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A Special Focus on Africa's Critical Minerals*

Harnessing Africa's Critical Minerals Wealth

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1. Introduction

'Mining is not everything, but without mining, everything is nothing.'[1]

Africa holds about 30 per cent of the world's mineral resources, many of which are vital for the energy transition from fossil fuels to renewables and low-carbon technologies, including electricity networks, battery storage and electric vehicles (EVs) (Chandler, 2022). Global efforts to meet the Paris Agreement's ambition of net-zero emissions by 2050, therefore, would place 'Africa at the heart of the green energy transition, both in environmental and geopolitical terms' (ibid.).

In addition to their role in the energy transition, these minerals already serve as an important source of revenue for African countries, comprising about one-third of exports from at least 33 African countries in 2019 (Signe, 2021). Moreover, 45 out of the 54 African countries were classified as commodity-dependant, with 17 classified as dependent on non-fuel minerals, ores and metals export (UNCTAD, 2023).[2] Even though Africa's abundant natural resource wealth is estimated at close to US$50 billion (Figure 1),[3] the sub-Saharan African (SSA) region's budget for mineral exploration projects ranks second-lowest globally, at about half that of Australia, Canada and Latin America – despite its landmass being three times larger than that of Australia and Canada combined (Baskaran, 2022).

The global energy transition and the associated increase in demand for critical minerals offers the African continent unique prospects. Formulating policies and strategies to refine and process more minerals locally and regionally and integrating Africa into clean energy technology manufacturing value chains, such as those for EVs and battery storage, can provide a springboard for economic diversification and structural transformation. The African Union's (AU) development blueprint, Agenda 2063, recognises minerals as a strategic asset for Africa's development.

It is evident that the global energy transition cannot be achieved without leveraging Africa's resources. Africa's priorities for its energy transition, however, differ from the rest of the world's. As of 2021, nearly half of the SSA population lacks access to basic affordable electricity (World Bank, nd), which hinders progress towards the Sustainable Development Goals (SDGs). This underscores the urgent need 'to harness minerals

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1 Max Planck, German theoretical physicist.

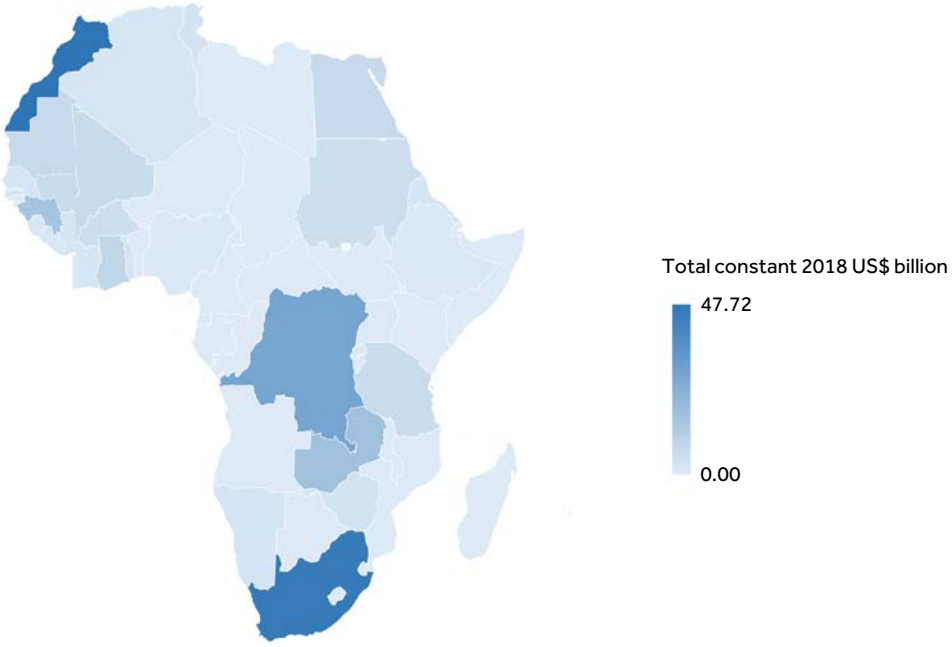
2 Out of the 54 African countries, 48 are classified as being in sub-Saharan Africa.

3 The World Bank uses multiple estimates, including domestic country estimates, future value of the resource, lifetime of the resource and a discounting rate.

to energise Africa' (AfDB, 2023). While African countries boast abundant renewable energy resources, they need to construct transmission and distribution networks to deliver power to load centres in cities, industries or mines. As recognised by the African Development Bank (AfDB) (ibid.), 'the best solar potential is located in Africa's driest areas with low population densities, whilst the highest demand is often in areas with low renewable energy potential.' The construction of these crucial electricity grid networks relies on steel, aluminium and copper, mineral ores that are abundant in Africa.

This issue of Commonwealth *Trade Hot Topics*, the first of a two-part series, highlights the role of Africa in the global energy transition. It examines the trends and dynamics regarding reserves, production and trade of critical minerals on the continent, especially those needed for Africa's own energy transition. It concludes by proposing five pathways for African countries to harness their critical minerals potential.

Figure 1. Africa's natural capital minerals wealth, 2018



Source: Authors using World Bank Wealth of Nations database (natural capital, non-renewable assets: minerals).

