SEATINI

Strengthening Africa in World Trade

ROSA LUXEMBURG STIFTUNG
EAST AFRICA OFFICE

THE INFLUENCE OF THE EUROPEAN UNION IN THE ENERGY TRANSITION DEBATE AND IMPLICATIONS FOR AFRICA

August 2023

Acknowledgements

This study has been undertaken by SEATINI Uganda with support from the Rosa Luxemburg Stiftung. This research owes a lot to the various SEATINI Uganda Staff and other experts who pooled their talents and expertise towards its development. The following are appreciated for contributing to the development of this study namely: Ms. Jane Nalunga, Mr. Sylvester Bagooro, Mr. Kafeero Herbert and Ms. Peninnah Mbabazi.

1.0 Introduction

This study examines the influence of the European Union (EU) in the global energy transition debate from fossil fuels to clean energy within the context of Europe-Africa relations and the implications on African economies.

The demands to green development towards the attainment of the United Nations Sustainable Development Goals (SDGS) has gained much urgency. This is because countries are required to move away from fossil fuels to greener energy like Hydrogen, Solar and Wind among others.

Whereas the capacity to adjust differs, developed economies have the financial, technology and capacity (though are largely dependent on the required critical raw materials/minerals) to adjust with minimal cost unlike African countries. Transition from an African perspective has to be connected to Africa's structural economic challenges and reality confronting African economies to make substantial progress. Energy transitions should be connected to climate change, Africa's energy poverty, Africa's minerals extraction and economic transformation.

Indeed, African economies are dependent on fossil fuels (which still has 600 million people in Africa, or 43 percent of the continent's population lacking access to electricity) and transitioning away from hydrocarbons must start from this reality. Nevertheless, the issue of stranding (devalue of the resources) of mineral resources is real especially as technologies rapidly develop in relation to green minerals and energy transition and Africa leaders and policy makers must put this in view in the planning of the use of energy and minerals resources.

The European Union through its trade and investments agreements, compacts with Africa over the decades, has laid hold on a pole position in its quest for raw materials and in this context the critical/green minerals. Its quests for raw materials clashes with Africa's initiatives to structurally transform its economies envisioned through different strategies and visions and encapsulated under the Agenda 2063.

1.1 Purpose of Study and Objectives

This study sought to generate evidence-based research and analysis on Africa – EU relations so as to generate alternatives to the energy transition debate towards advancing an inclusive and equitable Afrocentric narrative. Specifically, the study sought the following:

i. To interrogate the current narrative on energy transition to ensure an equitable and inclusive energy transition that will take into consideration the needs of the planet and the livelihoods of the people.

ii. To identify the challenges imposing the status quo and impact analysis on Africa from an Afro centric perspective.

iii. To analyze the Afrocentric narrative with viable alternatives for energy transition that support social justice and Africa's structural transformation.

1.2 Scope and Approach to the study (Methodology)

The approach to this study was basically using the lens of Africa's economic transformation; review and analysis policies of EU as expressed in the EU-Africa Partnerships, Compacts, Trade, investment, and energy policies and what they mean for inclusive, just transition and Africa's economic transformation. The Study is also based on the global context and reviewed policies in relation to Africa's economic transformation. It went further to review and analyse policies in Africa in relation to green development and the interface with the demands of the EU Partnerships in Trade, investment and energy.

2.0 Global Narratives on Energy Transition, Geopolitics and Africa

The imperatives to green development due to the climate crisis are generating debate and strategic positioning on the energy transitioning policies fronts and by extension generating competition in the quest for green and critical minerals for the transition. Greening development demands transition from dependence on energy based on fossil fuels to clean energy source such as wind, solar, hydrogen, nuclear, among others. It is imperative to note that the drive for energy transition has led to the birth of a rush for critical raw materials which are necessary to produce green energies.

Currently, there is no universally accepted definition of critical materials. Many countries and regions maintain lists of critical materials, which typically mirror current technologies, the prevailing global dynamics of supply and demand, and the context in which the assessments are conducted. The factors for determining criticality therefore remain subjective and location-specific[1].

The question of the position of Africa in the critical materials equation should not be ignored. Indeed, Africa plays host to significant quantities of the minerals needed for the energy transition and green industries. Of global reserves Africa hosts 6 percent of copper, 53 percent of cobalt, 25 percent of bauxite, 21 percent of graphite, 46 percent of manganese, 35 percent of chromite, 79 percent of phosphate rock, 91 percent of platinum group metals (USGS, 2022). The big question here is how Africa will use this placement to her advantage i.e., building a robust and self-sufficient energy infrastructure which is critical in powering her industrialization quest.

With the onset of the Russian-Ukraine War, the debates on energy transitions have taken on an added significance. The squeeze from the War has caused countries in the global north especially to make a U-turn on fossil fuels to meet their energy needs. The EU for instance in its Joint Communication to the European Parliament and the Council in 2020, on the strategy towards Africa, stated that Investments should be geared towards strengthening scientific capacities in Africa by providing access and local adaptation to technologies. It stated that African countries should pursue a low-carbon, climate resilient and green growth trajectory that avoids inefficient technologies and resists new investment in coal power generation, deploying instead new renewable energy sources and hydrogen production. But there was U-turn on the part of the EU under the squeeze from the War when some coal-fired plants were re-opened. Germany is importing coal from South Africa and the EU supports for gas project in Mozambique[2].

The European Union's energy transition and reorientation towards decarbonization are shaped by the European Green Deal, a new growth strategy that aims to transform the EU into a net-zero emitter of greenhouse gases by 2050[3]. In other words, the Green Deal is Europe's strategic response to the challenges of the atmospheric warming and the climate changing with each passing year. According to the Green Deal, one million of the eight million species on the planet are at risk of being lost, while Forests and oceans are being polluted and destroyed unless we transit from the current trajectory of energy consumption and production. It aims to transform the EU into a fair and prosperous society, with a modern, resource-efficient, and competitive economy where there are no net emissions of greenhouse gases in 2050 and where economic growth is decoupled from resource use.

In a bid to achieve this transition, for the past decades the EU has laid the ground through its trade and investment policy instruments for a sole position in the security of the mineral resources that are critical to its economy and

1 International Renewable Energy Agency report on Geopolitics of Energy Transition- Critical minerals

2 https://euobserver.com/opinion/157065

3 https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1588580774040&uri=CELEX-%3A52019DC0640

the energy transition. This is expressed in its Raw Materials Initiative[4] in 2008 and reflected in the trade and investment agreements.

The Initiative states that 'Securing reliable and undistorted access to raw materials is increasingly becoming an important factor for the EU's competitiveness and, hence, crucial to the success of the Lisbon Partnership for growth and jobs**.** The critical dependence of the EU on certain raw materials underlines that a shift towards a more resource efficient economy and sustainable development is becoming even more pressing' This initiative outlines the countries in Africa among others where these resources could be accessed using trade, investment, and foreign policies.

