

Policy Brief

The Energy Transition Amidst Global Uncertainties: A Focus on Critical Minerals

By Rim Berahab

PB - 37/22

Pursuing efforts to decarbonize economies and increase energy systems' resilience is crucial to stay within global warming limits and fight the consequences of climate change, which are becoming increasingly acute. The transition to a net-zero economy will be commodity-intensive and require significant quantities of critical minerals, defined as metals and non-metals essential to high-tech sectors. As the shift to cleaner technologies progresses, supply of critical minerals for the energy transition will be challenged by the needs for large quantities. If supply does not meet demand, prices of these minerals could skyrocket, leading to a new type of vulnerability. Thus, the interdependence and price volatility that characterize hydrocarbon markets would not disappear entirely in a decarbonized world. Therefore, many prerequisites must be in place for minerals markets to function effectively, including credible and globally coordinated climate policy, high environmental, social, labor, and governance standards, and reduced export trade barriers. This would allow scaling-up of investment to sufficiently increase the supply of critical minerals while preventing the rising cost of low-carbon technologies, thus supporting the transition to clean energy.



THINK • STIMULATE • BRIDGE

INTRODUCTION

As the world prepares to reach the goal of net-zero emissions, countries are stepping up efforts to limit the global temperature increase to align with the Paris Agreement. Whilst the world seemed to be moving in the right direction, the COVID-19 pandemic broke out in 2020 and spiraled worldwide, causing severe health, humanitarian, economic, and energy crises. Two years later, the outbreak of war in Europe between Russia and Ukraine has further fueled the uncertain global context, casting doubts about the pace of energy transition. Yet balancing short-term energy security with the long-term energy transition remains crucial, as developing countries, particularly in Africa, are already bearing the brunt of the disastrous consequences of climate change. Therefore, postponing action on climate change will be catastrophic, as the damage caused would be irreversible (Lienard, 2022). Efforts to achieve the energy transition must, thus, be pursued through a holistic and comprehensive approach that ensures a just, equitable, and secure transition, and takes into account the context of broader socio-economic and geopolitical realities.

In this sense, the next decade will be decisive for decarbonization in which commodities will play a central role. In particular, critical minerals for the energy transition will be essential as the world shifts from fossil fuels to wind and solar power generation, battery and fuel cell electric vehicles (EVs), and hydrogen production. Yet, at present, emission reduction commitments outpace the development of the supply chains, market mechanisms, financing models, and other structures needed to facilitate decarbonization (IEA, 2022). This raises the issue of supply availability of critical minerals for the energy transition, as they can determine the pace of change. Another crucial consideration is the potential new interdependence between producing and consuming countries. If not managed well, the shift from fossil fuel-based energy production capacity to renewable energy production capacity will not end energy interdependence. It could simply push it to another part of the energy mix, shifting dependence from hydrocarbons to metals, minerals, and rare earths. The availability, access routes, and processing of these new raw materials could, thus, create new geostrategic corridors.

This Policy Brief analyzes the availability of critical minerals to achieve the energy transition. Section 1 explains how the energy transition will increase mineral and metal requirements, and explores future demand scenarios. Section 2 uncovers the new interdependencies that may arise between critical minerals producers and consumers, and discusses Africa's potential role in the global supply chain of those products. Section 3 discusses the vulnerabilities that may arise from an insufficient critical minerals supply. Section 4 concludes with recommendations and opportunities for Africa.

I. THE ENERGY TRANSITION WILL LEAD TO A GREATER NEED FOR CRITICAL MINERALS

Countries and firms are increasingly committed to reducing carbon dioxide emissions by 2050 to limit the global temperature increase from global warming to 1.5 degrees Celsius. As these efforts intensify, the demand for some raw materials is set to soar. A new system based on low-carbon technologies will differ significantly from one based on traditional hydrocarbon resources because clean-energy technologies require more minerals and metals than their fossil fuel-based counterparts. The growing share of renewables in the electricity mix, for instance, has led to an increase of about 50% in the average amount of

minerals needed for a new unit of electricity generating capacity since 2010. In particular, an “onshore wind plant requires nine times more mineral resources than a gas-fired power plant, and a typical car requires six times the mineral inputs of a conventional car” (IEA, 2022) (Figures 1 and 2).

Figure 1:
Critical Minerals Used in Electric Cars Compared to Conventional Cars (Kg/Vehicle)

