

RENEWABLE ENERGY THROUGH A JUST TRANSITION IN AFRICA

A call for an African appropriation

“You cannot keep having your luxury emissions, and then point fingers at the person who's having emissions just to survive.”

– Farhana Sultana

Energy transition is an African affair

Climate change is one of the most serious and urgent threats facing the planet. There is now a consensus that it is not affecting all regions equally, with Africa being one of the hardest hit. Since pre-industrial times, Africa's climate has become warmer than the global average. The Continent has warmed at an average rate of about $+0.3\text{ }^{\circ}\text{C/decade}$ between 1991 and 2021. Sea levels along Africa's coastlines are rising faster than the global average, leading to coastal flooding and increased groundwater salinity.

Although the connection between global warming and energy consumption has been established by researchers for decades, it has taken a long time for public opinion to catch on. Drastically reducing and rapidly phasing out the use of fossil fuels is one of the keys to curbing global warming. This requires a transition to renewable energy, which has become the mainstay of the climate change agenda in both the developed and the developing countries.

Take electricity, for example. When it comes to the sources of electricity generation in Africa (Figure 1), natural gas still dominates (42%), followed by coal (28%), the two fossil fuels with the highest greenhouse gas emissions. Clearly, the African continent needs to rethink its energy sources and adopt cleaner and renewable energy options. But how can we talk about transitioning to renewable energy while ignoring basic energy access in general?

Figure 1



Source: IEA

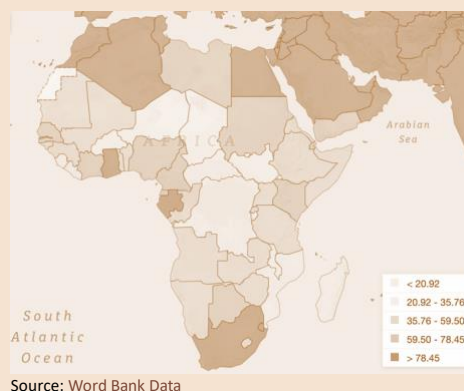
KEY TAKEAWAYS

- Tackling climate change requires an energy transition to renewable energy.
- Africa is the continent that has contributed the least to greenhouse gas emissions, but by several indicators, it is the region most affected by the consequences of global warming.
- Africa is also the continent with the least access to energy, still dependent on fossil fuels.
- Due to the high costs of the energy transition and the low level of investment, Africa is not able to keep pace with other continents.
- Good strategies for the energy transition in Africa exist. What stands in the way are political will and economic interests.

Africa's limited access to energy

Despite steady increases in global energy access in recent decades, there are wide disparities within and between countries and regions. 43% of Africa's population (600 million people) still lack access to energy, the highest of any continent. This figure is even higher in the sub-Saharan part of the continent. The map in Figure 2 illustrates access by country and disparities within the Continent. Average electricity consumption per capita in Africa, excluding South Africa, is less than 180 kilowatt-hours (kWh) per year, a tiny fraction of the approximately 13,000 kWh consumed in the United States and the 6,500 kWh consumed in Europe. Africa's total energy production is only 3.1% of the world's total, with half of that production concentrated in South Africa (27.4%) and Egypt (23.5%).

Figure 2



Energy poverty has been recognized as a key obstacle to the achievement of Agenda 2063, and the importance of leaving no one behind is clearly articulated in the *Common Position*. Access to energy in general, and electricity in particular, is essential to meet people's basic needs, such as health, food and education. Unfortunately, as shown in Figure 3, the largest proportion (45%) of energy demand in Africa is met using biomass (wood and charcoal). This means that households are still largely dependent on biomass for their energy needs, with all the negative consequences not only for health, especially for women and children, but also for the vegetation cover, which is under constant pressure. Without adequate and continuous energy, public services are also limited, especially in the operation of health centers. This lack of access also has a huge impact on the economy, hampering investment, commercial activity and job creation. Without universal access to energy, Africa's economic progress is impossible. Especially in the age of digitalization, telecommunications and big data, African industries cannot fully integrate into international markets without mastering this key factor.

Figure 3

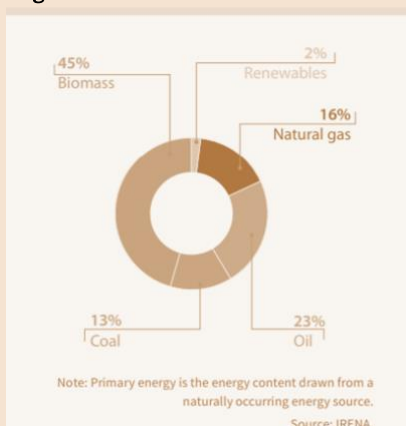
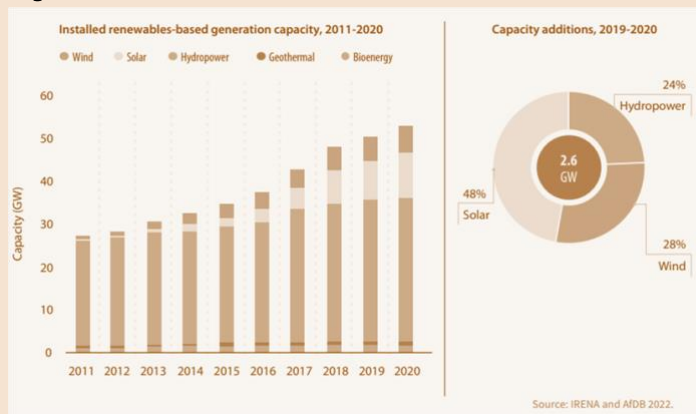


Figure 4



Africa cannot afford to move away from fossil fuels at the same pace as North America or Europe

Many African countries have large deposits and ongoing projects in non-renewable energy resources, including coal, oil and natural gas, which are critical to meeting near-term energy needs. One example is **Senegal**, which has just joined the ranks of oil-producing countries with the launch of its offshore field. The International Monetary Fund classifies more than half of African countries as resource intensive— that is, countries where non-renewables account for more than a quarter of exports—particularly those in West Africa.