In the case of the US, Joe Bidden Administration set an ambitious 1.5°C-aligned goal of reducing emissions by 50-52 percent in 2030. To achieve this the US administration seeks to focus on four main areas: i) Decarbonizing energy-drive down emissions in the power and transportation sectors, including scaling up of clean energy, setting ambitious 2030 zero-emission vehicle goals, and decarbonizing international shipping ii) Ending deforestation of the Amazon and other critical forests: Working through the Forest and Climate Leaders' Partnership to mobilize public, private, and philanthropic support iii) Tackling potent, non-CO2 climate pollutants: Launching a Methane Finance Sprint to cut methane emissions and accelerating hydrofluorocarbon (HFC) phasedown under the Kigali Amendment. iv) Advancing carbon management: Partnering with countries to accelerate carbon capture, removal, use, and storage technologies through a Conference of the Parties (COP) 28 Carbon Management Challenge to deal with emissions that can't otherwise be avoided[5]. The US Inflation Reduction Act also includes several provisions to promote renewable energy with specific focus on domestic supplies.

Unlike Joe Biden administration, the Trump administration focused more on critical minerals supply materials and the resiliency of their supply chains which were deemed to be essential to the economic prosperity and national defense of the United States. Thirty-five mineral commodities were identified as critical in list published in the Federal Register by the Secretary of the Interior and that the United States lacked domestic production of 14 and was more than 50 percent import reliant. This import dependence puts industrial supply chains, United States companies, and material users at significant risk.

The final list includes Aluminum (bauxite), antimony, arsenic, barite, beryllium, bismuth, cesium, chromium, cobalt, fluorspar, gallium, germanium, graphite (natural), hafnium, helium, indium, lithium, magnesium, manganese, niobium, platinum group metals, potash, the rare earth elements group, rhenium, rubidium, scandium, strontium, tantalum, tellurium, tin, titanium, tungsten, uranium, vanadium, and zirconium.

Recognizing the critical minerals and materials challenge facing the United States, President Trump, on December 20, 2017, issued Executive Order 13817 (E.O. 13817), *A Federal Strategy to Ensure Secure and Reliable Supplies of Critical Minerals*, which identified actions to reduce America's reliance on imports, preserve its leadership in technological innovation, support job creation, and improve national security and the balance of trade

China on its part, over the past decade, has remained reliant on fossil energy, especially coal and imported oil, but at the same time built a foundation for a complete transformation of its energy structure by developing the world's largest capacity of hydroelectricity, solar photovoltaic, and wind energy. For decades, China has spoken of itself as a Big Coal Country, and coal has represented the mainstay of its energy development and indeed powered its growth[6]

Nevertheless, China seems advanced in positioning herself with regards energy transition. Indeed, China owns the vast majority of the world's solar panel supply chain, controlling at least 75 percent of every single key stage of solar photovoltaic panel

4 https://single-market-economy.ec.europa.eu/sectors/raw-materials/areas-specific-interest/critical-raw-materials_en

5 White House: Fact Sheets April 20, 2023: **FACT SHEET: President Biden to Catalyze Global Climate Action through the Major Economies Forum on Energy and Climate**

6 (China Energy Transition Status Report 2021.

manufacturing and processing[7]. This implies that the world risks being heavily dependent on China if it is to rely on the use of solar panels to power its industrialization.

In the mining of critical materials, dominant positions are held by Australia (lithium), Chile (copper and lithium), China (graphite, rare earths), the Democratic Republic of Congo (cobalt), Indonesia (nickel) and South Africa (platinum, iridium). This concentration becomes even more pronounced in the processing stage, with China currently accounting for 100 percent of the refined supply of natural graphite and dysprosium (a rare earth element), 70 percent of cobalt, and almost 60 percent of lithium and manganese.

Furthermore, the influence of China in Africa in terms of its quest for critical minerals is growing. Geopolitical competition has centered in north and West Africa[8] where China and Russia are mining and processing Rare Earth Elements (REEs). This is primarily attributed to China's increase in the Belt and Road initiative. As of October 2021, Chinese banks make up about one-fifth of all lending to Africa – concentrated in strategic or resource-rich countries, including Angola, Djibouti, Ethiopia, Kenya, and Zambia. Annual borrowing in 2019 is thought to be $7.6 billion, whereas Russia has primarily used the Wagner Group to project its power on the continent[9]

In the case of Africa and the energy transition the core of the debate by some activists has been around the appropriate and effective actions on the global climate crisis. This is based on the understanding that fossil fuels are a primary driver of global warming and climate change and hence the substitution of the fuels by more 'climate friendly' ones have become the main point of the climate policy.

Clean energy transition for all economies is critical but with different implications for different countries depending on their level of development, dependency on hydrocarbons and the capacity to adjust. In the developed world, capacities have been built over the centuries to adapt. Developed economies have at hand greater financial, human resource and technological means to navigate their transition to a green economy with relatively low costs. Conversely, in Africa it is not the case given the fact that much of Africa's industrialisation base is built upon hydrocarbons/fossil fuels as a major source of energy.

In Africa, the process of transitioning from fossil fuels to clean energy has different implications due to the level of development and level of dependence on fossil fuels for their energy needs and the broader functioning of their economies. Countries in Africa with limited existing capacity for alternatives, the demand for and policy stance on substantial reduction or cessation of the use of fossil fuels will not make much meaning.

Moreover, in Africa, where economies continue to exhibit high features of dependency on raw materials and the need for economic transformation, the important issues of access to energy for the broad masses of people for meeting basic economic needs complicates the discussion of energy transition, and begs the question of what kind of approach is required to achieve a transformative and inclusive transition.

In the current debates, there is the need to recognize that there are several contexts of transitions going on and not transition, especially from an African perspective. There is also a need to recognize that the transitions should be connected to Africa's structural economic challenges to make substantial progress. Energy transitions should be connected to climate change and the imperatives to structurally transform economies taking into consideration the real power asymmetries. The transition itself is the expression of power because there is a power element in deciding the goal and direction of the transition.

---

7 https://www.visualcapitalist.com/visualizing-chinas-dominance-in-the-solar-panel-supply-chain/#:~:text=Aspercent 20itpercent 20turnspercent 20outpercent 2Cpercent 20China,photovoltaicpercent 20panelpercent 20manufacturingpercent 20andpercent 20process-ing.

8 https://amp.theguardian.com/world/2019/aug/27/russians-have-special-status-politics-and-mining-mix-in-guinea

9 Taken from China Energy Transition Status Report 2021.

2.1 Analysis of the EU Green Deal, EU-Africa Trade, and investment policies, compact with Africa, implications for Africa's industrialisation, agriculture, food security and livelihoods

As an energy-poor continent, the EU is betting heavily on hydrogen to power its industrial transition, including for hard-to-abate sectors like iron and steel, chemical industries, and shipping (ECDPM, 2023). In the New Comprehensive Strategy towards Africa, the EU proposes as one of the actions, to partner with Africa to maximize the benefits of green transition and minimise environmental threats in full compliance with the Paris Agreement. These same issues found expression in the EU New Green Deal. On July 14, 2021, the European Commission adopted a set of intermediate proposals to cut greenhouse gas emissions by 55 percent from 1990 levels by 2030 as part of a broader European Green Deal (EGD).