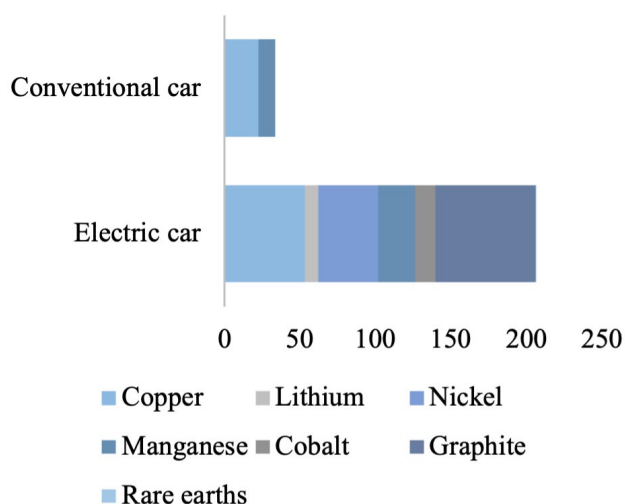
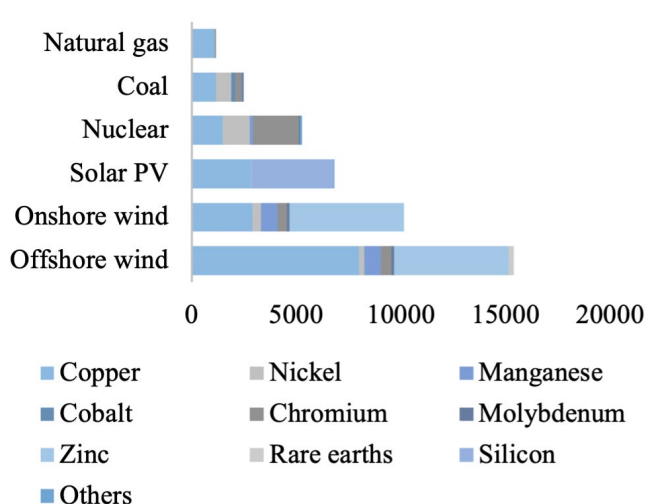


Figure 2:
Critical Minerals Used in Clean Energy Technologies Compared to Other Power Generation Sources (Kg/MW)



Source: IEA (2022).

Therefore, the unprecedented critical mineral demand expected in the coming decades implies the need to scale up the availability of certain raw materials within a relatively short timeframe (Valckx et al, 2021). Failure to maintain an adequate supply level could cause critical mineral prices to spike, leading to shortages and even undermining the cost competitiveness of clean technologies. As economies have re-opened after the 2020 lockdowns, critical minerals prices have already witnessed significant rises. They rose by 28% between March 2021 and March 2022, driven by nickel, aluminum, and zinc. Four main factors caused these price increases (Stuermer and Valcks, 2021):

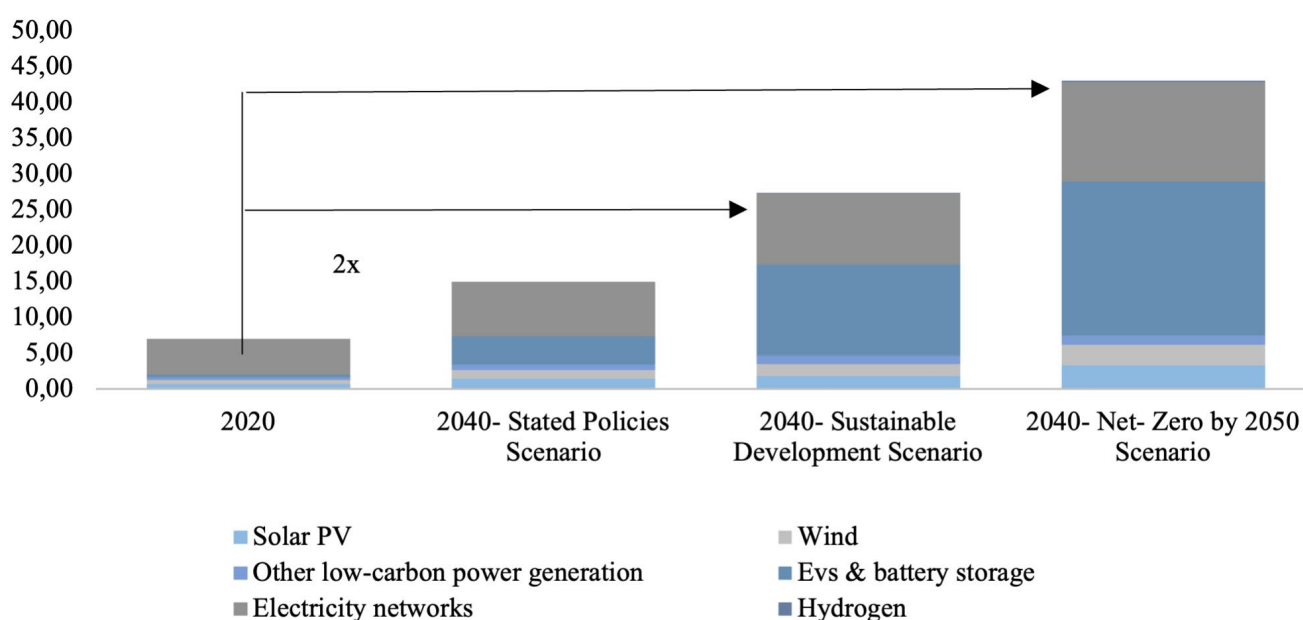
- **The recovery of the global manufacturing industry:** Manufacturing activity has rebounded more rapidly following the COVID-19 pandemic than other sectors such as services. This trend has been supported by China, the leading consumer of metals.
- **Supply factors:** The temporary disruption of many mining operations due to the pandemic, higher freight rates for materials transportation because of congestion at major ports, quarantine restrictions, persistent problems recruiting shipping crews, combined with a rebound in fuel prices from the deep lows of spring 2020, all drove up critical minerals prices.
- **Expectations of an accelerated energy transition and infrastructure spending:** Optimistic expectations regarding the pace of the green transition and ambitious infrastructure programs have provided an additional boost to critical minerals prices. For example, copper prices rose 14% between March 2021 and March 2022, despite the