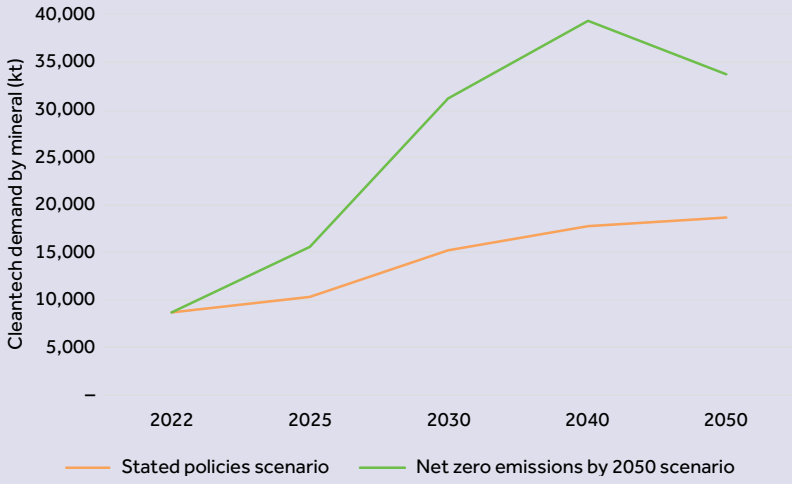
Box 1. Forecasting the global increasing demand for critical minerals

The Paris Agreement's ambitious targets of limiting global warming to 1.5°C by the end of this century requires global greenhouse gas emissions to decline by 43 per cent by 2030 (UNFCCC, nd). To reach these targets, the International Renewable Energy Agency (IRENA) predicts that renewables will need to constitute 91 per cent of the energy mix by 2050. This would require renewables-based installed capacity to increase tenfold, from 3,300 GW in 2022 to 33,000 GW in 2050 (IRENA, 2023). At the core of this energy transition is the manufacturing of clean energy technologies, with countries racing to secure supplies of minerals that are critical for the manufacturing of these technologies.

The type of minerals required vary by technology (see Figure 4). Copper, for instance, forms the cornerstone of all electricity-related technologies; along with aluminium, it is crucial for electricity networks. Minerals such as lithium, cobalt, nickel, manganese and graphite are vital for manufacturing batteries. Rare earth minerals are necessary to produce magnets used in wind turbines and EV motors (IEA, 2021).

The shift to clean energy systems has, therefore, driven a huge increase in demand for these minerals. This is evidenced by the rapid growth of the critical minerals market – nearly doubling in size in the past five years to US$320 billion in 2022 and expected to double again by the end of the decade (Cohen, 2023). In fact, if countries aim to reach net-zero emissions by 2050, a fivefold increase in demand for critical minerals for clean energy technologies is expected by 2040 (Figure 2).

Figure 2. Demand forecast for critical minerals for clean energy technologies (kt)



Source: Authors using IEA Critical Minerals Dataset 2024.

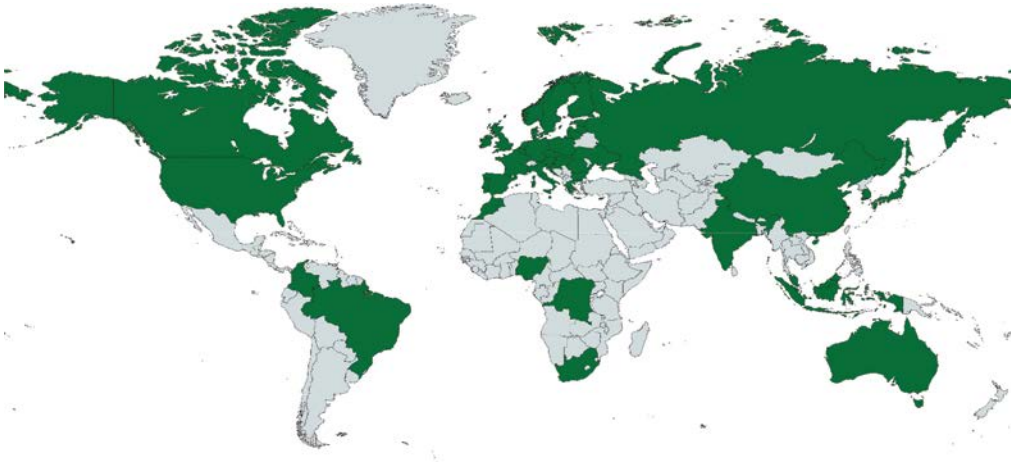
2. What minerals are critical for Africa?

The identification of mineral 'criticality' depends primarily on the economic importance and the level of supply risk – determined by factors including scarcity; proximity of supply and concentration across the value chain; lack of viable substitutes; and the complexity of extraction and/or refining processes (IRENA, 2023).The escalation of global geopolitical tensions, coupled with the imperative to secure supply chains, has prompted many countries to publish official national lists of minerals deemed 'strategic' or 'critical' to their interests, including for the energy transition. This has resulted in greater government scrutiny, control and regulation of the production, supply and trade of these minerals.

These national lists combine minerals vital for the growth and development of various sectors, including national security, nuclear technology, defence, infrastructure and the energy transition. However, as each country has its own interests and priorities, there is currently no global consensus on the definition of 'critical minerals'. Consequently, there is also no universally agreed upon definition of minerals critical for the energy transition. As of 2023, only four African countries – the Democratic Republic of the Congo (DRC), Morocco, Nigeria and South Africa – have published official critical minerals lists (Figure 3).

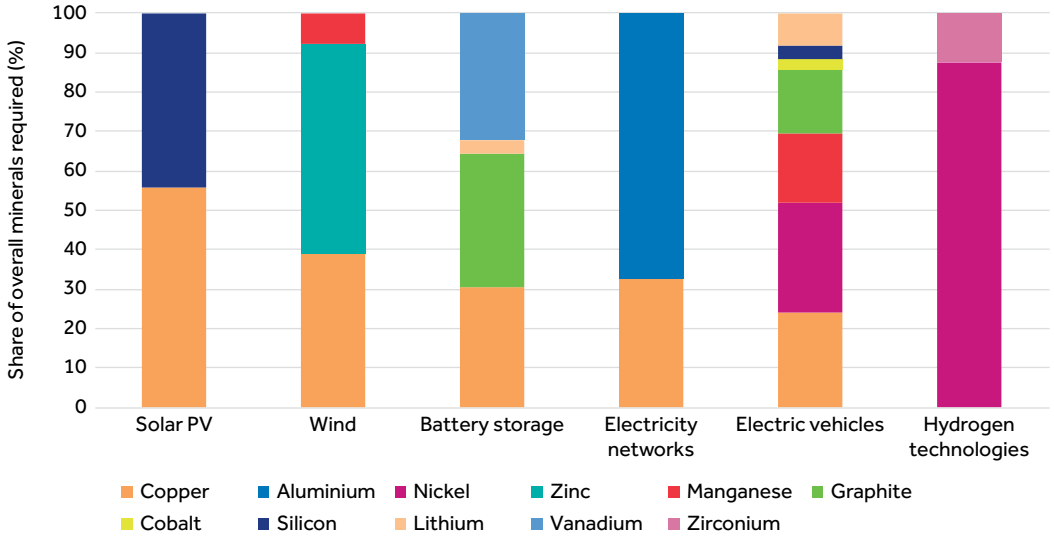
The International Energy Agency (IEA) has identified six clean energy technologies crucial for the energy transition: electricity networks, battery storage, EVs, solar photovoltaic (PV), wind energy and hydrogen technologies. The IEA also forecasts an increasing demand for various critical minerals necessary for manufacturing these technologies (Figure 4). Considering these demand projections (Box 1) and the relative importance of

