



United Nations Economic Commission for Africa

7th SADC Industrialization Week

Mineral value chains and transformation in the SADC region: Opportunities from critical energy transition minerals

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Harare, ZIMBABWE

Concept Note

Introduction

The International Energy Agency (IEA) reports that reaching net-zero globally by 2050 would require the demand for critical energy transition minerals (CETMs) to increase three and a half times by 2030 and fivefold by 2050. Specifically, the demand for the key commodities in this transition such as lithium will increase by an estimated eight times, graphite (seven times), and nickel (seven times) as the demand for electric vehicles (EVs), wind turbines, and solar panels for new electricity connections will require huge quantities of the low-carbon transition minerals. The deployment of renewable energy technologies would require sufficient, reliable and affordable supply of critical minerals and this invariably implies large investment in the development of these resources in the various member States. Overall, large quantities of critical minerals, essential to the production of clean energy technologies, batteries and electric vehicles will be required for the global low-carbon transition. The increased demand for renewable energy technologies and EV batteries which relies heavily on critical minerals like copper, nickel, aluminium, lithium, cobalt and rare earth elements will drive the astronomical growth in the expected demand leading to accelerated exploitation across the continent.

The accelerated development of these mineral resources presents opportunities for economic transformation, the creation of green jobs, sustainable local, regional and global development and the spread of benefits to mining communities across generations since minerals are wasting assets and transformation into other forms of capital anchors sustainability. Growth in demand and hence extraction invariably also presents social, environmental and economic challenges which need to be factored into the development of the resources for overall sustainability. The UN Secretary General António Guterres, recently launched a Panel on Critical Energy Transition Minerals, “to underscore and emphasize the need to support the building of inter-generational equity for lasting prosperity in mineral-producing countries by ensuring that the benefits of extraction, processing, and marketing of these critical minerals are spread equitably among all stakeholders, including communities and across generations”.

Among others, the Panel will seek to; support global decarbonisation by ensuring that mineral-producing countries derive sustainable economic and social benefits from their mineral resources and value chains, facilitate a just and equitable transition to renewable energy supply while harnessing the minerals for sustainable development, promote research and development, sound infrastructure development, and skills upgrade, support towards economic diversification, and green industrialisation, and ensure that local communities fully through local value addition, while safeguarding human rights, social and environmental protections for affected communities and ecosystems. For the African continent, these minerals are strategic and present an opportunity to support long lasting development. The continent hosts an estimated 30 percent of the world's critical energy transition minerals including about 15 percent of the world's rare earth reserves and this thus puts Africa at centre of the transition and the race to develop the resources.

The Southern African Development Community (SADC) member States of Democratic Republic of Congo (DRC), Madagascar, Mozambique, Namibia, South Africa, Tanzania, Zambia and Zimbabwe are endowed with graphite, nickel, lithium, manganese, copper, cobalt and rare earth elements all which are currently in production and are important in the energy transition value chain. Despite the low levels of geological exploration and mapping across the region, Southern Africa hosts an estimated 25 percent of the world's critical energy transition minerals and mining is underway for these minerals at both small scale and large scale. For example, in 2022 Angola ranked 3rd in terms of annual diamond production accounting for 19 percent global production and , Botswana ranked 4th (11.3 percent of global output).¹ Mozambique accounted for 3.0 percent of the world's graphite production and was the 3rd largest producer of titanium (11.5 percent of global production). The DRC produced 115,371 Mt of cobalt (70 percent of the world supply) and accounted for 8.6 percent global copper production. DRC also accounted for 33 percent of global tantalum production. Namibia was the seventh largest producer of diamond and witnessed the development of new lithium deposits. Zimbabwe and South Africa possess about 92 percent of platinum group metals (PGMs) and account for 82 percent of global PGMs supply. South Africa alone possesses over 36 percent of the global chromium reserves and produced 44 percent of global output in 2022. In addition, South Africa was the 5th largest producer of gold in 2022, accounting for 11 percent of global production. Zambia is the 7th largest producer of copper in the world and Zimbabwe with a production capacity of 15,000 Mt produces 8.3 percent of the world's platinum and is the continent's largest producer of lithium. Thus, the strategic position of SADC member States as producers of CETMs will facilitate the seamless shift towards low-carbon systems and contribute to the transition towards resource-driven industrialisation. The creation of a governance framework that facilitates exploitation of these resources with equity and transparency is imperative.