The EGD is a set of long-term policy initiatives that define the European Union's (EU) climate strategy to reach net zero emissions by 2050 and aim to make Europe the first mover in international climate policy. Toward this goal, the EGD provides a road map for a socioecological transition to a low-carbon future and the building blocks for a green economic growth strategy.

These claims are examined and analysed in the light of trade and investment agreements between the EU and African countries as well as the compacts with Africa and how EU exerts influence on Africa in the energy transition discourse.

The current trade and investment relations between Africa and the European Union are guided by different trade arrangements. These are basically the Economic Partnership Agreements (EPAs) that the EU concluded with individual countries or blocs through very rancorous negotiations. The most recent one being the EU-Kenya EPA which has East Africa Community (EAC) flavour. Others are the Generalised System of Preferences (GSP)-Standard GSP (used by Nigeria) and Generalised System of Preference-Plus (used by Cape Verde) both in West Africa.

The EPA agreements contain clauses that tilt the potential development benefits of these trade agreements to the EU and undermine Africa's quest for economic transformation based on its mineral resources. In fact, the EPA logic runs counter to Africa's initiatives on economic transformation such as the Africa Mining Vision10, adopted by Heads of State at the February 2009 African Union summit following the October 2008 meeting of African Ministers responsible for Mineral Resources Development. It is Africa's own response to tackling the paradox of great mineral wealth existing side by side with pervasive poverty. The Africa's Continental Free Trade Area (AfCFTA) is another initiative.

The trade agreements contain clauses aimed at ensuring the resiliency of the EU in its quest for mineral raw materials. These are export taxes, Most Favored Nation clause in the instruments for trade in goods and the rendezvous clauses looking at control in the non-goods areas.

The prohibition of exports taxes in most EPA agreements states that *'No new duties or taxes on exports or charges with equivalent effect shall be introduced, nor shall those currently applied in trade between the Parties be increased from the date of entry into force of this Agreement.'*

It is instructive to state that there is no World Trade Organisation (WTO) rule that requires the inclusion of export taxes in a free trade agreement between a developed economy like the EU and developing countries like African countries with thirty-three of the least developed countries. The rationale for the EU insistence on this in the EPA negotiations has been on the basis of 'undistorted' access to raw materials and in this is applicable to the current quest for green mineral resources. In fact, this was one of the rancorous and sticking points in the EPA struggle and the Africa Union once threatened to discontinue the EPA negotiations[11].

10 https://au.int/en/ti/amv/about

11 Failing the successful conclusion of a development-oriented EPA, or the expansion of the EBA coverage and GSP regulation, African countries may have to discontinue the EPA negotiations and focus on deepening Africa's regional integration and the development of South-South cooperation (as outlined in the

Export taxes are crucial in economic transformation and employment creation. They (Export taxes) perform two functions. First, revenue function and secondly, developmental function where it is used to encourage value addition within the domestic economy for job creation, among others.

In the development history of the now advanced economies, export taxes have played an important role. A few historical examples include- the UK's export restriction on raw wool and hides, and Canada's export tax on logs and pulpwood for domestic value addition. Others are Russia's export taxes on fuel exports to achieve economic recovery after the fall of communism, Indonesia's export taxes to develop wood processing, and Chile's export duty on nitrate for revenue consideration among others (ECA, 2010)12.

Political contestation with the EU on the export taxes is worth mentioning. During the EPAs negotiations with the EU, export taxes were not on the table up until in 2006, when the EU identified the undisturbed flow of raw materials to its manufactures as essential to it strategy for remaining globally competitive and job creation, leading it to adopt among others, its raw materials initiative. It thus identified export taxes as one of the means by which other countries disrupt the free availability of raw materials.

Specifically, in its Raw Material Initiative it states that 'Emerging countries are also pursuing strategies towards resource-rich countries with the apparent aim of securing privileged access to raw materials. 'For example, China and India have substantially increased their economic engagement with Africa in recent years' the Initiative states.

In the case of China, the EU kept close eye on its activities in Africa in its Raw Material Initiative. It stated that it included major infrastructure projects and active involvement in exploration and extraction activities in countries such as Zambia (copper), Democratic Republic of Congo (copper, cobalt), South Africa (iron ore), Zimbabwe (platinum) and Gabon, Equatorial Guinea and Cameroon (timber)." This explains the onslaught and the unrelenting war waged by the European Commission in the EPA negotiations over the decades.

However, in the Framework Agreement establishing the African Continental Free Trade Area (AfCFTA),export taxes are allowed by the contracting parties because of the fundamental role this policy instrument plays in economic transformation and job creation. This highlights a serious policy incoherence between internal initiatives and external agreements that African governments sign unto.

Secondly, the Trade agreements have Most Favoured Clauses-treating other people equally under the WTO agreements, countries cannot normally discriminate between their trading partners. Grant someone a special favour (such as a lower customs duty rate for one of their products) and you have to do the same for all other WTO members. African countries objected to its inclusion on the basis that it contravenes General Agreement on Trade and Tariffs (GATT)/WTO rules that provide for South-South cooperation among developing countries. Any preferential agreement negotiated with China, India or Brazil, for example, would then need to be extended to the EU.

The inclusion of the MFN Clause in the EPAs implies that an African country would have to extend to the EU any more favourable treatment that it would give to any other developed country and large emerging economy in all its future trading arrangements with such countries. This article is controversial given the fact that it limits the chances of African countries signing an ambitious trade agreement with major trading partners and therefore constraints the possibility of obtaining gains from trade from these countries in return.

Indeed, few if any of such countries would be interested to enter into a trade agreement with African countries if they know that the EC would be given the same treatment that would significantly erode their margin of preference in African markets. This was clearly a major obstacle to the future development of African countries.

Notably, the rendezvous clauses in the EPA agreements laid the foundation for full blown liberalisation between the EU and Africa

second option), with countries and regions that are more amenable to Africa's development aspirations.

countries. One of the areas is the push for agreement in intellectual property rights. From trade agreements, this area tightens control and ensure monopoly of technology that could be transferred to African countries. The claim then of partnering with Africa to maximise the benefits of green minerals and the energy transition pales when looked at with the lens of the trade and investment agreements the EU over the decades and even still pursuing in the rest of the EPA negotiations.

In relation to the EGD its implications for Africa could have many dimensions. Though an energy poor continent it could lead to a decline in European demand for fossil fuels alongside rising demand for cobalt, nickel, and other critical minerals for the energy transition will greatly affect global markets and, by implication, the economies of oil-dependent and mineral-rich African countries. Moreover, as technologies develop in the transition, stranding of oil resources is becoming real. The economy-wide effects of the EGD, however, extend beyond the energy transition. The implications of the EGD for African countries would be felt in seven main areas: agriculture, biodiversity, energy, critical raw materials (CRMs), circular economy, new technologies, and finance (Zainab, Olumide & Imeh, 2021).