decline in global auto production. Nickel prices, meanwhile, rose 107% over the same period, supported by strong demand from the stainless steel and battery markets, as well as the impact of supply disruptions in Canada and Russia earlier in the year. On top of that, ambitious infrastructure programs in the European Union and the United States are expected to increase demand for copper, iron ore, and other industrial metals.

- **Storage capacity:** Because critical minerals for the energy transition are more easily stored than crude oil or some agricultural products, which require special facilities, this makes their prices more forward-looking and therefore more sensitive to changes in interest rates and market expectations, such as those regarding accelerating energy-transition and infrastructure spending.

Figure 3:

Total Critical Mineral Demand for Clean-Energy Technologies by Scenario, 2020 Compared to 2040



Source: IEA (2022).

Given this context, the COVID-19 pandemic remains a significant source of uncertainty, as any resurgence of the virus could suppress demand for metals and disrupt supply. The pace of the energy transition adds uncertainty to the demand for some metals, while geopolitical risks pose significant uncertainties for all commodities. In the long term, according to International Energy Agency (IEA) scenarios, total critical mineral demand from clean-energy technologies is expected to double in the Stated Policies Scenario (STEPS)¹, and quadruple in the Sustainable Development Scenario (SDS)², by 2040 (Figure 3). EVs and battery storage would lead to this surge in demand, driven by the demand for battery materials, followed by electricity networks. More specifically, copper, graphite, and nickel would be in greatest demand by 2040. Therefore, the growing importance of critical

1. STEPS, indicates where the energy system is heading based on a sector-by-sector analysis of today's policies and policy announcements (IEA, 2021)

2. SDS indicates what would be required in a trajectory consistent with meeting the Paris Agreement goals (IEA, 2021).

minerals in decarbonizing the energy system poses a new and distinct set of challenges, prompting energy policymakers to broaden their horizons to consider new potential vulnerabilities and interdependencies.

II. INCREASED DEMAND FOR CRITICAL MINERALS WILL RESULT IN NEW INTERDEPENDENCIES BETWEEN COUNTRIES

Different critical minerals are needed for different technologies (Table 1). Copper and aluminum have the broadest range of uses. They are highly critical for solar PV, wind, electricity networks, EVs, and battery storage. Nickel is mainly needed for geothermal technology, EVs and battery storage, and hydrogen, while cobalt and lithium are specifically required for EVs and battery storage. Some critical minerals, including copper and nickel, are well-established as they have been traded for years on metal exchanges, while others, such as lithium and cobalt, while not yet traded or have only recently begun to be traded, are gaining momentum due to the energy transition (IMF, 2021).

Table 1:

Critical mineral needs for clean energy technologies

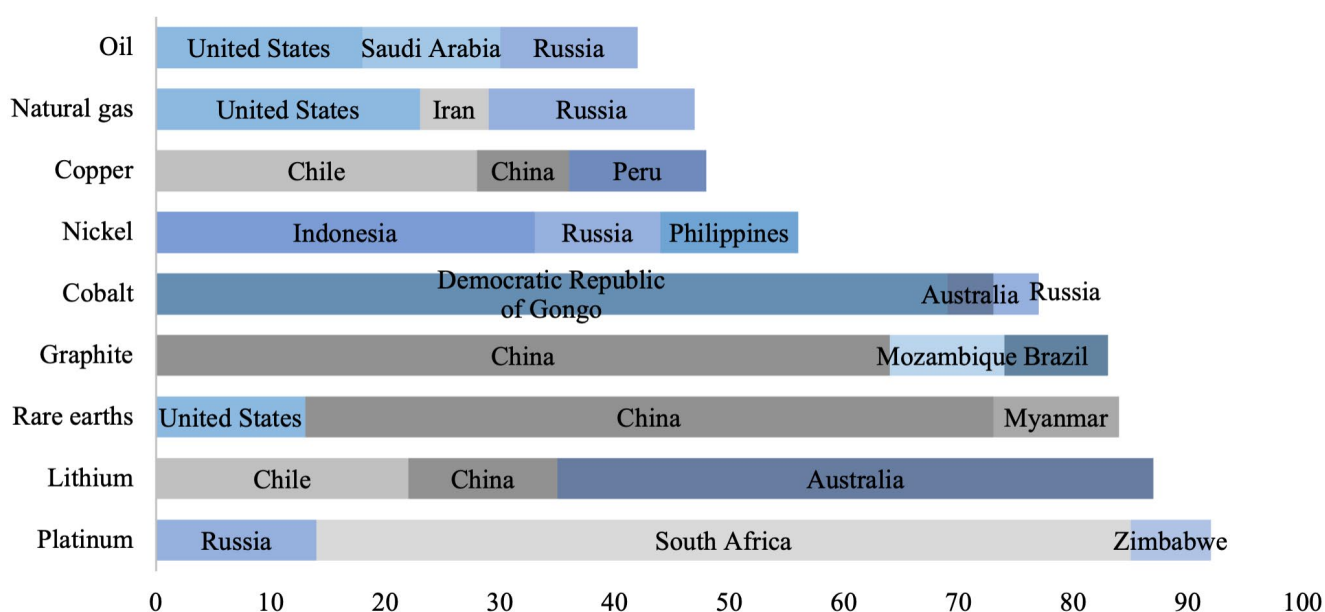
	COP- PER	CO- BALT	NICK- EL	LITHI- UM	REES	CHRO- MIUM	ZINC	PGMS	ALU- MINI- UM
Solar PV	●	○	○	○	○	○	○	○	●
Wind	●	○	●	○	●	●	●	○	●
Hydro	●	○	○	○	○	●	●	○	●
CSP	●	○	●	○	○	●	●	○	●
Bioener- gy	●	○	○	○	○	○	●	○	●
Geother- mal	○	○	●	○	○	●	○	○	○
Nuclear	●	○	●	○	○	●	○	○	○
Electricity networks	●	○	○	○	○	○	○	○	●
EVs and battery storage	●	●	●	●	●	○	○	○	●
Hydro- gen	○	○	●	○	●	○	○	●	●

