is in which country the special economic zone housing the battery precursor plant should be located.[50]

The political economies of national mining industries present a particular challenge to regional policy coordination. In countries where mining revenues support the ruling elite, ensure the stability of the regime and support political patronage, incentives to reform national industries to boost a regional approach are likely to be lower.

Coordination by the AU and AfDB could help to overcome these barriers and foster regional integration. As outlined above, the AU's AMDC works with member states to strengthen national policy, while the AfDB is expected to release a continental green minerals strategy soon. The AMDC is also preparing an African Critical Minerals

50 Silas Olan'g and Thomas Scurfield, "The DRC-Zambia Battery Plant: Key Considerations for Governments in 2024" (Briefing, Natural Resources Governance Institute, Kinshasa, December 20, 2023).

Observatory Project, aimed at strengthening African surveying and linking enhanced knowledge about reserves to integrated industrial policy.[51]

Raising money within African countries and regions for the internal funding of integrated value chains free from external geopolitical pressure remains a key challenge. In addition, funds to fuel further exploration are needed. The more new deposits found in Africa, the more central the continent becomes and the more it can set the terms of its cooperation with external partners. Finally, Africa should move ahead in research and development for spin-off uses of critical minerals, to head off current attempts (for example) to limit the use of cobalt in batteries.

However, the AU's current political weaknesses arguably limit its ability to induce member states and regional economic communities to pursue integrated critical mineral policies. This, in turn, leaves the continent vulnerable to the whims of external partners.

51 South African Institute of International Affairs, "Terms of Reference: Development of a Website for the African Critical Minerals Observatory (ACMO) Project", https://saiia.org.za/wp-content/uploads/2023/09/SAIIA-Terms-of-Reference-Web-Development.pdf.

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Cover image

A worker checks parts for the battery packs at a factory of Sunwoda Electric Vehicle Battery in Nanjing in east China (Feature China/Future Publishing via Getty Images)

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