

SDG7 Technical Advisory Group

Policy Brief on Advancing SDG7 in Africa

Draft of 17 April

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This draft was shared with participants of the Expert Group Meeting in Support of SDG7 review at the HLPF 2023, 11-12 May, as background information

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1 Key Messages

Status of SDG7 and progress towards achieving its targets

The constraints on African economies and communities brought on by the continent's persistent energy access deficit have been made worse by the effects of the global energy crisis brought on by the impact of the Russia-Ukraine conflict, the Covid-19 pandemic, and the growing implications of climate change. Suppose Africa is to achieve the development goals outlined in the UN 2030 Agenda for Sustainable Development (leave no one behind) and the larger African Union's Agenda 2063. In that case, its energy situation necessitates a radical shift in how the continent views energy and urgent action to address its long-standing energy access issues (the Africa we want). Most of Africa must be on track to achieve SDG7's goals for ensuring everyone has access to affordable, dependable, sustainable, and modern energy. Access to reasonably priced and dependable modern energy services is a crucial prerequisite, impacting the progress of the other development goals.

Priority actions over the next three years

- Countries must quickly implement comprehensive policies and a supportive environment to make the most of their meagre public resources and mobilise the private sector's investment, including domestic resources while taking advantage of the industry's rapidly declining technology costs for renewable energy.;
- The UN, the ECA, and other organisations should assist member states in putting in place a comprehensive framework that would enable the private sector and financial resources of Africa to play a leading role in enabling investments in the continent's energy transition and transformation;
- The ECA, other UN entities and development partners should support member States with developing energy transition plans and enhanced implementation of NDCs with bankable actions that promote SDG7 goals.

Priority actions towards 2030

- Countries should promote investment in strengthening the grid for greater efficiency and increased penetration of variable renewable power and promote cross-border interconnections to accelerate access to electricity through investments in Africa's power pools;
- Countries should step up efforts to tap low-hanging fruits in energy efficiency in all sectors and capitalise on quick wins in energy efficiency in cities, industries, buildings and transportation, recognising that energy efficiency gains enhance access;
- Countries and development partners should promote the sharing of good practices and experiences with both grid and off-grid systems, including business models and instruments to attract private sector investment;
- Development partners should support Member States with the development and implementation of local content enhancement throughout the entire renewable energy value chain as a catalyst for the longer-term enhanced deployment of renewables with more comprehensive socio-economic benefits;
- Development partners should support Member States to develop a continental framework for natural gas as a transition fuel that enhances access to clean cooking and renewables, including developing green hydrogen while considering the risks of lock-in effects.

2 SDG7 and the Sustainable Development Goals

2.1 Current status

In light of (i) a changing climate that is costing African economies an average of 5% of their GDP, and even three times that amount in some cases, (ii) a massive energy access deficit that must be closed urgently and at scale to address the achievement of the SDGs, (iii) an abundance of energy resources, both renewable and fossil, (iv) constrained public resources and low levels of private sector investment in Africa’s energy transformation, and (v) limited support to recover from financial hardship.

2.1.1 Access to electricity

Of the 733 million people without access to electricity worldwide, 589 million (80%) live in Africa, which remains the least electrified continent. Despite numerous national initiatives, rural electrification, in particular, remains a significant difficulty for most African nations. There is a substantial urban-rural difference in electricity access, with urban areas electrified at 82% (78% in Sub-Saharan Africa) and rural areas electrified on average at 37% (28% in Sub-Saharan countries). As most people only have Tier 1 access to electricity, it has no beneficial effects on economic growth. In the multi-tier framework (MTF) concept, electricity access refers to sufficient electricity for all required power demands across households and community institutions, reliable, good quality, inexpensive, legal, convenient, healthy, and safe.