Source: IEA (2022). Note: ● = high; ● = moderate; ○ = low. EVs = Electric vehicles; CSP= Concentrating solar power; PGM= Platinum group metals.

The critical minerals market is distinct from the market for fossil fuels. Unlike oil and natural gas production, critical minerals for the energy transition are more geographically concentrated (Figure 4). China has emerged as a major player in critical minerals production. It dominates the production of graphite and rare earths, for which its shares of the global output were 64% and 60%, respectively, in 2019. China is also the third producer of copper (8%) after Chile and Peru, and lithium (13%) after Australia and Chile. Other Asian countries, notably Indonesia and the Philippines, stand out for their nickel production.

Figure 4:

Shares of Top Three Producing Countries in the Extraction of Selected Critical Minerals and Fossil Fuels, 2019



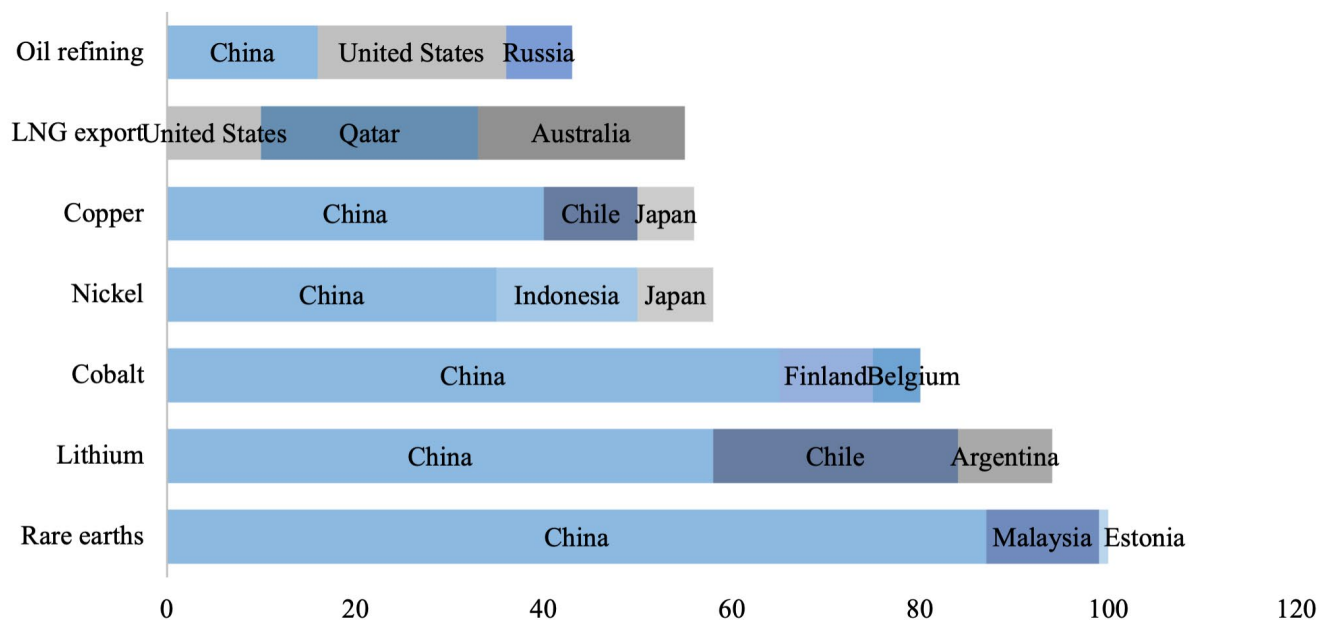
Source: IEA (2022); USGS (2021).