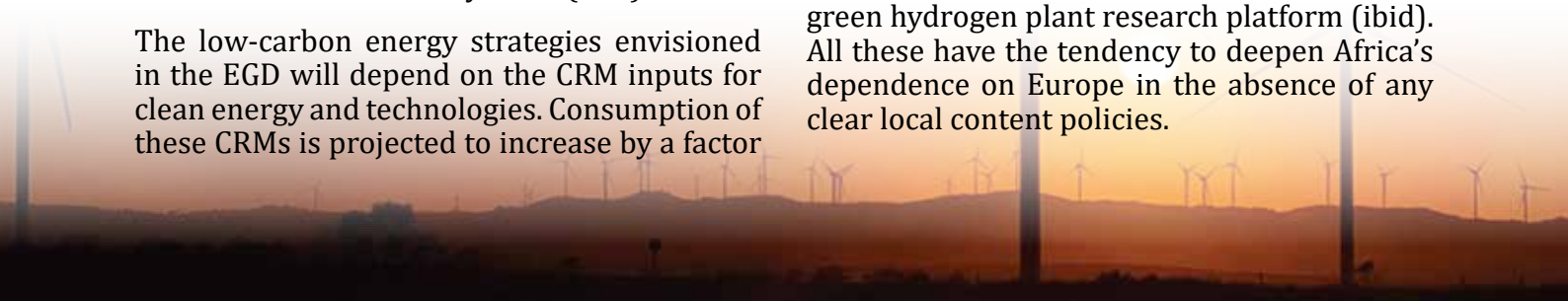
The EGD's energy strategy aims to secure affordable energy supply, increase clean energy, and replace fossil fuels in the carbon-intensive energy mix. In achieving these objectives, a European phaseout of oil by 2050 could lead to a decrease in oil demand and declining prices for African suppliers, particularly after 2030. The fossil fuel phaseout is already causing a decline in upstream investments by European development agencies, concessional lenders, and private financiers of hydrocarbon projects in Africa. Europe's plans to use decarbonized gas as a transition fuel would present some short-term opportunities for African gas producers. With an increasing European demand for green hydrogen, partnerships are being established with African countries through the European Clean Hydrogen Alliance to secure 40 gigawatts of hydrogen imports from non-EU countries by 2030 (ibid).

The low-carbon energy strategies envisioned in the EGD will depend on the CRM inputs for clean energy and technologies. Consumption of these CRMs is projected to increase by a factor of four for graphite, five for cobalt, and eighteen for lithium by 2030; and by a factor of thirteen for graphite, fourteen for cobalt, and nearly sixty for lithium by 2050. Currently, the EU sources 28 percent of its barite needs from Morocco, 64 percent of bauxite from Guinea, 68 percent of cobalt and 36 percent of tantalum from the Democratic Republic of the Congo (DRC), and about 90 percent of the platinum group metals (PGM) from South Africa. Other countries, such as Ghana, Zambia, and Zimbabwe, also have the potential to supply copper, PGM, and bauxite to Europe (ibid)

The pressure on the extraction of these minerals' resources, coupled with rising debts and fiscal crisis of most African countries, would deepen the dependency of African countries. There are risks of reinforcing technology dependencies for Africa, accelerating environmental devastation, compounding climate disruptions, and importing Europe's carbon emissions.

There are also partnerships being forged between EU and individual African countries that have the tendency to deepen the primary commodity model of development in Africa. For example, Namibia is working with Germany to become the continent's first green hydrogen hub, supplying domestic, regional, and international markets and has plans to deliver 350,000 tons of green hydrogen by 2030 (ECDPM, 2023). Egypt is particularly betting on green ammonia to supply the shipping industry (ibid). The country also entered a strategic partnership with the EU on renewable hydrogen to facilitate investment and future trade (ibid). Furthermore, at the national level, some African countries are already developing strategies to capitalize on the opportunities to export green hydrogen to Europe. For example, Morocco has established a National Hydrogen Commission and announced the development of its Green Hydrogen Roadmap (ECDPM, 2023).

In 2020, the Commission signed a declaration of intent with Germany to finance the development of a project that the Moroccan Solar Energy Agency proposed to produce green hydrogen in what will be Africa's first industrial green hydrogen plant research platform (ibid). All these have the tendency to deepen Africa's dependence on Europe in the absence of any clear local content policies.



3.0 Africa Initiatives, Critical Minerals, Energy Transition and Economic transformation

Africa's vast mineral resources endowment positions it to play a central role in the energy transition context and yet there are major threats that may hinder Member States' ability to fully reap the benefits. All around the world, other continents and countries are scrambling to create their own critical minerals strategies to secure supplies for new economic growth sectors and national defence. Africa has been targeted as a raw material supply source.

The EU, US, China etc., all have policies and strategies for securing mineral raw materials from Africa. This narrative must be reversed by Africa developing its own strategy to develop the necessary value-chains with win-win outcomes for economy, people, and nature[13].

Africa plays host to significant quantities of the minerals needed for the energy transition and green industries. Of global reserves Africa hosts 6 percent of copper, 53 percent of cobalt, 25 percent of bauxite, 21 percent of graphite, 46 percent of manganese, 35 percent of chromite, 79 percent of phosphate rock, 91 percent of platinum group metals (USGS, 2022).

Beyond reserves, Africa is accounting for an even greater share of current production of many of these minerals, including a commanding 70 percent of cobalt. Although not a significant lithium producer yet, this mineral is mined in Zimbabwe and Mali. Namibia, Ghana, and the DRC also have resources. While not major producers, Rare Earth Elements (REEs) are mined in Angola and Burundi with projects in development in Malawi, South Africa, Tanzania, Madagascar, Morocco, and Mozambique[14].

These minerals are geo-spatially concentrated. Because of their importance, the green minerals are also subject to geopolitical contestations. The expected growth in demand for these minerals at the moment is coming mostly from electric vehicles. Africa has competitive advantage in two-wheeler and three-wheeler motorable vehicles. However, because of the fast pace of evolution of batteries and electric cars, there is a real chance of the minerals becoming stranded if African leaders do not act fast. Critical minerals are needed for wind energy production, solar PVs, hydrogen and fuel cells, energy storage, electric vehicles, among others.

In Africa, there is an absence of robust strategy to harness opportunities presented by the energy transition. The continent also has other challenges in climbing up the value chain. There are issues with the investment environment in the form of the prevalence of institutional and governance issues (predictability of policy and regulatory provisions) along with inadequate infrastructure (rail and road transport systems, energy, port facilities). There is also the problem of low market control.