Figure 3. Countries with official national critical minerals lists in 2022



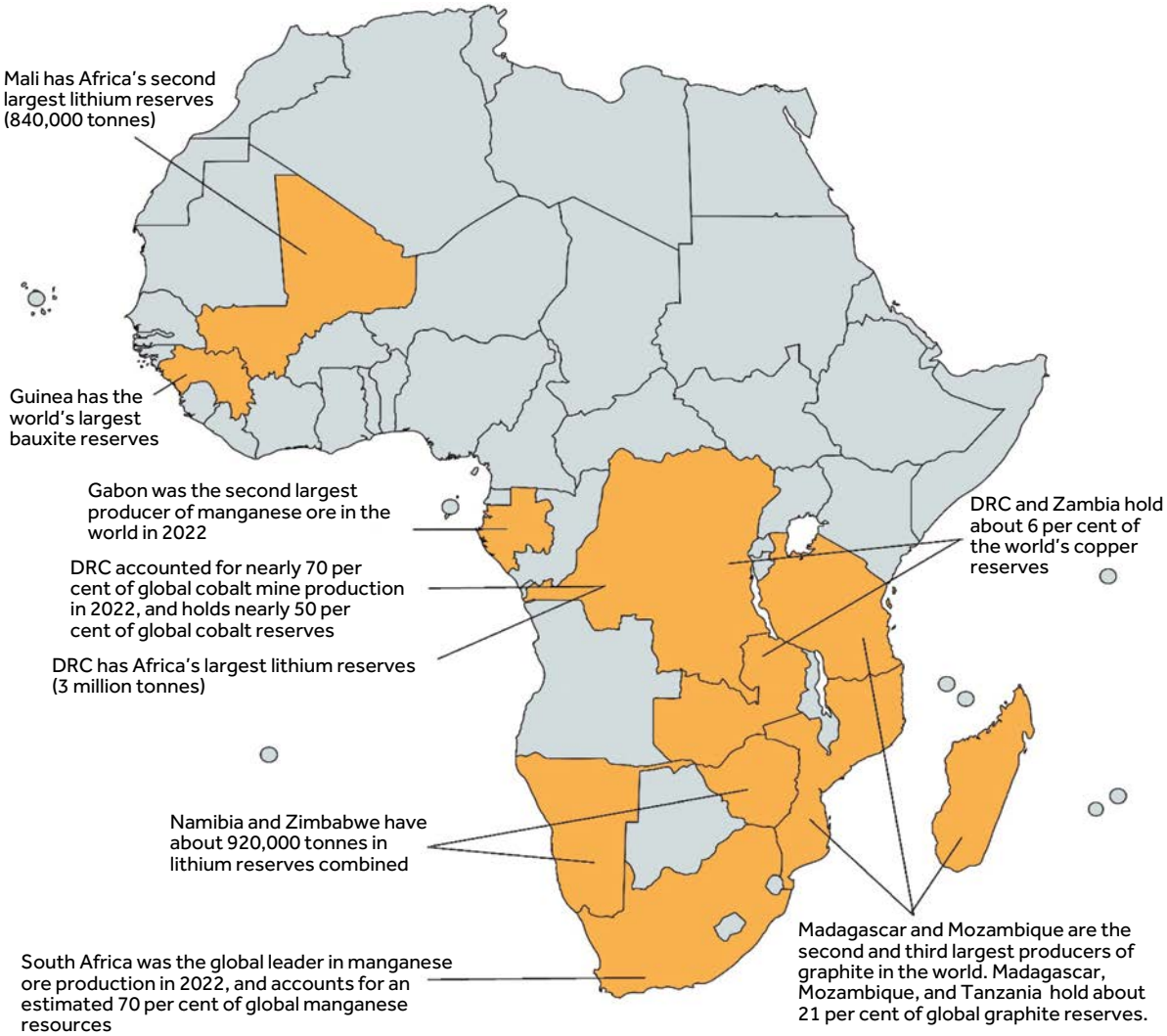
Note: This map covers only those countries that have identified a list of strategic or critical minerals. There are various other countries that have implemented national mineral and mining strategies without identifying a specific minerals list.
Source: Authors using IEA policy tracker.

Figure 4. Key minerals required for manufacturing energy transition technologies



Note: This graph shows only the percentage share of minerals required to manufacture these technologies. Some other minerals, such as platinum, or other rare earth elements, are also crucial but constitute a smaller proportionate share.
Source: Authors calculated using IEA Critical Minerals Demand Dataset 2024.

Figure 5. African countries with the most critical mineral reserves for the energy transition



Note: Expectedly, these countries are also reflected as having abundant natural capital minerals wealth in Figure 1
Source: Authors using United States Geological Survey 2022.

these technologies for Africa, alongside its share of production and reserves (Figure 5),[4] this edition of *Trade Hot Topics* focuses on six critical minerals essential to Africa's energy transition (Table 1).