African countries also host significant reserves. In particular, the Democratic Republic of Congo (DRC) alone is responsible for nearly 70% of global cobalt production, while South Africa accounts for 71% of platinum production. Other African countries hold smaller shares: Mozambique is the second producer of graphite (10%), and Zimbabwe is the third producer of platinum (7%)³. In terms of processing and refining operations, the concentration level is considerably higher (Figure 5). China has acquired a strong market presence in processing most critical minerals for the energy transition. In 2019, China was responsible for processing and refining 90% of the rare earth elements produced, 50-70% of lithium and cobalt, and about 35% of nickel production.

3. Compared to these countries, Russia has a relatively smaller production of nickel, cobalt and platinum, while the United States produces a smaller share of rare earths.

Figure 5:

Shares of Top Three Producing Countries in Total Processing of Selected Critical Minerals and Fossil Fuels, 2019



Source: World Bureau of Metal Statistics (2020); Adamas Intelligence (2020) for rare earth elements.

The distribution of critical mineral reserves between countries reveals new energy-trade patterns, while the geographic concentration of production may lead to new interdependencies between regions. Australia and countries in Africa and Asia are likely to become global hubs for these minerals, and shipping routes for these new commodities could open up new geostrategic routes. Incidentally, the control of rare earth production has become a common reason for geopolitical tension in recent years. The geographical concentration of critical minerals reserves also implies that a few leading producers will reap the benefits of trading these commodities, especially when prices rise. In such a case, the economic benefits could be substantial for critical minerals producers and exporters. According to the IMF, “a persistent 15% increase in the IMF metals price index adds an additional percentage point of real GDP growth (fiscal balance) for metals exporters relative to metals importers” (IMF, 2021). This opens the field of analysis to new energy security considerations.

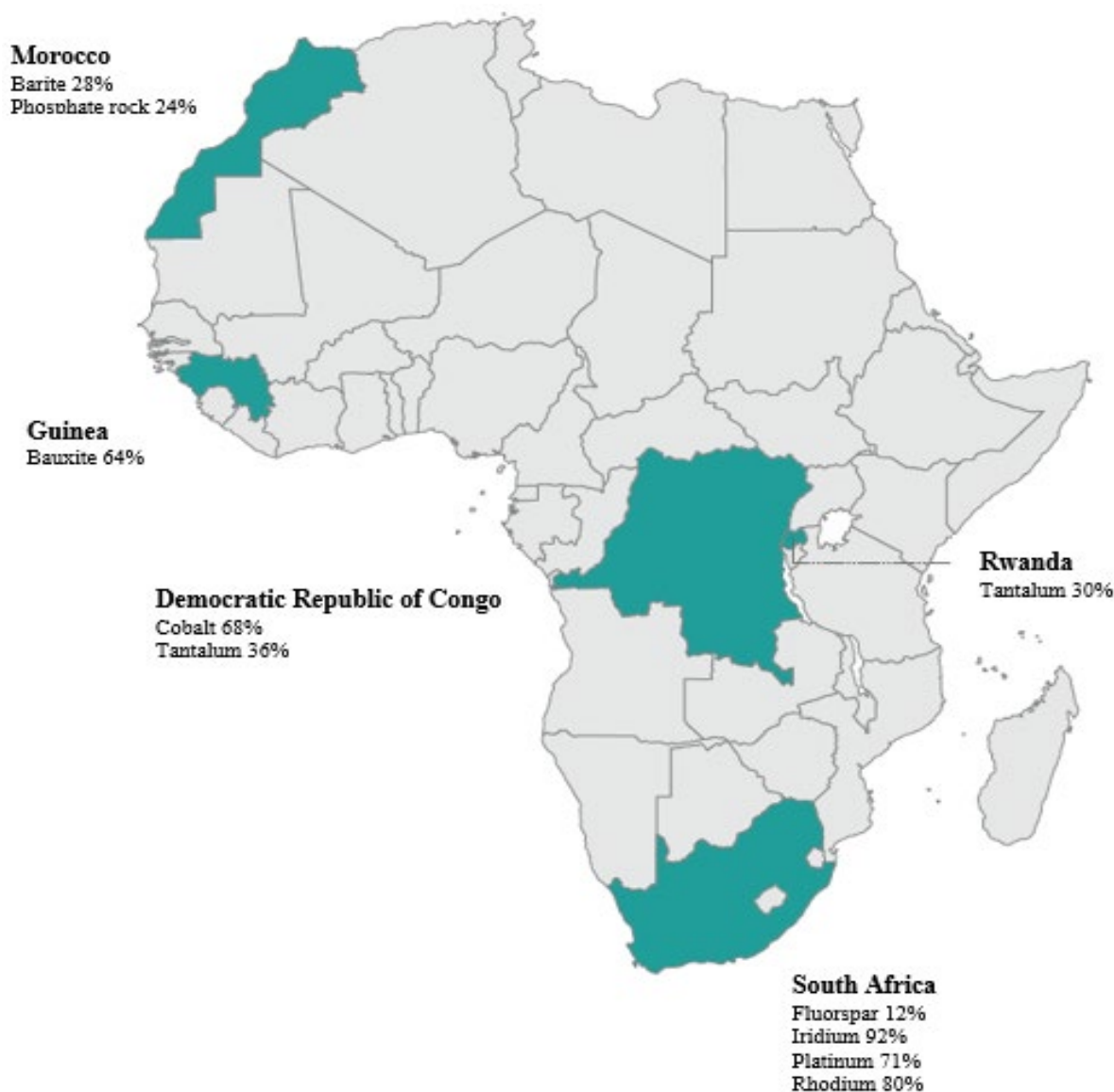
The context of the transition to a low-carbon future, and the resulting increased need for critical minerals, will open up significant opportunities for Africa, which is endowed with at least 42 of the 66 strategic minerals driving the fourth industrial revolution⁴ (UNU-INRA, 2019). This offers the potential to position Africa as a significant global player in low-carbon technology development. Given Africa’s economic ties to the EU, Europe is emerging as a potential partner for the continent as it seeks to reduce its dependence on Asian supply chains for materials sourcing and processing. Currently, the EU imports bauxite (64%) from Guinea, cobalt (68%), and tantalum (36%) from the DRC, and platinum group metals (PGM) (90%) from South Africa (Usman et al, 2021) (Figure 6). Other countries, including Ghana,