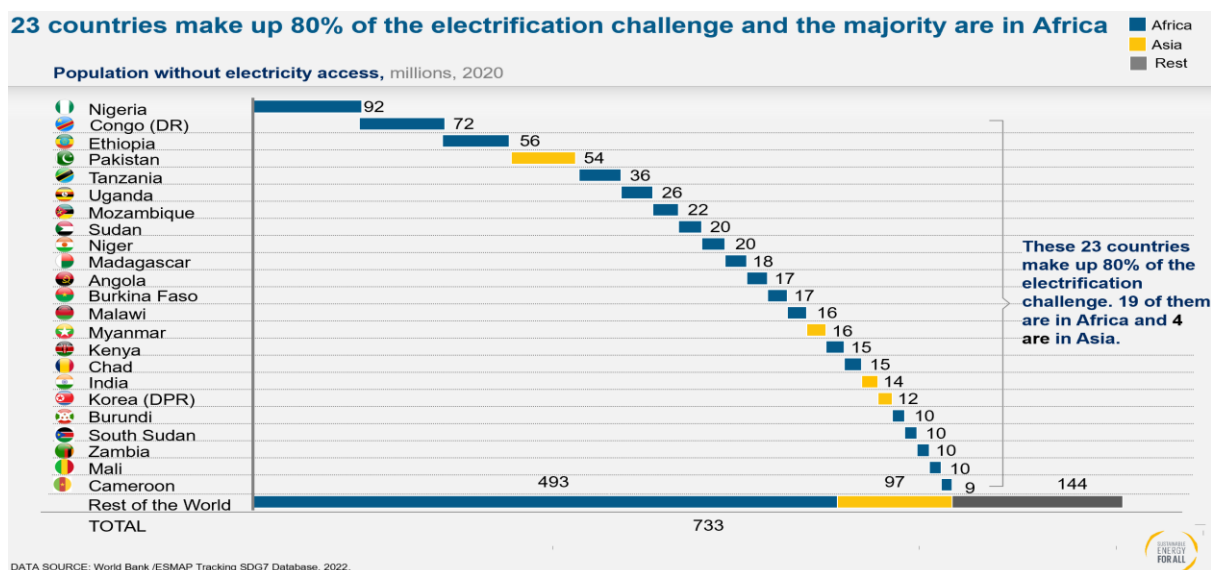


Figure 1: Countries accounting for 80% of the global population without access to electricity in 2020 (as produced by SEforALL)

While some countries—most notably Ethiopia, Ghana, Kenya, Rwanda, and Uganda—are steadily increasing their electrification and can thus achieve universal access with increased ambition, others—including Algeria, Carbo Verde, Egypt, Mauritius, Morocco, Seychelles, and Tunisia—are already at or nearly at the point of having universal access to electricity. However, the top countries with the most significant numbers of people without access to electricity are Malawi, Burkina Faso, Chad, Niger, Nigeria, and the Democratic Republic of the Congo, in that order. The continent’s situation will worsen if existing policies and ambition levels are maintained. According to this scenario, out of the 679 million people worldwide, 610 million in Africa will still not have access to electricity in 2030. Nigeria, the Democratic Republic of the Congo, and Ethiopia will need to receive the most attention to significantly increase the number of people with access to electricity. Moreover, other countries like Chad, South Sudan, Malawi, Burkina Faso, Niger, and Burundi will also need attention to ensure that no one is left behind.

2.1.2 Access to clean fuels and technologies for cooking

To achieve the objective of providing everyone with access to clean cooking fuels and technologies, the majority of African nations require assistance.¹ Between 2010 and 2020, the number of Africans needing access to clean cooking solutions increased by 170 million, to around 937 million, due to population growth and insufficient investment in clean cooking options. There are now 131,402 million more persons without access. In 41 countries, including the Democratic Republic of the Congo, Nigeria, Ethiopia, Uganda, and Tanzania, the number of people without access increased significantly. Only 11 countries, including South Africa, Sudan, Egypt, Morocco, and Algeria, saw significant improvements in the number of people gaining access.