13 An Approach Paper To Guide Preparation Of An African Green Minerals Strategy Final Report October By African Development Bank

14 An Approach Paper To Guide Preparation Of An African Green Minerals Strategy

Cobalt (27 Co)	
Democratic Republic of the Congo	70.0%
Indonesia	5.4%
Russian Federation	4.8%
Australia	3.2%
Canada	2.1%
Cuba	2.0%
Philippines	2.0%
Others	10.5%

Copper (29 Cu)	
Chile	23.6%
Peru	10.0%
Democratic Republic of the Congo	10.0%
China	8.6%
United States	5.9%
Russian Federation	4.5%
Indonesia	4.1%
Australia	3.7%
Zambia	3.5%
Mexico	3.3%
Kazakhstan	2.6%
Canada	2.4%
Poland	1.7%
Others	16.1%

Dysprosium (66 Dy)	
China	48.7%
Myanmar	23.1%
Australia	7.6%
United States	2.9%
Canada	2.7%
Others	15.0%

Graphite (6 C)	
China	64.6%
Mozambique	12.9%
Madagascar	8.4%
Brazil	6.6%
Others	7.5%

Iridium (77 Ir)	
South Africa	88.9%
Zimbabwe	8.1%
Russian Federation	2.9%
Others	0.1%

Lithium (3 Li)	
Australia	46.9%
Chile	30.0%
China	14.6%
Argentina	4.7%
Brazil	1.6%
Others	2.2%

Manganese (25 Mn)	
South Africa	35.8%
Gabon	22.9%
Australia	16.4%
China	4.9%
Ghana	4.7%
India	2.4%
Brazil	2.0%
Ukraine	2.0%
Côte d'Ivoire	1.8%
Malaysia	1.8%
Others	5.3%

Neodymium (60 Nd)	
China	45.8%
Australia	23.1%
Greenland*	8.2%
Myanmar	7.4%
Brazil	4.4%
India	2.1%
Others	9.0%

*Kingdom of Denmark

Nickel (28 Ni)	
Indonesia	48.8%
Philippines	10.1%
Russian Federation	6.7%
France (New Caledonia)	5.8%
Australia	4.9%
Canada	4.0%
China	3.3%
Brazil	2.5%
Others	13.9%

Platinum (78 Pt)	
South Africa	73.6%
Russian Federation	10.5%
Zimbabwe	7.8%
Canada	3.1%
United States	1.7%
Others	3.3%

Source: 1 :Key mining countries for select minerals. Source: US Geological Survey and US Department of the Interior, 2023; JRC, 2020; USGS, 2023b

3.1 Mineral Endowment and Initiatives at minerals value addition in Africa

The World Bank has forecast that the production of critical minerals will need to increase by approximately 500 percent by 2050 to meet the rise in global demand and allow the world to avoid the worst impacts of climate change (Goosen, 2023).

Almost every African country is rich with either one or more critical minerals. Guinea, for example, is home to the world's largest bauxite reserves while Gabon is the second largest producer of manganese, while the Democratic Republic of the Congo (DRC), as stated earlier hosts over 70 percent of the world's cobalt production, with Namibia serving as the world's leading exporter of uranium ore (ibid). Furthermore, Mozambique and Zimbabwe are the world's third largest producers of graphite and chromium ore, respectively, while Zambia serves as the largest exporter of unrefined copper and South Africa accounts for the majority of platinum group metal (PGM) reserves, of which over 90percent are situated in Africa (ibid). As such, Africa's resources are well-positioned to play a crucial role, thus allowing the continent to strengthen its position in green technology value chains. However, significant levels of investment are required to maximize the full potential of these resources.

Faced with serious energy challenges, African countries are not only becoming more vocal about gaining fair access to development capital, but also finding innovative solutions and rapidly implementing policy supports (Desné, 2023). The Economic Commission for Africa and Afreximbank and other partners are supporting the development of a battery mineral value chain initiative, a first in Africa's efforts to strengthen value addition on the continent and promote green industrialization.

Joint partnerships have also played a key role in promoting Africa's energy transition plans. For example, Zambia and the Democratic Republic of Congo are jointly developing the battery mineral value chain, tapping the resources that the two countries have in abundance. Indeed, in April 2022, the DRC and Zambia signed a cooperation agreement in Lusaka, with a view to developing a cross-border Special Economic Zone to house the regional value chain (ECA, 2023).

To ensure the success of this initiative, the DRC committed to building the necessary skills for the electric battery industry (ibid). Furthermore, Zimbabwe has made strides to reduce unprocessed exports through a law banning the exports of unrefined lithium (Goosen, 2023), which move represents part of wider efforts by the government to stimulate growth across the domestic mineral value chain.

Studies further demonstrate the potential competitive advantage of the DRC in the manufacturing of battery precursors, whose global market is estimated at US$271 billion, while that of electric vehicles is around US$7 trillion by 2025 (ECA, 2023).

South Africa has also established Hydrogen South Africa, a hydrogen research and development strategy, with the goal of spurring innovation along the entire hydrogen value chain, including fuel cell technologies (Zainab, Olumide & Imeh, 2021). There is also a lively debate regarding how to ensure that South Africa becomes an exporter of green hydrogen, with investment in the development of blue hydrogen as a bridge to the carbon-neutral green hydrogen.

It is worth noting that these initiatives need to be supported by progressive local content policies and ecosystems in order to ensure a transformative energy transition on the African continent. In Zambia, for example, foreign suppliers account for about 96 per cent of goods and services supplied to mines, whereas domestic suppliers contribute about 4 per cent, mainly in services i.e., catering, security and office maintenance (UNCTAD, 2023). This is a case that illustrates the importance of sound local content policies in developing local supply chains and facilitating the creation of backward linkages in the mining sector, for example, generating value addition in domestic supply sectors, creating local employment opportunities, or transferring technology.

Many countries have resources that they do not understand and control. The resource base is always expanding and there is asymmetric information between the exploiters and the owners. Africa needs to gain more knowledge infrastructure of these resources. How do

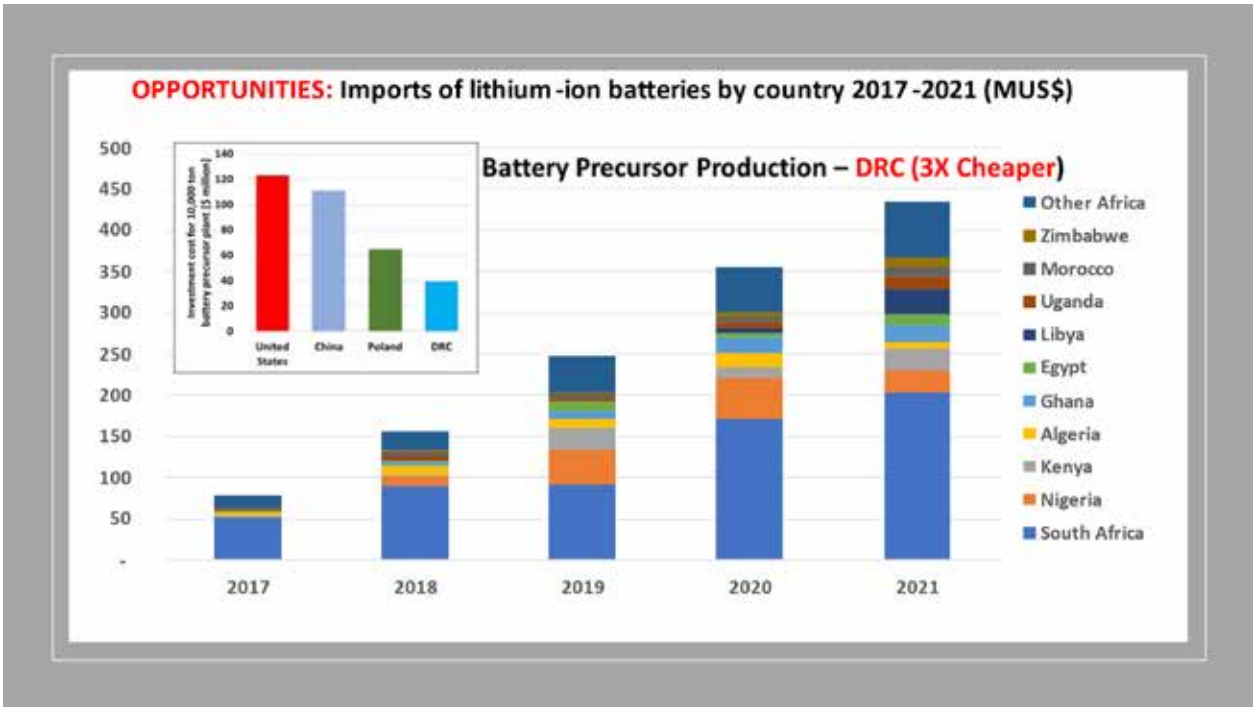
Africa countries access this knowledge and position themselves to take advantage of these knowledge with the understanding that some of these are finite resources.