4. The Fourth Industrial Revolution (4IR) builds on the third, “the digital revolution.” It describes the rapid evolution of technology, industries, and societal patterns and processes in the 21st century as a result of increasing interconnectivity and intelligent automation.

Zambia, and Zimbabwe, also have the potential to supply copper, PGMs, and bauxite to Europe.

Figure 6:

African Suppliers of Critical Raw Materials to the EU



Source: Usman et al (2021).

However, these opportunities carry certain risks for Africa. The most significant would be the risk that current standard practices in the extractive sector are perpetuated: African countries tend to be confined to the role of suppliers of raw materials without adding value and without benefiting from high-skilled jobs resulting from the diffusion of technology and the development of production capacity (Usman et al, 2021). Moreover, the extraction of raw materials could also have adverse environmental and social consequences in terms of pollution, habitat destruction, and resource depletion, which would exacerbate Africa's current fragility in the face of climate change and environmental damage.

III. **NEW SUPPLY RISKS FOR CRITICAL MINERALS MAY DELAY THE ENERGY TRANSITION**

As countries accelerate their efforts to reduce greenhouse gas (GHG) emissions, they must ensure that their energy systems remain reliable and provide an uninterrupted energy supply. While in the short term, the consequences of the COVID-19 pandemic and the war between Ukraine and Russia may affect the process of transition and sustainability; in the long term, the need to reduce the use of hydrocarbons could be a powerful driver to strengthen the dynamics of the energy transition. In this sense, the availability and security of the supply of critical minerals for the transition are crucial, yet present a different and distinct set of challenges from other commodities. Their growing importance in a decarbonizing energy system is thus prompting energy policymakers to consider energy security more broadly and to seek to identify new potential vulnerabilities.

High Geographical Concentration...

As referred to in section II, production and processing operations for many critical minerals for the energy transition are currently highly concentrated in a small number of countries. This pattern is likely to become even more pronounced in the coming years, particularly for lithium, nickel, and cobalt. It could also create new global interdependencies reminiscent of those driving the fossil-fuel market. These considerations could increase the risk of shortages in the event of natural disasters such as earthquakes and floods, or in the event of regulatory changes or geopolitical events. Indonesia's nickel ore export ban, and China's rare earths export ban are prime examples (IEA, 2022). More recently, the war between Russia and Ukraine has disrupted the global supply of some critical minerals. While not in the top three producers, Russia controls 10% of international copper reserves, and is a producer of nickel (essential for EVs batteries and storage) and platinum (Hanan et al, 2022).

... And Long Project Development Times...

Uncertainty about the trajectory of future demand for critical minerals, despite global energy transition efforts, can dampen firms' investment decisions. This may further delay the already lengthy lead times for extracting and processing critical minerals for the transition. Analysis of significant mining projects commissioned between 2010 and 2019 shows that it took an average of 16.5 years to develop projects from discovery to the first production. However, the exact length of time varies by metal or mineral, location, and mine type (Kinch et al, 2020; IEA, 2022). Long project lead times exacerbate the risks of mismatches between supply and demand, leading to a prolonged period of market tightness as price volatility creates uncertainty around the large up-front capital investments needed for production (McKinsey & Company, 2022; IEA, 2022). Nonetheless, other factors could influence the development time of projects and may even shorten it, such as innovation in extraction technologies and regulations.