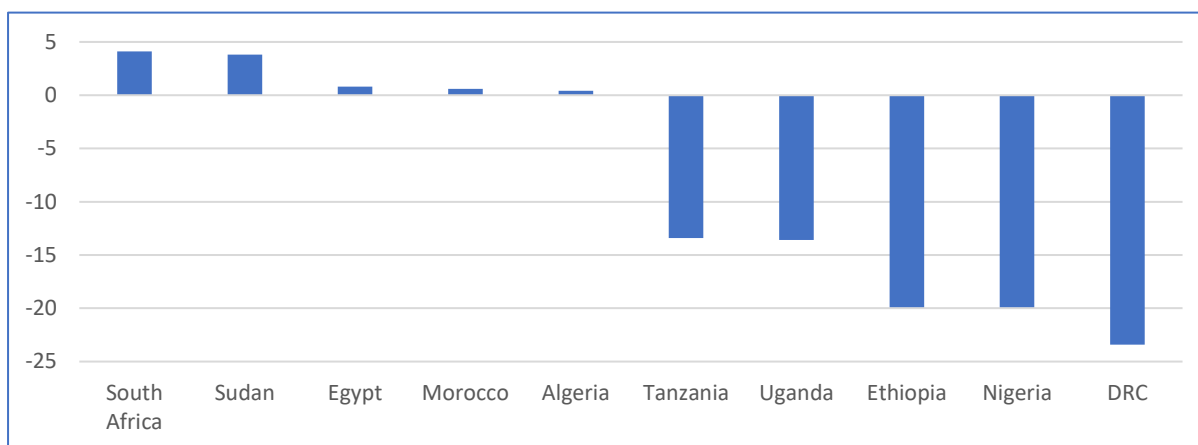


Figure 2: Increase in population without access to clean cooking between 2010 and 2020
DATA SOURCE: World Bank/ ESMAP Tracking SDG7 Database, 2022

Except for Oceania, Africa does poorly compared to other regions because more than 80% of the population relies on traditional biomass for cooking, which results in more than 500,000 annual deaths linked to indoor pollution.² The persistent shortage of clean cooking options in Africa is worse in rural areas. Except for a few nations like Algeria, Cape Verde, Gabon, Egypt, Mauritius, Morocco, Seychelles, South Africa, Sudan, and Tunisia, the urban/rural gap still needs to be addressed. There is a significant overlap between the demand for cleaner cooking options and increased access to energy. According to an analysis by Sustainable Energy for All (SEforALL), there is a significant overlap between the lack of access to electricity and clean cooking solutions. For example, countries representing 80% of the challenges in these SDG 7 goals and their overlap have not changed much, indicating persistent difficulties in achieving both goals in these countries.

2.1.3 Share of renewable energy

Due to the continent's excessive reliance on the usage of solid biomass, the proportion of renewable energy in total energy consumption has decreased slightly from 56.6% in 2010 to 52.1% in 2019. Still, it has remained significantly higher than the global average of 17.7%. Nonetheless, Africa has the lowest share of contemporary renewable energy—7.6%—in its final energy consumption compared to other continents and the world. From 27 GW in 2010 to 56 GW in 2021, the total installed renewable power capacity (including hydropower) rose by 107%. Wind and solar power have dominated non-hydro renewable energy generation and installed capacity. Wind power capacity increased from 865 MW to 7.3 GW over the same

¹ The WHO defines clean cooking fuels and technologies at the point of use as solar, electric, biogas, natural gas, liquefied petroleum gas (LPG), and alcohol fuels including ethanol.

² <https://www.iea.org/reports/africa-energy-outlook-2022>

period, whereas solar power capacity increased from a meagre 194 MW in 2010 to 10.3 GW in 2021. Although natural gas and coal still account for most of Africa’s power mix, the proportion of renewable energy sources climbed from 19.5% in 2010 to 23.1% in 2021 regarding installed capacity and from 16.2% to 21.2% in the same period in terms of generation capacity. In comparison to other regions, these shares continue to be relatively small.