Table 1. Critical minerals essential to Africa's energy transition

Mineral	Importance and use	Location of Africa's reserves (in order of magnitude)
Copper	Electricity and grid networks, solar PV cells, wind turbines, EV manufacturing, battery storage	DRC, Zambia
Cobalt	Battery storage, EV manufacturing	DRC
Aluminium ore	Electricity and grid networks	Guinea
Manganese	Wind turbines, EV manufacturing	South Africa, Gabon
Graphite	Battery storage, EV manufacturing	Madagascar, Mozambique, Tanzania
Lithium	Battery storage, EV manufacturing	DRC, Namibia, Zimbabwe, Mali, Ghana

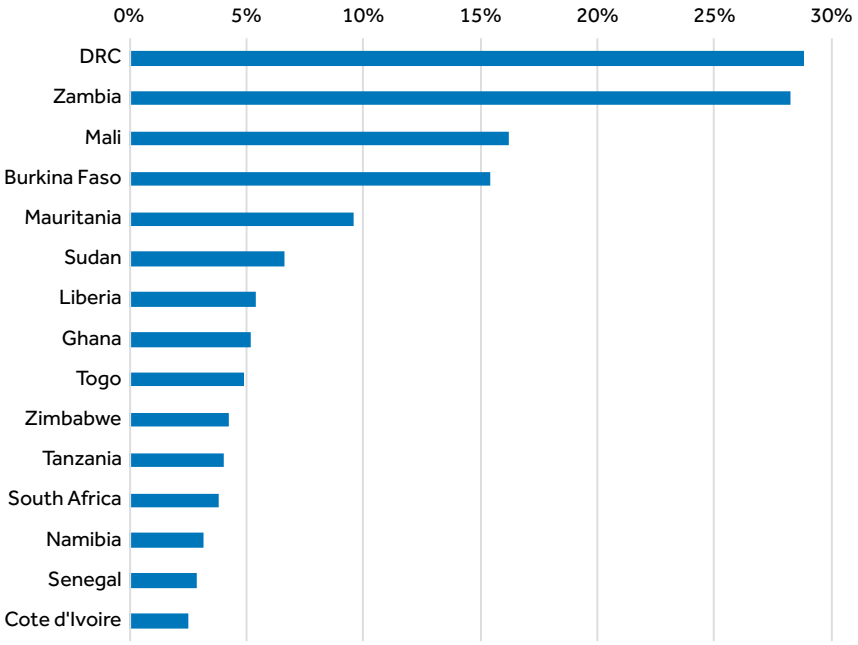
3. Production and trade of critical minerals in Africa

3.1 Global trade in critical minerals

Mining plays a crucial role in the economies of many SSA countries, contributing significantly to their gross domestic product (GDP) (Figure 6), export earnings, government revenues and employment opportunities. The importance of mining varies across countries depending on factors such as abundance of mineral resources, level of investment in the sector, and government policies. With rising demand for critical minerals, Africa must leverage its abundant endowments while addressing challenges such as illegal mining and attracting investment.

Africa's dominance in the production and reserves of certain critical minerals (Figure 5) is reflected in its share of global exports of unprocessed mineral ores (Figure 7). The continent boasts the largest production and reserve shares of aluminium, cobalt and manganese globally, and accounts for over 50 per cent of the worldwide exports of these ores. Africa is also becoming a notable market for copper and graphite mining, representing around 2 per cent and 20 per cent of global exports,

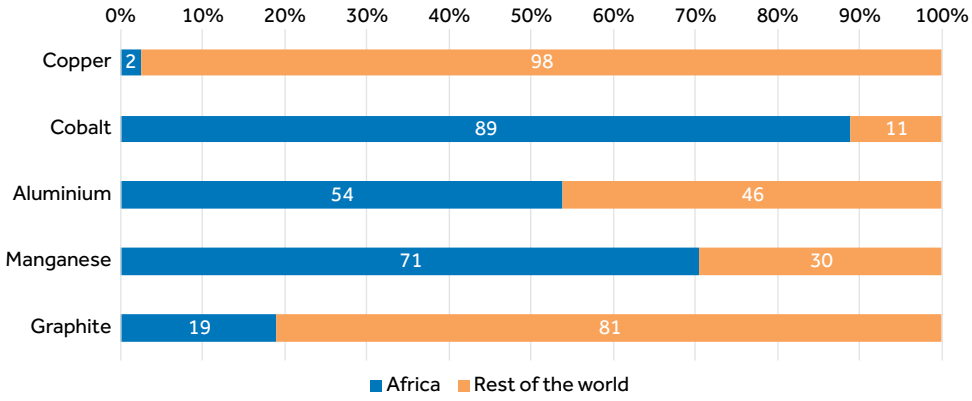
Figure 6. The contribution of minerals mining to GDP in SSA (top 15), 2021 (%)



Note: The minerals covered in this list are tin, gold, lead, zinc, iron, copper, nickel, silver, bauxite (aluminium) and phosphate.
Source: Authors using World Bank data.

4 Africa also has large reserves in other minerals vital for clean energy technologies, such as Chromium and Platinum, but are not included for the purposes of this paper based on their relative importance in clean energy technology manufacturing.

Figure 7. Share of exports of Africa's critical mineral ores and concentrates, 2019–2022 average (% of exports)[5]



Source: Authors using UN Comtrade.

respectively. However, it lags behind established copper and graphite mining industries in countries such as Argentina, Chile and China. As for lithium exports, Africa's share remains negligible owing to the continent's lithium mining industry being largely in the exploration phase (Box 2).

Box 2. Africa's lithium boom

Lithium, also called 'white gold', is an integral component for battery manufacturing, used to power EVs, and for renewable energy storage (Otugo, 2023). Currently, global lithium supply is dominated by Australia, Chile and China, which together account for nearly 90 per cent. With lithium demand projected to increase in the coming years, the focus of securing new lithium supply has slowly shifted to Africa. With the continent currently producing 40,000 tonnes annually, it is predicted that Africa will raise the production to about 497,000 tonnes by 2030 (Denina and Roelf, 2023).

Large lithium deposits have been identified in DRC, Ghana, Mali, Namibia and Zimbabwe, with several projects already being funded by large Chinese companies such as CATL and Ganfeng. Most of these African lithium reserves are still at an exploratory and development stage (Global Witness, 2023). Many of these countries have imposed export bans on raw lithium and are determined to retain value at home to ensure domestic processing industries are established along with mining industries.