... Will Lead to New Energy Security Concerns

The security of mineral supply is becoming increasingly important in the energy security debate. Indeed, geological, geopolitical, or commercial disruptions risk delaying the energy transition, while long project development times can result in price volatility. While there are similarities between oil security and mine security, there are also significant differences.

For example, unlike oil supply crises that affect all vehicle-driving consumers through higher prices, a shortage or price increase in a mineral only affects the supply of new EVs or solar power plants. Consumers driving existing electric vehicles or using solar electricity will be less affected, if at all (IEA, 2022). Another feature of mineral security is that unlike fossil fuel-based electricity generation, renewable energy generation uses essential metals and minerals upstream to build wind turbines or batteries, making minerals a component of infrastructure, with the potential to be recovered and recycled (IMF, 2021). Thus, mineral security remains critical and requires that supply-side measures be accompanied by broad-based efforts encompassing demand, technology, supply chain resilience, and sustainability.

Potentially Declining Resource Quality

There is no debate about the availability of reserves of critical minerals in their raw state. Despite continued growth in production over the last few decades, economically viable reserves have increased for many energy transition critical minerals. For example, lithium reserves increased by 30% between 2011 and 2019, while production increased by two and a half times. The volume of copper reserves has also increased by 30% over the past decade (IEA, 2022). Instead, it is the quality of the resources that is causing concern. In recent years, the quality of ores has declined for all commodities, mainly due to technological improvements that allow the exploitation of mineral deposits with lower content. For example, the average grade of copper ore in Chile has declined by 30% over the past 15 years (IEA, 2022).

Energy-Intensive Production... Potentially Leading to Environmental Damage

As the quality of critical mineral resources declines, the method of producing and processing them becomes more energy-intensive, which would result in increased greenhouse gas emissions into the atmosphere for the same amount, thwarting decarbonization efforts. As a result, mining and processing companies have faced increasing pressure to address issues related to their social and environmental performance (ESG), which could lead to higher production costs.

Increased Exposure of Mines to Climate Risks

The production and processing of critical minerals require significant amounts of water. Copper and lithium are especially vulnerable to water stress, which raises the critical issue of water availability. Droughts are increasingly hitting the regions producing these critical minerals, thus hampering their supply. In 2019, the worst drought in over 60 years severely affected some operations in Chile, with similar events occurring in Australia, Zambia, and elsewhere. As a result, the availability of high-quality water resources will become a vital factor in the stability of the mineral supply. In addition to water stress, many critical minerals-producing regions in Africa, China, and Australia face other climatic risks. This calls for an assessment of the physical risks associated with climate change in the operations of mining companies, and the integration of climate resilience into their sustainability strategies.

Other Mineral-Specific Risks

Other commodity-specific risks exist. Copper is difficult to replace because of its superior performance in electrical applications. For lithium, possibilities of a bottleneck in chemical production exist, as many small producers are financially constrained after years of depressed prices. As for cobalt, the importance of small-scale artisanal mining makes supply vulnerable

to social pressures. Acknowledging and addressing these risks is therefore essential to ensure adequate supply and to not hamper the energy transition.

CONCLUSION AND RECOMMENDATIONS

As the aftermath of the recent energy crisis, in the wake of the COVID-19 pandemic, the global recession, and the Russia-Ukraine war, continues to unfold, the world must not lose sight of the long-term goal of the energy transition. While countries struggle to balance short-term energy security concerns with the long-term energy transition, new energy security considerations directly related to the latter are emerging. They include the security of the supply of critical minerals, demand for which is expected to increase as the transition progresses. This creates new risks, including dependence on a few regions for supply, price volatility, declining mineral quality, and exposure to environmental threats. These risks are likely to become more recurrent, which could be a bottleneck for the energy transition. Still, they are manageable, provided that policymakers are willing to anticipate them when drafting holistic energy-transition strategies.

Critical minerals encompass markets with very disparate characteristics, making it more challenging to develop a strategy for each product. Nevertheless, ensuring adequate investment in diversified sources of supply is a common prerequisite for their development. Currently, investment in critical minerals is insufficient (IEA, 2022). Thus, strong signals from policymakers about the speed of the energy transition and the growth trajectories of key clean-energy technologies are essential to attract new investment. In addition, efforts to encourage better environmental and social performance (ESG) can increase the volume of sustainable and responsible products, and reduce the cost of sourcing them. If the market rewards industry players, also it will encourage new suppliers into a more diverse market.

The technological evolution of critical minerals is admittedly difficult to predict. Therefore, intensifying R&D efforts in technological innovation is paramount, both on the demand and production sides. This can lead to more efficient use of materials and their substitution, thus bringing substantial advantages in terms of the environment and safety. Recycling end-of-life products would complete the research, innovation, and production cycle, and help reduce the negative environmental impact of critical mineral production and processing. These factors, and many others, should help improve supply chain resilience and its ability to respond quickly and effectively to potential supply disruptions. In this sense, ensuring market transparency is equally important. In some cases, measures to strengthen supply chain resilience can include regular market assessments, stress tests, and voluntary strategic stocks.