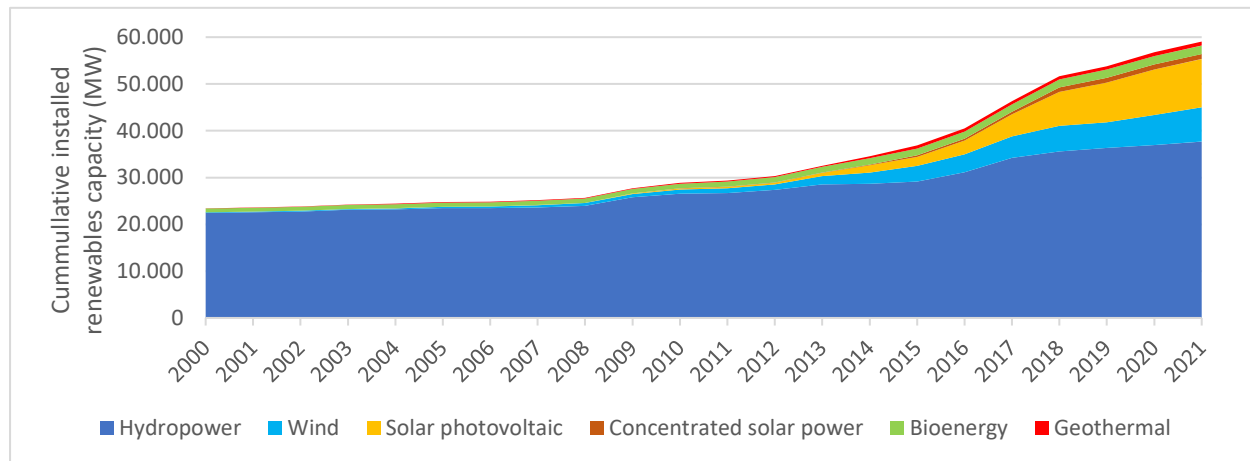


Figure 3: Growth of renewable power capacity in Africa
 DATA SOURCE: IRENA, 2022

2.1.4 Energy efficiency

The least energy-efficient continent is Africa, followed by Asia. Its energy intensity has decreased only slightly from 5.95 MJ/USD GDP in 2010 to 5.52 MJ/USD GDP in 2019—a change of only 0.83% on average throughout that time. Africa’s over-reliance on biomass for home purposes has contributed to the continent’s high energy intensity. Following manufacturing and transportation, this industry consumes the majority of the primary energy supply on the continent.

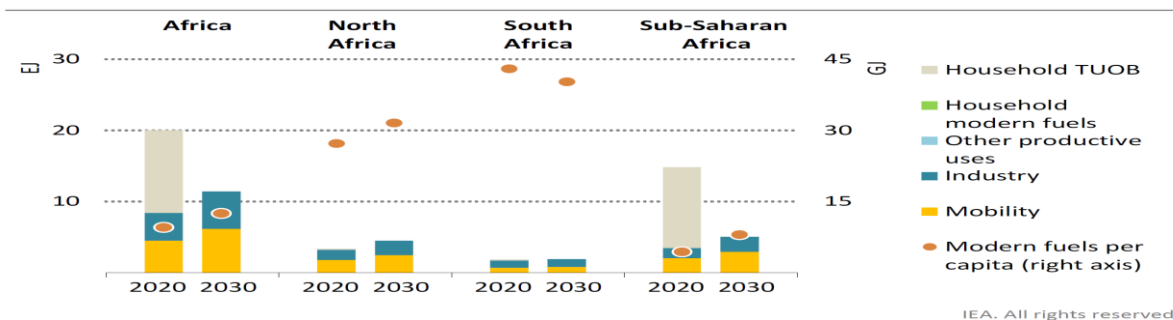


Figure 4: Primary energy consumption in Africa by sector and fuel type and change in total final energy consumption by fuel and sector in 2020 and 2030
 Source: IEA Africa Energy Outlook 2022

2.2 Are we on track to achieving SDG7?

The continent is not on track to meet all SDG 7 targets. Since the start of SDG 7 tracking in 2015, it has been clear that fulfilling SDG 7 targets would necessitate massive efforts by the African government, development partners, and other stakeholders. Yet, substantial milestones have been achieved, even though the magnitude of the challenge has to be increased. Substantial progress has been made in proactive policy development, energy infrastructure resource mobilisation, and enhanced independent power production. Renewable energy investments are beginning to bear fruit in several countries. Africa must look beyond 2030 as a goal while using 2030 to accelerate planned initiatives.