The supply of these ores from Africa is highly concentrated, with one country contributing over 50 per cent of Africa's export share in four out of five critical minerals (Figure 8). Nearly 95 per cent of Africa's cobalt and aluminium ore exports originate from DRC and Guinea, respectively, while Madagascar and Mozambique account almost entirely for Africa's graphite exports. Although DRC is the largest producer of copper ore by far, copper ore exports are relatively more diversified across several African countries.

Similarly, the destination of these ore exports is monopolised, with China importing over half of Africa's critical minerals (Figure 9). China is the world's largest processor and refiner of these minerals, and is the global hub for battery, EV and solar panel manufacturing. Other major importers include the EU and India. The USA imports negligible amounts of ores from Africa.

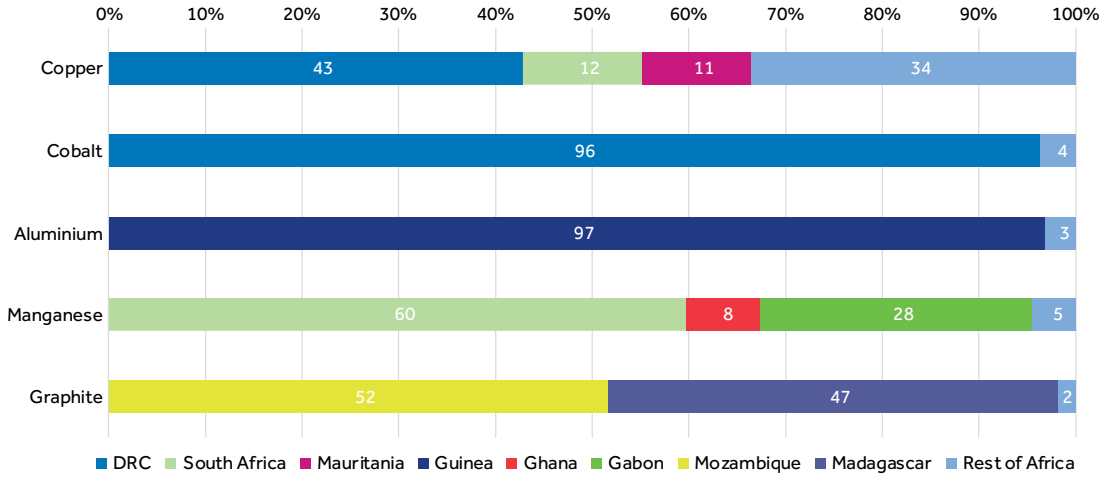
3.2 Opportunities to increase exports of mineral ores

It was noted earlier that Africa dominates the production and reserves of certain critical minerals, as reflected in its share of global exports of unprocessed mineral ores (Figure 7). While most African countries aim for greater domestic value addition and processing, there are some advantages to exporting these minerals in an unprocessed form.

First, African countries can capitalise on global demand for raw materials, which tends to be high owing to their essential role in various industries such as electronics, automotives and renewable energy. As the global economy continues to grow, particularly

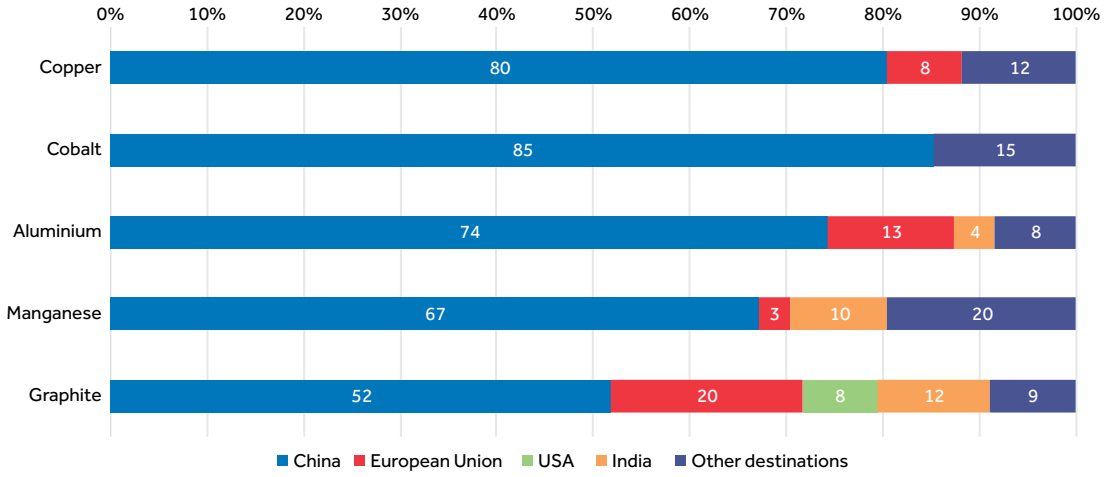
5 The HS codes used for Figures 7, 8, and 9 are: Copper ores and concentrates (260300); Cobalt ores and concentrates (260500); Aluminium ores and concentrates (260600); Manganese ores and concentrates (260200); and Graphite, natural, in powder and in flakes (250410).

Figure 8. Countries' share in Africa's exports of critical mineral ores and concentrates, 2019–2022 average (% of exports)



Source: Authors using UN Comtrade.

Figure 9. Export of critical mineral ores by destination, 2019–2022 average (% of exports)



Source: Authors using UN Comtrade.

in emerging markets, demand for these minerals remains robust. By exporting in ore form, African countries can meet this demand more readily and efficiently while also securing export earnings and foreign exchange reserves. However, as discussed later, these prices can be extremely volatile.

Second, until processing industries are established, exporting raw ore allows African countries to leverage their comparative advantage in resource extraction. Many African countries possess abundant natural resources and have established mining infrastructure and expertise. Extracting and exporting minerals in ore form capitalises on these strengths, enabling countries to generate revenue and stimulate economic growth without the need for significant additional investment in processing facilities.