National minerals sector policies are informed by and aligned to, among others, the Revised SADC Regional Indicative Strategic Development Plan (2020-2030), the SADC Protocol on

¹ GIZ & IKI (2023). Desk study to assess Environmentally Friendly, Climate Smart and Gender Sensitive Mining Practices for Critical Transition Minerals in the SADC region.

Mining, the SADC Industrialization Strategy and Roadmap (2015) and its Action Plan (2017), the SADC Vision (2050) and the SADC Regional Mining Vision (RMV). The RMV as one of the key frameworks in the sector, domesticates the Africa Mining Vision in Southern Africa. In addition, the African Union - African Minerals and Energy Resources Classification and Management System-Pan African Resource Code, which has been adopted as a reference tool for critical mineral value chain due diligence, through informing actors along the various nodes of the value chains, provides critical guidance in the sector. Other important continent-wide policy initiatives informing directions in the sector by member States include, the African Mineral Governance Framework and the draft Africa Green Minerals Strategy. In addition to supporting local processing and value addition of the mineral resources, these policy frameworks also aid the development of conducive environments in the critical minerals sector.

As part of support towards industrialization in the SADC region, the United Nations Economic Commission for Africa will organize a Session on **Mineral value chains and transformation in the SADC region: Opportunities from critical energy transition minerals (CETM)** during the 7th SADC Industrialization Week to be organized in Harare, Zimbabwe under the theme **“Promoting Innovation to Unlock Opportunities for Sustainable Economic Growth and Development towards an Industrialised SADC”**. The realization that the critical energy transition minerals can support regional industrialization efforts, boost inclusive growth and help address the high energy poverty makes the discussion of the sectoral issues particularly important for the sub region.

Objectives of the Panel

The panel will discuss the opportunities and challenges presented by the rush on the critical energy transition minerals in line with the decarbonization agenda and elaborate on how member States could collectively or individually optimally exploit the endowments. Specifically, the panel will collectively harness wisdom and ;

- (i) Discuss the resource endowment in critical minerals in the SADC member States and the opportunities the resources provide for supporting access to clean energy, decarbonization and industrialization,
- (ii) Explore the opportunities for a regional approach to the exploitation of these CETMs and how a policy and regulatory environment can be created to support a coordinated regional approach to exploitation (what policy environment), processing and marketing of the minerals including their value addition and the growth of electric vehicles value chain,
- (iii) Explore how CETMs producers in the SADC region can be integrated into higher levels of the global value chain and how intersectoral linkages can be developed for greater value retention and industrialisation;
- (iv) Explore how the recommendations of the Africa Green Minerals Strategy, the African Mining Vision and the SADC Regional Mining Vision can anchor the development of the critical minerals sector,

- (v) Explore how national and regional capacities can be developed to support the sector's development including skills, financial instruments, and technical knowhow of micro, small and medium enterprises

Overall, the panel will seek to provide insights into this growing sector by sharing experiences guided by the following questions;

- (i) What technologies exist to leverage this transition – how to accelerate progress in the sector including prospects for value addition,
- (ii) What opportunities exist for regional member States to benefit from the critical energy minerals transition – what are the comparative and competitive positions,
- (iii) What options exist for a regional/continental approach to the exploitation of the CETM – any challenges, which minerals, what conditions should exist, what lessons can member States leverage? and
- (iv) How can the battery electric vehicle value chain be developed tapping on the regional resources.

Participation

The panellists will include independent consultants, representatives of the SADC Secretariat, Chamber of Mines (Zimbabwe), practitioners from the minerals sector in the SADC region and UNECA.

Expected outcomes

The expected outcomes will include;

- (i) Strengthened understanding of the dynamics of the critical energy transition minerals in the region and how the exploitation of the abundant resources can contribute to national and regional development,
- (ii) Enhanced understanding of the opportunities from CETM development in Southern Africa and the role the sector can play in the electric vehicle value chain;
- (iii) Enhanced appreciation of the regional initiatives to support development of the sector and the prospects for collaboration among member States in exploiting the resources; and
- (iv) Enhanced understanding of the SADC Regional Mining Vision and Africa Green Minerals Strategy and the directions provided to member States for optimally developing the critical minerals sector.

Expected Outputs

- (i) Recommendations on how member states can domesticate the Africa Green Minerals Strategy for collaborative development of the sector – what specific policy aspects need to be calibrated, and

- (ii) Recommendations on how member States can collaborate to jointly develop the BEV value chain and migrate up the chain ensuring the sector's linkage to the regional economy.