2.3 Key challenges

Unambitious energy access policies. Energy access policies remain a significant barrier to sustainable energy and cooking solutions in Africa. Given the current political climate, over 670 million people—600 million of whom reside in Africa, particularly in the Democratic Republic of the Congo, Nigeria, Uganda, and Sudan—will continue to lack access to electricity. Similarly, about 1 billion of the 2.1 billion people without access to clean cooking options in 2030 are expected to reside in Africa. Because of this, it will be challenging to achieve all of the other SDGs and Agenda 2063’s development goals.

Impacts of COVID-19 and the Ukraine war: The COVID-19 pandemic’s economic effects and the conflict between Ukraine and Russia severely restrict the fiscal space available to African nations, resulting in decreased revenue for oil-exporting nations and balance of payment issues for the majority of African nations that rely heavily on imported refined petroleum products. These difficulties further reduce the availability of already scarce public resources required to mobilise the enormous sums of money from the private sector to invest in bridging Africa’s development gaps in energy and other sectors to promote economic growth while mitigating climate change.

Underinvestment and the need to address reliability and affordability: Poor rural electrification, weak grids, and limited baseload power remain major hindrances to access. The ramping up of renewables from a wealth of solar and wind power resources is severely hampered by the persistent underinvestment in Africa’s power grids, interconnections, and inadequate baseload electricity generation capacity. These have high transmission and distribution losses due to the technical state of many African power grids, sometimes in conjunction with design flaws and a lack of preventive maintenance, harming supply security. Off-grid technological solutions, like mini-grids and individual home systems, are increasingly viewed as practical solutions to the problems associated with rural electrification. But, for these systems to be bankable, sufficient policy support must exist.

Policy and regulatory barriers to investment: The private sector will provide the majority of the funding required to reduce Africa’s energy deficit, which calls for a favourable climate and increased investor confidence. To make this possible, nations must increase their efforts to eliminate legislative and administrative obstacles to investment by ensuring the electricity market is open, alluring, and prepared for private sector investment. This covers policy support for investments in clean cooking fuels, technology, transmission, distribution, and on- and off-grid power systems. Innovative finance tools, contemporary procurement procedures (such as feed-in tariffs and auctions), financial guarantee programs, and financially stable power producers and system operators are all essential to an enabling environment. In Africa, these are either largely absent or need to be stronger.

Lack of cost-reflective tariffs: Most African countries have energy tariffs below cost-reflective levels or below what it costs to produce, transport, and distribute electricity to customers. Service providers (utilities) are rarely fully compensated for this revenue shortfall, which has several adverse effects: a lack of incentives and financing to connecting new consumers; a high off-taker risk for private electricity generators; and, consequently, underinvestment in the generation and grid.

The geopolitics of the global just transition: balancing access, development, and the transition: On the one hand, there are more calls to phase out investments in fossil fuel resources quickly as the momentum towards achieving net zero greenhouse gas emissions, led by a clean energy transition, grows. As a result, short-term investments in energy access in Africa will likely be even more scarce. On the other hand, there

are growing calls from African nations for a practical strategy that utilises all of the continent's energy resources to swiftly close a long-standing energy access deficit and development gaps while stepping up efforts toward a green energy future, as outlined in the African Union's *African Common Position on Energy Access and Just Energy Transition*³ and the *Kigali Communiqué on a Just and Equitable Energy Transition*⁴. In this sense, there are increasing calls for natural gas investment to support base generation while supplying LPG to replace traditional biomass for clean cooking. For African nations to implement policies that will enable them to accomplish their goals for energy security in less carbon-intensive, sustainable ways, they require realistic timetables and enough long-term funding.

There is a need for a differentiated timeline: African nations must have differentiated timelines based on their economic conditions and capabilities to fulfil their international obligations while adequately balancing the needs of their populations. Finding a sustainable road to energy access will take time, especially as African nations want to upgrade their current energy production capabilities and build new ones. Providing the proper institutional and legislative groundwork will take years for a well-functioning energy industry to be the cornerstone of economic growth.