3.3 Opportunities for minerals processing and value addition

The abundance of Africa's critical minerals means processing them domestically offers an additional pathway for African source countries to promote resource-based industrialisation and achieve sustainable economic growth and development. The AU's Agenda 2063, complemented by the Africa Mining Vision and the more recent Commodity Strategy and Action Plan, advocates for policies and initiatives that leverage minerals for value addition, industrialisation and inclusive growth, while promoting good governance and regional integration in the management of mineral resources across the continent.

Value addition enhances the market value of minerals, leading to higher export earnings and foreign exchange reserves compared with for unprocessed ores. Second, it creates employment opportunities across various sectors of the value chain, contributing to poverty alleviation and socio-economic development. Third, processing minerals locally fosters industrialisation by attracting investment in infrastructure and technology, promoting economic diversification and reducing dependency on volatile commodity markets.

Furthermore, value addition enables countries to capture a larger share of the value chain, fostering innovation and skill development while enhancing competitiveness in global markets (UNECA, 2013).

African countries can use various tools and strategies to promote greater processing of minerals and resource-based industrialisation. Governments can develop and implement policies that incentivise domestic processing and value addition, including tax incentives, local content requirements, export taxes or restrictions, subsidies and preferential treatment for industries involved in mineral processing. Attracting both domestic and foreign investment is imperative to secure the capital, infrastructure and technology transfer essential for enhancing mineral processing capabilities. Building and upgrading infrastructure such as roads, railways, ports and energy supply networks is necessary for supporting mineral processing facilities and industrial development (UNECA, 2013). However, minerals processing is heavily energy- and capital-intensive, posing a significant challenge for African countries.

Furthermore, governments will need to negotiate trade agreements, reform foreign direct investment regimes and remove trade barriers to facilitate access to international markets for processed mineral products. As a complementary development strategy, African countries could introduce policies to deploy revenues from exports of critical mineral ores strategically, such as through the creation of a sovereign wealth fund (see Box 3). This could be used to drive investment and upgrade productive capacity in other sectors that promote structural transformation.

The development of regional value chains for critical minerals processing and manufacturing of clean energy goods can also drive resource-based industrialisation and forward/backward linkages in African countries. The co-operation agreement between DRC and Zambia to develop an EV battery industry highlights this potential (UNECA, 2022). By boosting the processing industry, both countries can broaden their productive capacity and create new job opportunities, fostering sustainable long-term economic growth. Furthermore, there may be potential to foster value chains for EVs, particularly two- and three-wheeled vehicles and commuter buses, and other electrical appliances and goods that can be traded more widely under the African Continental Free Trade Area (AfCFTA) (AfDB, 2023). However, this will necessitate a thorough assessment of feasibility, including factors such as infrastructure readiness, manufacturing capabilities and market demand across African countries.

There is also an opportunity for African countries to process minerals and manufacture the critical inputs needed for the continent's own electrification, particularly transmission and distribution networks. For example, copper, known as the 'metal for electrification', is extensively used in electrical wiring, conductors and components. Despite two-thirds of Africa's copper exports being in refined forms, a significant amount of this copper comes back to Africa as essential ingredients for environmental goods (see Box 4).

4. Way forward: Harnessing Africa's critical minerals potential

With an anticipated increase in focus and demand for Africa's critical minerals reserves, it is vital that any gains countries derive be utilised in a sustainable and equitable way to derive maximum benefit for its people. This section suggests five key recommendations to effectively harness Africa's critical minerals potential.

Box 3. Botswana's Pula Fund

Botswana is the world's second-largest producer of diamonds, with mineral revenue contributing to nearly 60 per cent of its annual budget at its peak. However, experts anticipate the diamond industry to be depleted of its resources by 2030 (Kojo, 2015). In order to preserve and invest earnings generated, Botswana created its Sovereign Wealth Fund (SWF), called the Pula Fund, in 1994 (Bank of Botswana, nd). One of Africa's oldest SWFs, its aim is to provide an economic cushion for the country for sudden or significant drops in prices or supply of diamonds in the future, and to soften long-term economic impacts by saving and investing these earnings. Administered jointly by the federal government and Bank of Botswana, the Pula Fund is the second-largest SWF in Africa,[6] with total assets estimated at about US$4.1 billion as of June 2022 (Fernando, 2022).

6 The largest SWF in Africa is the Libyan Investment Authority.

Box 4. Africa's copper exports

Out of the US$308 billion global exports in copper ores and products in 2021, Africa contributed 9 per cent ($27 billion). DRC, Zambia, and South Africa were the top exporters, comprising 97 per cent of Africa's total copper exports. China was the main destination, accounting for 45 per cent of exports, followed by Singapore and Switzerland. Approximately two-thirds of these exports consisted of partially refined copper (such as bars, billets, alloys), indicating valuable processing occurring within the source countries.

4.1 Creating a comprehensive strategy for critical minerals in Africa

Despite their reliance on the mining sector, only a few countries in Africa have national critical mineral lists and strategies. The publication of a critical minerals list offers various advantages, including enhanced transparency and accountability, which could attract more interest and investment from other countries and the private sector (Evenett and Fritz, 2023). Recognising these advantages, as well as Africa's pivotal role in the energy transition value chain, in 2023 AfDB and its partners[7] initiated the development of an African Green Minerals Strategy (AGMS). The aim of this is to complement the existing body of mineral development policies in Africa with a clear strategy that focuses on mineral value chains critical for the energy transition (AfDB, 2023).

In its Approach Paper, the AfDB proposes a 'core' list of minerals critical for Africa and the energy transition, utilising a similar approach to the identification of minerals as used in this report. This considers their usage in clean energy technologies, those that maximise Africa's resource endowments and those that serve as feedstocks for resource-based industrialisation. This list of core minerals includes the six minerals focused on in this report. It also provides a 'watchlist' of minerals that could be included in the core list depending on new discoveries of deposits and technological developments.