There are examples of other developing countries who have taken steps to gain control of their critical minerals. Chile is attempting to gain controlling interest in lithium projects in a public-private model by negotiating with private mining firms which extract lithium via long term concessions. In Bolivia the State manages the production process through a public company but may partner with private companies for post extraction value addition.

And in Argentina provincial state-owned companies already hold most of the lithium exploration and mining rights with which newcomers, state owned or private, would need to partner. Mexico set up a new state-owned company in 2022 to manage the exploration, mining exploitation, and refining of lithium and controlling its economic value chains.

For example, vehicles are being assembled by Toyota in Durban, South Africa, from Semi Knocked Down vehicle imports. Companies such as Ampersand in Rwanda, MAX in Nigeria, Bodawerk in Uganda, ARC in Kenya, and Agilitee in South Africa are part of a rapidly growing African electric motorcycle industry run by mostly young entrepreneurs that have presented convincing business cases, being innovative and producing new electric motorcycles or retrofitting conventional ones with electric motors.

Figure 2: Imports of Lithium-ion Batteries by Country 2017-2021



Source: 2: African Development Bank

The above figure shows the imports of lithium -ion batteries of African countries such as South Africa, Ghana, Algeria, Kenya, Nigeria, and Uganda among others. This represents a huge market within the African continent.

But at the moment several companies across the continent, such as Kira Motors in Uganda (Kira Motors, 2022) are converting internal combustion engine (ICE) buses and light trucks into electric vehicles. These activities should be regarded as nascent industrial activities which demonstrate technical and manufacturing capabilities that can be scaled up with supportive policy, skills, and infrastructure and investment environments. What the above initiatives lack are the policy grounding in terms of the appropriate trade, investment, finance, and technology policies to guide them.

The African Natural Resources Management and Investment Centre (ANRC) within the

African Development Bank and its partners the African Minerals Development Centre (AMDC), African Legal Support Facility (ALSF), United Nations Economic Commission for Africa (UNECA), United Nations Development Programme (UNDP) initiated the development of an African Green Minerals Strategy (AGMS) to proactively engage with the new conditions flowing from the energy transition. The strategy is intended to augment the existing body of mineral development policies with a focus on the opportunities created by these new conditions.

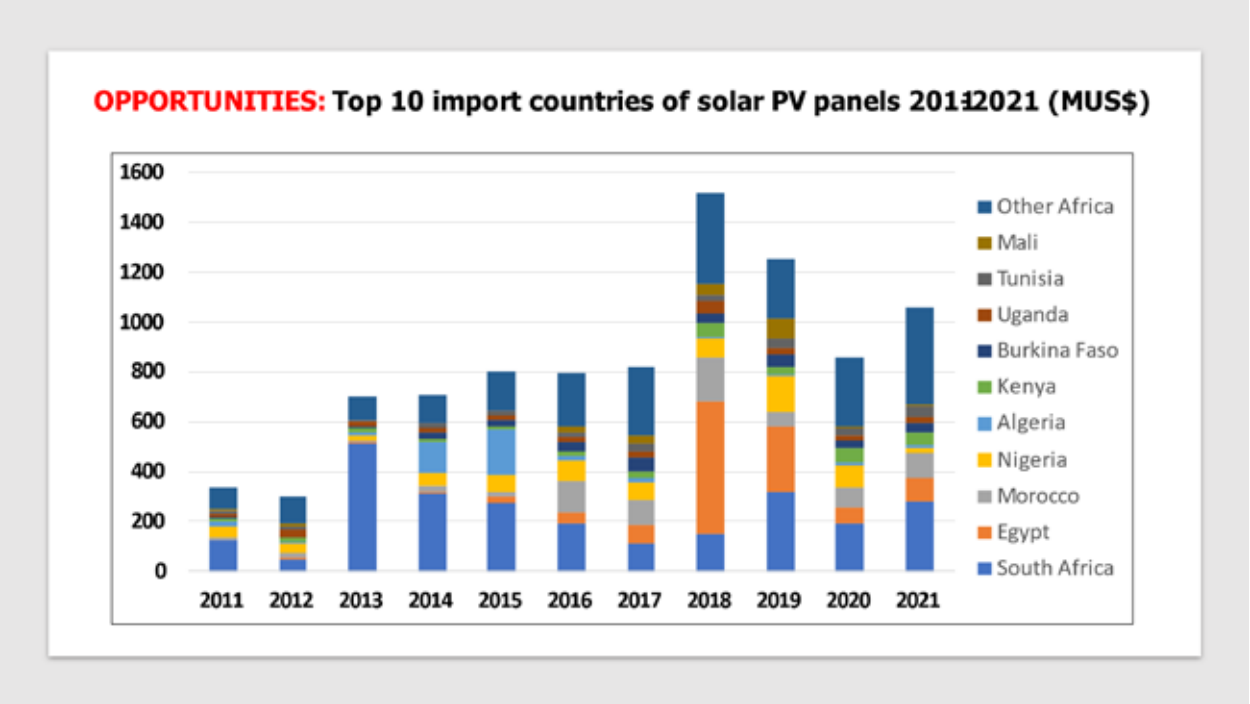
Four pillars support the strategy to deliver this vision:

1. Advancing Mineral Development by increasing geological knowledge, conducting feasibility studies to attract investment, establishing infrastructure for an enabling environment and aligning mineral resource management with the African Mining Vision.
2. Developing People and Technological Capability by identifying skills needed to capitalise on opportunities and building the institutions to generate them. 3. Building Key Value-Chains to achieve resource-based industrialisation and access wider regional and continental markets through the African Continental Free Trade Area (AfCFTA).

In this regard, a case is made for the establishment of battery and electric vehicles value chains, starting with two and three wheeled vehicles and commuter buses. 4. Mineral Stewardship to responsibly guide the environmental, social and governance aspects of green minerals together with material reuse and recycling.

Also, in terms of boosting agricultural production, batteries could be produced for appropriate machines for irrigation, ploughing, fishing on the continent. That could generate much wealth for the many small-scale producers littered across the African continent.