2.4 How to fill the gap to achieve SDG 7

2.4.1 Focus on “quick wins.”

It is essential to expedite current efforts to increase energy, particularly power connectivity on the continent. They include the African Single Electricity Market (AfSEM), the AfDB's High Five (light and power Africa), and others. PIDA PAP II is the second priority action plan for infrastructure development in Africa for 2021–2030. Numerous ground-breaking initiatives accompany these efforts at the national and regional levels. African governments have realised the need to update their legislative and regulatory systems. They have implemented initiatives and incentives to encourage investment in cutting-edge power sector projects. Although DFIs and multilateral programmes are crucial for bridging the energy gap, their implementation typically requires a lot of time and resources because it depends on specific structures that are difficult to accomplish without the help of these organisations. More locally driven sector growth is still required, supported by the right tools and resources. The good news is that independent power projects (IPPs) are Africa's fastest-growing energy sector structures. As private sector investors get comfortable with the continent's liberalising power markets, IPPs are attracting an abundance of investment.

2.4.2 Address and prioritise clean cooking in Africa.

The area of clean cooking fuels and technologies needs to be addressed mainly in many African countries, despite its importance to the livelihoods of most of the population. As reported in earlier editions of the African Policy Paper and elsewhere, there has been a slight improvement in clean cooking technologies since 2010. On the contrary, the situation has regressed, owing mainly to indifference at regional and national levels. Even where clean cooking strategies exist, implementation could be more robust and provided with more finance such that even modest gains are hard to obtain. Raising the priority, profile and ambition of clean cooking goals will help governments to attract development financing to support implementation. Policies and financing for clean cooking should be integrated into poverty alleviation and health strategies at the national level. The gender element is crucial, ranging from awareness-raising

³ <https://au.int/en/pressreleases/20220722/africa-speaks-unified-voice-au-executive-council-adopts-african-common>

⁴ <https://www.mininfra.gov.rw/updates/news-details/kigali-communique-outlines-principles-for-a-just-and-equitable-energy-transition>

campaigns to directly engaging women as champions and entrepreneurs. Engaging women in clean cooking businesses and distribution will boost results and make them more lasting.⁵

2.4.3 Increased private sector participation in the clean energy supply

Africa's private sector and capital need to be mobilised to lead the clean energy transition on the continent, given that fewer than 2% of global clean energy investments are moving to the continent and given the amount of financing required. African governments must collaborate with the continent's corporate sector and utilise local and international resources to accelerate energy investments, particularly those for clean cooking. In this environment, initiatives are required to enhance national and regional development banks and build and deepen domestic capital markets.

2.4.4 Increased investment in renewable energy technologies

International public funding flows must be greater than the scope of the need to promote clean and renewable energy investments in developing nations. The total amount of international public financial flows in 2019 was \$11 billion, the lowest level since 2015 and much below the record value of approximately \$25 billion in 2017. Between 2015 and 2019, Sub-Saharan Africa received \$25 billion, Central, Southern, Eastern, and South-Eastern Asia received \$27 billion, and Latin America and the Caribbean each received \$16 billion. Hydropower received \$28 billion in assistance for technologies over the same period, followed by solar energy at \$23 billion and other technologies at \$21 billion.

Investments in clean energy from all sources have surged by around \$70 billion since 2015, reaching \$366 billion in 2021. Most of these investments—56% in solar and 40% in the wind—are being made in China, Europe, and the United States. Africa received fewer than 2% of these investments during the past ten years, and even then, only to a select few nations (including Kenya, Egypt, Morocco, Namibia, Senegal, South Africa, and Zimbabwe). Nonetheless, the continent remains the untapped potential for significant investment in climate action and renewable energy.