The Approach Paper outlines an action plan for developing a comprehensive AGMS, including a roadmap for optimising battery and EV value chains in Africa. It proposes several risk mitigation steps in the development of these value chains, such as facilitating mining licences, fostering partnerships and regional economic integration, and engaging in critical minerals diplomacy to advance the AGMS.

4.2 Enhancing Africa's role in critical minerals diplomacy

The anticipated surge in demand for critical minerals in the coming decade has raised concerns in countries around the world about securing necessary supplies, leading to a scramble for these minerals in recent years, with Africa caught in the crossfire (Evenett and Fritz, 2023). Over the last five years, there has been a growing number of strategic partnerships and alliances aimed at securing critical mineral value

Table 2. Proposed critical mineral lists in the African Green Minerals Strategy

Core list		Watch list	
Aluminium	Manganese	Arsenic	Niobium
Chromium	Nickel	Boron	Selenium
Cobalt	Platinum group metals	Cadmium	Silicon
Graphite	Rare earth elements	Gallium	Silver
Iron-steel	Vanadium	Germanium	Tantalum
Lithium	Zinc	Indium	Tellurium
		Lead	Tin
		Magnesium	Tungsten
		Molybdenum	Zirconium

Source: AfDB (2023).

7 The preparation of this strategy was commissioned by AfDB's African Natural Resources Management and Investment Centre, the African Minerals Development Centre, the African Legal Support Facility, the United Nations Economic Commission for Africa and the United Nations Development Programme.

chains (Table 3). However, notably, African countries are not party to any of these alliances.

Africa's inclusion thus far has taken the form primarily of strategic partnerships between countries and the dominant player in critical mineral value chains – namely, China. There has also been increasing interest from the EU and the USA in securing supplies directly from Africa through other partnerships. However, a significant continent-wide impetus was generated when the AU was recently invited to become a permanent member of the G-20, providing Africa with a crucial voice on the world stage (Munyati, 2023).

4.3 Leveraging African regionalism and the AfCFTA

As protectionist policies are increasingly implemented by countries around the world, such as the USA's Inflation Reduction Act and the EU's Critical Raw Materials Act, it becomes important for Africa to enhance its regional co-operation efforts and fully operationalise the AfCFTA. While many countries have imposed local content requirements and export restrictions to boost domestic processing industries, the AfCFTA could unlock the potential to promote mineral value addition across the continent, thereby increasing sectoral productivity and overall export value (Cust and Zeufack, 2023). An effective operationalisation of the AfCFTA would ideally allow various African countries to specialise in different parts of the value chain – from the manufacturing of inputs like machinery to the extraction of minerals, processing industries and, ultimately, the manufacturing of technologies like batteries and EVs. These products would then be traded tariff-free across participating countries, thereby enabling the entire value chain to come together competitively within Africa (ibid.).

While tariff reductions are often not implemented, owing to concerns of losing domestic revenue, the United Nations Conference on Trade and Development (UNCTAD) estimates that a complete tariff elimination under the AfCFTA would increase GDP by 0.97 per cent, total employment by 1.2 per cent and intra-African trade growth by 33 per cent, and reduce the continent's trade deficit by half (Saygili et al., 2018).

However, non-tariff barriers pose significant obstacles to the operationalisation of the Agreement. Although the AfCFTA requires states to eliminate non-tariff barriers to trade (Article 4), deficiencies in transport and energy infrastructure remain challenges to resource-based industrialisation, especially in critical mineral-rich countries. The mining sector, being energy-intensive, requires a constant source of electricity, which is often scarce and unreliable. This results in high business costs and renders investments unprofitable.

Furthermore, landlocked countries like DRC, Zambia and Zimbabwe face further challenges as a result of exorbitant transport costs (EITI Zambia, 2021). Recognising these challenges, a series of Memoranda of Understanding have been signed between the EU, USA, Angola, DRC, Zambia, AfDB and the Africa Finance Corporation to support and finance the development of the Lobito Corridor. This corridor aims to create the necessary transportation infrastructure to connect the DRC–Zambia 'Copperbelt' to ports in Angola, facilitating the export of raw copper and cobalt (IEA, 2023).

4.4 Unlocking the potential of digitalisation

As discussed in previous sections, Africa is considered to possess some of the largest untapped critical mineral reserves in the world.

Table 3. Global critical minerals alliances

Alliance	Year	Countries
Energy Resource Governance Initiative	2019	Australia, Botswana, Canada, Peru, USA
Critical Minerals Mapping Initiative	2019	Australia, Canada, USA
European Raw Materials Alliance	2020	EU
Supply Chain Resilience Initiative	2021	Australia, India, Japan
Minerals Security Partnership	2022	Australia, Canada, EU, Finland, France, Germany, India, Italy, Japan, Norway, Republic of Korea, UK, USA
Sustainable Critical Minerals Alliance	2022	Australia, Canada, France, Germany, Japan, UK, USA
G-7 Five Point Plan for Critical Minerals Security	2023	Canada, France, Germany, Italy, Japan, United Kingdom, USA

Source: IRENA (2023).

Box 5. The growing interest in deep seabed mining

Deep seabed mining (DSM) is a process that extracts minerals such as cobalt, copper, nickel and manganese from potato-sized rocks called 'polymetallic nodules' found on the ocean floor at depths of around 4–6 km. These are found mainly in the Clarion-Clipperton Zone in the Pacific Ocean (Reid, 2021).

DSM has been the subject of much controversy in recent years. Some mining companies have highlighted the exploitative nature of land-based mining for minerals and claim that DSM provides a much cleaner alternative and is necessary for a successful green transition (Alberts, 2023). However, fears have grown about the damage that such activities could cause to the environment, including through the exploitation of fragile marine ecosystems like coral reefs and irreversible damage to biodiversity (SOA Ghana, 2022).

Nonetheless, in order to take advantage of these resources, and boost its own economic growth, Nauru approached the International Seabed Authority (ISA) in 2021 with a plan to begin DSM. Based on ISA's processes, it had two years to complete the adoption of rules, regulations and processes required for exploitative activities in the ocean floor. In 2023, however, the mining regulations were still in draft form; an agreement was reached to hold formal discussions on the protection of the marine environment in 2024. While France has called for a complete ban on DSM, various other countries[8] have called for a moratorium on DSM to allow time to gather more scientific information on deep-sea ecosystems and ensure minimal environmental damage (DSCC, nd).