In addition, enhanced international collaboration between producers and consumers can play a crucial role in strengthening the security of critical minerals supply. Many organizations argue that a new international institution focused on metals and minerals—analogue to the IEA for energy, and the Food and Agriculture Organization for agricultural products—could play a central role in data dissemination and analysis, industry standards, and international cooperation (IEA, 2022; IMF, 2021). Important lessons can also be learned from the organization of oil and gas markets in terms of managing price volatility in the event of a crisis. However, fundamental differences exist in the impacts on these two markets disruption can have. Given the potential for production of some critical minerals, Africa should see these resources as an opportunity to stimulate more local processing and develop local content requirements and value chains, linking extraction to the rest of the economy. However, measures must be considered to manage the risks of increased technological dependence as well as the risks of environmental degradation that can result from the extraction process of critical minerals.

REFERENCES

- Adamas Intelligence. (2020), Rare earth magnet market outlook to 2030, Ontario, Canada.
- Berahab, R. (2022), The Energy Crisis of 2021 and its Implications for Africa, Policy Brief, Policy Center for the New South.
- Consilium. (2022), European Green Deal: The EU's goal of climate neutrality by 2050, Policies, Council of the European Union, <https://www.consilium.europa.eu/en/policies/green-deal/>
- Hanan, A & M-B. Swastika. (2022), The Geopolitics of Critical Minerals Towards Energy Transition, Purnomo Yusgiantoro Center.
- IEA. (2022), The Role of Critical Minerals in Clean Energy Transitions, World Energy Outlook Special Report, International Energy Agency.
- IMF. (2021). Special Feature: Commodity Market Developments and Forecasts, World Economic Outlook: Recovery During a Pandemic, International Monetary Funds.
- Kinch, D. & J. Holman. (2020), New lithium supply chains could slash sector emissions by nearly a third: Roskill, S & P Global Commodity Insights. <https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/coal/121120-new-lithium-supply-chains-could-slash-sector-emissions-by-nearly-a-third-roskill>
- Lienard, C. (2022), MENA Climate Week 2022: Tackling Climate Change in MENA by Improving Regional Cooperation, Rethinking security in the 2020s series- Policy Brief, Brussels International Center.
- McKinsey & Company. (2022), The Raw-Materials Challenge: How The Metals and Mining Sector Will Be at The Core of Enabling the Energy Transition, Metals & Mining Practice.
- Mulder, B. (2022), FEATURE: Russian invasion pits energy security against energy transition in US, S&P Global Commodity Insights. <https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/energy-transition/032322-feature-russian-invasion-pits-energy-security-against-energy-transition-in-us>
- Stuermer, M. & N. Valcks. (2021), Four Factors Behind the Metals Price Rally, Blog, International Monetary Funds.
- UNU-INRA. (2019), Africa's Development in the Age of Stranded Assets, United Nations University – Institute for Natural Resources in Africa.
- USGS. (2021), Mineral Commodity Summaries 2021, United States Geological Survey, Boulder, Colorado.
- Usman, A, O. Abimbola & I. Ituen. (2021), What Does the European Green Deal Mean for Africa? Climate change notes, Carnegie Endowment for International Peace.
- Valcks, N. et al. (2021), Metals Demand from Energy Transition May Top Current Global Supply, Blog, International Monetary Funds.
- World Bureau of Metal Statistics. (2020), World Metal Statistics Yearbook 2020, Herts, United Kingdom.

About the Author, Rim Berahab

Rim Berahab is a Senior economist at the Policy Center for the New South, a think tank based in Rabat that she joined in 2014. She specializes in energy economics and works on several issues related to the management of energy resources, climate, and energy policy, including energy transition and energy security, and long-term development, with a focus on Africa and Morocco. Her research areas also cover the topics of trade and regional integration. Previously, she has also worked on issues related to gender inequalities in the North African labor market. Rim spent three months at the International Monetary Fund (IMF) in the Commodities Unit of the Research Department in 2016. She holds a state engineering degree from the National Institute of Statistics and Applied Economics (INSEA).

About the Policy Center for the New South

The Policy Center for the New South: A public good for strengthening public policy. The Policy Center for the New South (PCNS) is a Moroccan think tank tasked with the mission of contributing to the improvement of international, economic and social public policies that challenge Morocco and Africa as integral parts of the Global South.

The PCNS advocates the concept of an open, responsible and proactive « new South »; a South that defines its own narratives, as well as the mental maps around the Mediterranean and South Atlantic basins, within the framework of an open relationship with the rest of the world. Through its work, the think tank aims to support the development of public policies in Africa and to give experts from the South a voice in the geopolitical developments that concern them. This positioning, based on dialogue and partnerships, consists in cultivating African expertise and excellence, capable of contributing to the diagnosis and solutions to African challenges.

The views expressed in this publication are those of the author.

Policy Center for the New South

Building C, Suncity Complex, Al Bortokal Street Hay Riad 10100 - Rabat

Email : contact@policycenter.ma

Phone : +212 (0) 537 54 04 04 / Fax : +212 (0) 537 71 31 54

Website : www.policycenter.ma