Multilateral development banks must give the highest priority to boosting financial flows to Africa. They must boost concessional financing to Africa and strategically employ it to leverage private capital better to mobilise the envisioned investment. This includes the requirement for the size of domestic financial markets to double. Emerging capital sources such as climate finance and carbon credits can bring more significant international financial flows to bear. Cross-cutting investment hazards, including having much debt, continue to be complicated.⁶

2.4.5 Focus on expanding infrastructure and upgrading technology

Globally, the installed capacity for renewable energy production per person increased from 102 watts in 2010 to 246 watts in 2020. Countries must catch up to achieve net zero emissions by 2030, despite the global economy's 11.6% annual growth rate. In comparison to China's increase from 170 to 622 watts and Southeast Asia's increase from 55 to 130 watts, and Latin America's increase from 285 to 425 watts, respectively, Africa's performance on this goal is low, rising from 26 watts in 2010 to barely 40 watts in 2020.

⁵<https://www.oecd.org/environment/cc/climate-futures/case-study-achieving-clean-energy-access-in-sub-saharan-africa.pdf>

⁶<https://iea.blob.core.windows.net/assets/6fa5a6c0-ca73-4a7f-a243-fb5e83ecfb94/AfricaEnergyOutlook2022.pdf>

3 Policy Implications and recommendations

Turning challenges into opportunities: Due to their significant energy access gap, there will be a growing need for clean, affordable energy in African nations in the coming decades. Although the continent has plenty of energy resources, more funding is needed. Africa has a unique opportunity to transform these challenges into unprecedented development opportunities that would place the continent at the centre of the global energy transition, despite starting from a low base and facing numerous challenges, such as worsening climate change impacts and the ongoing economic and social effects caused by the COVID-19 pandemic and the war in Ukraine.

Enhancing climate action through SDG 7: Only two African countries have ratified the Paris Agreement, and 47 have already submitted updated nationally determined contributions (NDCs) for climate action, including clean energy initiatives regarding end uses and technology selections. Countries can improve the number of bankable clean energy initiatives in their NDCs with international help for energy access.

Tremendous opportunities to be at the centre of the energy transition: The push for net zero and the global energy transformation give Africa excellent chances to be at the forefront of the electric future. The continent possesses each essential mineral required for the transition. For instance, the Democratic Republic of the Congo supplies more than 70% of the world's cobalt but only 3% of its value. Eventually, employing the continent's plentiful renewable energy resources, nations like the DRC, Zambia, South Africa, Morocco, Madagascar, and Zimbabwe might set up production facilities to transform essential minerals into battery precursors by leveraging the Africa Continental Free Trade Area. According to a study by Bloomberg, the Economic Commission for Africa, Afreximbank, the African Development Bank, and the African Financing Corporation, battery precursors might be manufactured in the DRC for 30% less money and with 30% less pollution.⁷

Natural gas and green hydrogen are winning formulas: Africa has the most significant potential for producing green hydrogen, especially given the abundance of renewable energy sources. Gas can be used as a transition fuel in Africa because of the possibility of green hydrogen, particularly for base generation and clean cooking. Due to the phase-out and adaptation of well-designed gas power plants and associated infrastructure for green hydrogen, it is even more enticing.

An opportunity to invest in Africa's regional power pools: The levelling of resource access and providing affordable and dependable electricity for industrial usage can benefit significantly from a linked African power system. By allowing nations to concentrate on off-grid and micro-grid renewable energy solutions for domestic demands and use these regional power pools to free up traditional grid energy for industrial uses, interconnecting the continent's power supply through the power pools can efficiently integrate green energy into the continent's overall energy consumption.

The benefits of green jobs are attractive for Africa, and Africa only accounts for 3% of all renewable energy jobs worldwide. Developing new technologies emphasising Africa will aid in developing the continent's renewable resources, which will be used to create the best possible energy blends while considering the region's distinct natural resources and development pathways. Instead of avoiding new technologies like

⁷<https://www.uneca.org/stories/producing-battery-materials-in-the-drc-could-lower-supply-chain-emissions-and-add-value-to>

green hydrogen, nations could lay the groundwork for a specialised workforce and invest in corresponding infrastructure to be a front-runner as it develops.