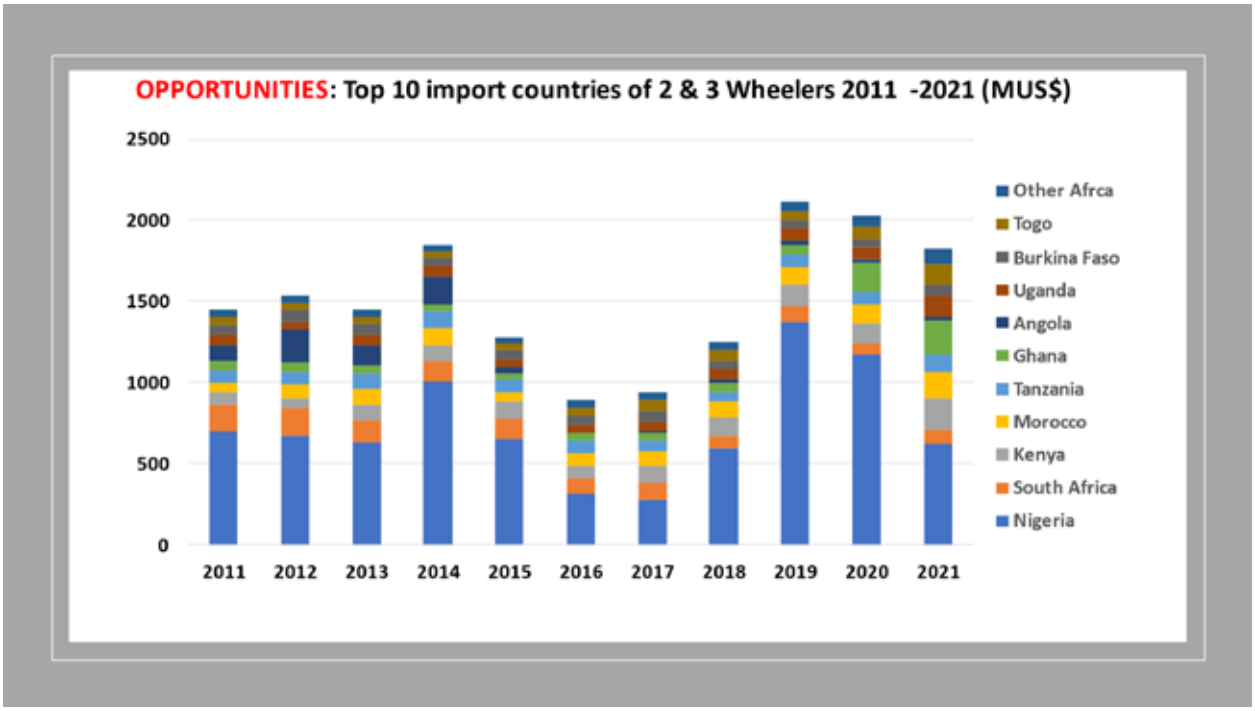
Figure 3: Top Import Countries of Solar PV Panels 2011-2021



Source: 3: African Development Bank

The above figure also gives a picture of the top import countries of solar PV panels from 2011 to 2021. These countries are South Africa, Egypt, Morrocco, Nigeria, Kenya, Burkina Faso, and Uganda among others.

Figure 4: Top 10 Import Countries of 2 and 3 wheelers



Source: 4: African Development Bank

The above figure shows the imports of 2 and 3 wheelers into the continent. Two and three wheelers are the fastest growing transport mode in many low and middle-income countries. While Asia has the lion's share of the global motorcycle fleet, growth rates of motorcycles in many African countries are some of the highest in the world. Today, about 270 million motorcycles are on the road with annual motorcycle sales accounting for about 52 million. By 2050 the global fleet of motorcycles is projected to account for more than 400 million vehicles, representing a 50percent increase compared to today.

However, many of these internal combustion engines, two and three wheelers are old and inefficient, thus emitting substantial amounts of particulate matter (PM) and black carbon (BC), a potent short-lived pollutant. Two-stroke scooters, for example, produce more particle emissions than a passenger car.

Experts agree that two and three wheelers are the priority in moving to electric mobility. Scenario calculations using the UN Environment eMob[15] calculator show that assuming a steep and global shift to 90 percent battery electric motorcycles sales by 2030 could result in CO2 emissions reductions of about 11 billion tons between now and 2050. At the same time, overall monetary savings stemming from lower fuel and maintenance costs and considering a higher purchase price of electric motorcycles could amount to about USD 350 billion by 2050.

Given the rapid growth of two and three-wheeler fleets in Africa countries and developing and transitional countries, the United Nations Environment Programme (UNEP) is supporting countries to develop national programmes for the introduction of electric two and three wheelers in Africa, Asia and Latin America and the Caribbean.

In the energy transition debate, the reality of access to electricity in Africa must be factored into the debate. Eighty percent of the people globally without access to electricity are in Africa, 36 percent of the 2.6 billion people without access to clean cooking.

According to *Europa World*, sub-Saharan Africa has been confronted by several serious energy challenges, mainly related to insufficient generation capacity and an over-reliance on fossil fuels. Due to the region's small, fragmented energy markets, electrical supply systems struggle to find economies of scale, and electricity is thus expensive (Desné, 2023).

15 https://www.unep.org/explore-topics/transport/what-we-do/electric-mobility/electric-two-and-three-wheelers

The region's entire electric generation capacity (63 GW) is comparable to that of Spain (ibid). The region (excluding South Africa) has the world's lowest per capita consumption of electricity at 150 kWh, compared with a world average of 3,133 kWh (ibid). As of 2022, 600 million people in Africa, or 43percent of the continent's population, lacked access to electricity (ibid). However, Africa's resource base and associated investments could help accelerate progress by developing diverse energy sources.

Africa can be the global growth pole for the energy transition and drive to net zero towards the temperature goal of the Paris Agreement. But a compelling just and equitable energy transition in Africa must be defined by Africa. It must also be based on optimal use of the continent's abundant renewable energy and critical mineral resources.

A Kigali communique[16] on energy emerged during the global SEforALL Forum in Kigali from 17-19 May 2022, when ministers and high-level representatives from the Democratic Republic of Congo, Ghana, Kenya, Malawi, Morocco, Nigeria, Rwanda, Senegal, Uganda, and Zimbabwe met to discuss the requirements for a just and equitable energy transition in Africa.

The outcome of that Ministerial meeting was the Kigali Communique from the 10 countries that expresses seven key principles to address development gaps, and to put Africa on a pathway, aligned with the Paris Agreement on climate change, to economic prosperity and Net-Zero.

The Kigali Communique on a Just and Equitable Energy Transition in Africa has seven principles.

i. Make modern sustainable energy available to the entire continent led by Africa.

ii. Support Africa in the deployment of gas as a transition fuel and the long-term displacement of gas by renewable energy and green hydrogen for industrial development

iii. Pursue a modern energy minimum of 1,000 kWh per capita consumption.

iv. Scale-up private and public sector investment to well over US$ 2 trillion

v. Prioritize the creation of millions of local jobs in the new sustainable energy sector.

vi. Lift development finance restrictions that currently limit projects in Africa

vii. Catalyze a step-change in technology transfer mechanism.