Countries can take advantage of this potential by unlocking new opportunities through digitalisation for safety, sustainability and efficiency. Digital technologies can be used for systematic geological mapping and exploration to identify mineral deposits for extraction. In Zambia, for instance, an American startup, KoBold Metals, discovered a large copper deposit through the use of artificial intelligence (Gil, 2024).

While the natural downside of automation and digitalisation is the possibility of job losses in some sectors, Signe (2021) suggests that more productive mines would increase profit margins. This would provide national governments with more revenue to spend on infrastructure projects and develop other local industries to reduce dependence on mines for employment. Digital technologies like blockchain can also be used to enhance transparency across the mining value chain, to ensure ethical and sustainable standards are met (Skillings, 2023). African countries do not own most of these technologies but could access them through joint ventures and partnerships with advanced countries.

4.5 Managing the impacts of deep seabed mining

Growing demand for critical minerals has led to countries exploring new frontiers to obtain them, including extraction from mineral-rich oceans (Box 5). DSM could have other economic impacts on Africa's mining industry, creating direct competition for minerals that the continent largely has a monopoly over. A study commissioned by the ISA Secretariat found that countries most likely to be affected by DSM included DRC, Gabon, Madagascar and Zambia (Lapteva et al., 2020). In this regard, the African Group of the ISA criticised Nauru's 2021 proposal to fast-track decisions on DSM rules, insisting that any mining operation in the ocean could not commence until a financial regime to compensate 'humanity for its resources and land-based miners for their losses' was set up (ISA, 2021). Furthermore, the Africa Group is the only regional grouping that does not have a state party sponsoring a corporation to undertake exploration activities[9] in the deep seabed (Egede, 2022).

With projections of DSM becoming operational by the end of the decade, Africa has potential to reap the benefits of these activities if it so chooses. Of the 54 African states, 38 are coastal states, with nearly 13 million km^2 of maritime zones under its jurisdiction. Interest has grown in Africa's blue economy, including through the establishment of the Africa Deep Seabed Project. Started in collaboration with the ISA, the AU and the Norwegian Agency for Development Cooperation, the aim of this project is to engage in capacity-building and technical assistance initiatives on deep-seabed-related matters (ISA, nd).

8 24 countries, led by Fiji, Micronesia, Palau and Samoa, have so far called for either a complete ban, a precautionary pause or a moratorium on DSM.

9 So far, the ISA has 31 contracts with state and private enterprises to explore the international seabed.

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International Trade Policy Section at the Commonwealth Secretariat

This Trade Hot Topic is brought out by the International Trade Policy (ITP) Section of the Trade Division of the Commonwealth Secretariat, which is the main intergovernmental agency of the Commonwealth – an association of 56 independent countries, comprising large and small, developed and developing, landlocked and island economies – facilitating consultation and co-operation among member governments and countries in the common interest of their peoples and in the promotion of international consensus-building.

ITP is entrusted with the responsibilities of undertaking policy-oriented research and advocacy on trade and development issues and providing informed inputs into the related discourses involving Commonwealth members. The ITP approach is to scan the trade and development landscape for areas where orthodox approaches are ineffective or where there are public policy failures or gaps, and to seek heterodox approaches to address those. Its work plan is flexible to enable quick response to emerging issues in the international trading environment that impact particularly on highly vulnerable Commonwealth constituencies – least developed countries (LDCs), small states and sub-Saharan Africa.

Scope of ITP Work

ITP undertakes activities principally in three broad areas:

- It supports Commonwealth developing members in their negotiation of multilateral and regional trade agreements that promote development friendly outcomes, notably their economic growth through expanded trade.
- It conducts policy research, consultations and advocacy to increase understanding of the changing international trading environment and of policy options for successful adaptation.
- It contributes to the processes involving the multilateral and bilateral trade regimes that advance more beneficial participation of Commonwealth developing country members, particularly, small states and LDCs and sub- Saharan Africa.

ITP Recent Activities

ITP's most recent activities focus on assisting member countries in their negotiations in the World Trade Organization and various regional trading arrangements, undertaking analytical research on a range of trade policy, emerging trade-related development issues, and supporting workshops/dialogues for facilitating exchange of ideas.

Selected Recent Meetings/Workshops Supported by ITP

25–28 June 2024: Commonwealth Secretariat-UNCTAD-Mission of Nepal session on Mainstreaming trade in LDC development strategies: New perspectives and approaches at the WTO Global Review of Aid for Trade in Geneva.

29 January 2024: Hybrid event to launch joint report with UNCTAD on Harnessing Intellectual Property Rights for Innovation, Development and Economic Transformation in LDCs. Keynote speakers were the Secretaries-General of the Commonwealth and UNCTAD and the Director-General of WIPO.

15–16 November 2023: Commonwealth Secretariat-WTO-IISD workshop in preparation for the WTO's 13th Ministerial Conference. The workshop, hosted in Kigali, Rwanda, was attended by senior trade and fisheries officials and technical experts, who discussed Africa's interests, priorities and strategies in multilateral and regional trade.

15 September 2023: Commonwealth Secretariat-Cardano Foundation session on Unlocking the Power of Blockchain for Carbon Accounting in Supply Chains at the WTO Public Forum in Geneva.

5–6 June 2023: Commonwealth Trade Ministers Meeting at Marlborough House, London. During the Ministerial Breakfast, the Secretary-General launched the book on Sustainable Production and Trade: Perspectives from the Commonwealth, covering the cocoa, fisheries, forestry, and textiles and garments sectors.

21 March 2023: Public event on Assessing the Business and Trade Dimensions of the 2022 Birmingham Commonwealth Games, in partnership with the UK's Department for Business and Trade. The event reflected on the legacy of the Commonwealth Games and explored how businesses can capitalise on the trade and investment relationships established during the Games.

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