Energy transitions for Africa needs to address resource future. Thinking along the lines of natural gas as transition fuels, it should not be left open-ended because countries that are dependent on resources have not been the most resilient to economic shocks, so it is important to think along the lines of resilient growth so that the systems that countries depend on are not depleted to the extent that African countries are no longer able to depend on them.

In Africa the importance of the informal sector in the transition cannot be overlooked because they are holders of knowledge, technology, innovators, entrepreneurs, and job creators. Thus, transition debate should be more inclusive and find ways to bring on board those who are normally left out. There is the need to reorient the power dynamics in this sense.

16 https://www.mininfra.gov.rw/updates/news-details/kigali-communique-outlines-principles-for-a-just-and-equitable-energy-transition

4.0 Policy Recommendations

"Africa has had a difficult history with its natural resources, where many resource-rich African countries have experienced poor development outcomes. Stranded assets present a new challenge, but also give a unique opportunity for Africa to deepen its drive towards economic diversification", said Dr Fatima Denton, Director of UNU-INRA.

Based on the analysis, the following policy recommendations are made:

i. Energy transition debate within the context of Africa must spring from the reality confronting African countries-structural economic transformation. In Africa, the process of transitioning from fossil fuels to clean energy has different implications due to the level of development and level of dependence on fossil fuels for their energy needs and the broader functioning of African economies. Countries in Africa with limited existing capacity for alternatives, the demand for and policy stance on substantial reduction or cessation of the use of fossil fuels will not make much meaning. In Africa, where economies continue to exhibit high features of dependency on raw materials and the need for economic transformation, the critical issues of access to energy for the broad masses of people for meeting basic economic needs complicates the discussion of energy transition.

ii. The emerging Europe-Africa relations in the energy transition debate picks with it the decades-old instruments trade and investment policy instruments that perpetuate primary commodity dependence of Africa's economies. Africa policy makers and activists must pay attention to the extractive nature of the EU is its quest for critical minerals where trade and investment policy instruments are used to clamp the capacity of Africa states to act in the transformation of their economies.

iii. The pressure to extract green minerals resources, coupled with rising debts and fiscal crisis of most African countries, could deepen the dependency of African countries. There are real risks of reinforcing technology dependencies for Africa, accelerating environmental devastation, compounding climate disruptions, and importing Europe's carbon emissions.

iv. On the African continent, evidence suggests the current deepening of fossil fuel exploitation has not led to reliable development trajectory for Africa. Even though there is opportunity for Africa from decarbonization, Africa cannot realize the benefits of these opportunities for development if it continues with the current economic model of primary commodity model and political economy within our countries, a reform of the political governance structure by strengthening the civil participation in decision making is needed.

v. Stranding of resources is real with the rapidly evolving technologies. Africa should be looking to producing its own oil in the next 10 to 15 years. This requires that Africa is broad-minded and explores the opportunities that the climate conversation offers. The renewable spaces are evolving so aggressively. A decade ago, nobody could imagine that the world would be producing millions of electric cars in a year. As technology evolves, the stranding of resources becomes real.

vi. Initiatives at value addition in the mineral sectors in Africa is laudable but these initiatives need to be supported by progressive local content policies and ecosystems to ensure a transformative energy transition on the African continent. The importance of sound local content policies in developing local supply chains and facilitating the creation of backward linkages in the critical minerals economy cannot be overlooked, for example, generating value addition in domestic supply sectors, creating local employment opportunities, or transferring technology.

vii. Initiatives at battery production for 2 or 3 wheelers could also be expanded for agricultural machines for irrigation, ploughing, fishing on the continent. That could generate much wealth for the many small-scale producers littered across the African continent.

viii. The Energy transition from the perspective of the EU is entrenched in existing economic development model hence reinforcing the commodity dependence of Africa. The current investment Agreements facilitating the exploitative relationship are skewed towards the protection and favour of the Investments. In the growing quest for minerals to manufacture the required hardware for the energy transition, there is a likelihood to see an increase in Investments within Africa in the extractive sector. However, the continued absence of performance requirements like technology and skills transfer in the Investment Agreements has entrenched the power imbalances, and exacerbated Africa's commodity dependence affecting the Africa's investment relationship with the Global North.

In conclusion, a transition away from fossil fuels in Africa is a question of structural economic transformation. That is the reality in Africa. Countries of the global south in general and African countries in particular should ensure that any debate on energy transition should therefore be cognizant of the prevalent systemic and structural subscriptions shaping our political, social, and economic systems. The debate should focus on transforming these systems, with social and economic justice as core principles of the agenda. Whereas achieving the much-needed industrialization induced development in Africa is not possible without developing efficient energy systems.

References

African Union Commission (2010): Regional Economic Communities' Common Position Paper on Economic Partnership Agreements

Anders, H., Qian, W., Zhao, K., Philipp, G., & Liu, Y. (2022). China Energy Transition Status Report 2021-Sino-German Energy Transition Project. Link:https://www.energypartnership.cn/fileadmin/user_upload/china/media_elements/publications/2021/China_Energy_Transition_Status_Report_2021.pdf

Desné, M. (2023). African solutions gather pace in energy infrastructure investment. Link: https://african.business/2023/08/resources/african-solutions-gather-pace-in-energy-infrastructure-investment

ECA. (2023). Promoting the development of green minerals to drive Africa's industrialization. Link: https://www.uneca.org/stories/promoting-the-development-of-green-minerals-to-drive-africapercent E2percent 80percent 99s-industrialization

European Commission. (2020). Joint Communication to the European Parliament and the Council: Towards a comprehensive Strategy with Africa. JOIN (2020) 4 final.

Goosen, M. (2023). From Extraction to Value Addition: Enhancing Africa's Critical Minerals Value Chain. Link: https://energycapitalpower.com/from-extraction-to-value-addition-enhancing-africas-critical-minerals-value-chain/

The White House. (2023). FACT SHEET: President Biden to Catalyze Global Climate Action through the Major Economies Forum on Energy and Climate. Link: https://www.whitehouse.gov/briefing-room/statements-releases/2023/04/20/fact-sheet-president-biden-to-catalyze-global-climate-action-through-the-major-economies-forum-on-energy-and-climate/

IRENA (2023). Geopolitics of the Energy Transition: Critical Materials. Link: https://www.irena.org/Publications/2023/Jul/Geopolitics-of-the-Energy-Transition-Critical-Materials

UNCTAD. (2023). Economic Development in Africa Report 2023: The Potential of Africa to Capture Technology-Intensive Global Supply Chains. UNCTAD/ALDC/AFRICA/2023

Zainab, U., Olumide, A., & Imeh, I. (2021). What Does the European Green Deal Mean for Africa?

Plot 806, Block 213,
Bukoto-Kisaasi Road
P.O BOX 3138, Kampala
+256 414 540 856
+256 707 481 726
info@seatiniuganda.org
www.seatiniuganda.org

Follow
SEATINI Uganda