In this context, it is also worth noting that Africa is making real efforts to transition to renewable energy. In recent years, renewable energy deployment has increased, with the continent's renewable energy generation capacity nearly doubling between 2010 and 2020. The largest increase has been in solar energy (Figure 4). Several programs are dedicated to renewable energy development in Africa. Much of the growth has been driven by large-scale projects, particularly new utility-scale hydropower and solar photovoltaic projects. Southern Africa leads the way in terms of total renewable generation capacity in 2020 with 17 GW, or about a third of Africa's total, followed by North Africa with 12.6 GW, a quarter of the total. Since 2016, Morocco has been home to the Noor Ouarzazate Solar Complex, the largest concentrated solar power plant in the world. However, as shown in Figure 1, apart from hydropower, renewables such as solar, wind, geothermal, and advanced bioenergy still contribute only marginally to Africa's energy mix.

Africa, more than any other continent, has the most resources of various forms of renewable energy (solar, wind, hydro and geothermal). The sun shines almost all year round, and wind and geothermal resources are abundant in various parts of the continent. However, only a tiny fraction of this potential is being tapped. Take hydropower, for example. Although this source currently provides nearly one-fifth of Africa's energy, less than one-tenth of Africa's potential is being tapped. The Democratic Republic of Congo (DRC) has at least 8% (100,000 MW) of the world's hydropower potential, but less than 3% of it has been developed. Meanwhile, more than 80% of the DRC's population still lacks access to electricity. Other renewable energy sources are even less developed. This represents a missed opportunity for the continent, as renewable energy can drive job creation. Investing in energy transition technologies creates nearly three times as many jobs as fossil fuels for every \$1 million spent. But Africa is not there yet.

One of the main reasons for this gap is that the cost of energy transformation far exceeds the capital currently invested in the sector. It is estimated that an **investment** of \$20 billion per year is needed to build the infrastructure to connect all Africans to renewable electricity by 2030, and \$2.5 billion to provide them with clean cooking stoves. Yet, despite having nearly one-fifth of the world's population, Africa attracts less than 2% of global investment in renewable energy.

Against this backdrop, meeting the continent's growing energy needs will require that natural gas, hydrogen and nuclear energy will continue to play a key role in the medium term, while a gradual shift to renewables takes place. With a growing population, 600 million of whom are already without electricity, Africa cannot afford a rapid phase-out fossil fuels.

The need to share the costs of energy transition equitably

Faced with this situation, various voices are calling for more investment in Africa and for a fair distribution of the additional costs incurred by Africa's energy transition. Put simply, the call for climate justice in this energy transition context is linked to the fact that Africa, with almost one-fifth of the world's population, has contributed less than 4% of global CO₂ emissions. Excluding Algeria, Egypt, Nigeria and South Africa, the rest of Africa (about one billion people) accounts for about 1% of global emissions. China, the United States and the European Union have historically and currently accounted for more than 50% of CO₂ emissions. As the energy transition to clean, renewable energy is a keystone in the fight against climate change, the costs should be borne in proportion to the **historical responsibility** of each country or region for greenhouse gas emissions.

What's more, if Africa is to achieve its goals for an equitable energy transition, innovative financing solutions will need to be formulated, with financing mechanisms involving a mix of stakeholders (public sector, development finance institutions, private capital). While increased investment cannot be achieved without a significant influx of private capital with clear return models, it is essential that African governments remain at the forefront of designing and implementing energy access strategies.

A distinction needs to be made between the role that subsidies can play on the one hand and private, for-profit capital on the other. As **research** suggests, projects funded solely by private capital can have negative unintended effects on social cohesion and equity in communities. Private capital must be able to bring innovation and scale, but subsidies, grants or public sector intervention (tariff reform) would be needed to build complementary social services and make basic energy services affordable for all, especially in rural areas. In this regard, concessional financing through public-private partnerships could play a key role, provided that African countries have a regulatory environment that facilitates this. Also, given the difficulty that local companies have in obtaining loans from commercial banks, some authors suggest that African governments use the resources available from development finance institutions to purchase energy systems for lighting or cooking from private companies and make them available to households on a pay-as-you-go basis.

A call for appropriation and action

When it comes to Africa's energy transition, many strategies for a **just transition** already exist. However, the vast majority do not originate from Africa and often serve non-African interests. What's more, some of these strategies are rooted in neo-colonial perspectives on Africa. There is some agreement among key stakeholders on the strategic areas where investments can have the greatest impact now. So, the biggest obstacle today is not ideas, but political will and economic interests.

In the face of hesitation, slow action and sometimes blocking by certain interest groups in international negotiations, Africa must take the lead and be a source of solutions for the rest of the world. This can be done through the **African Union**, the **African Development Bank**, or smaller institutions. But it must be an African perspective. The most important recommendation is to move from rhetoric and promises to action on existing strategies, while ensuring that African governments and communities are in the driving seat. To achieve this, Africans need to hold themselves accountable to their commitments. An important step in this direction would be the implementation by each country of the commitments made in the **Nairobi Declaration in 2023**. To this end, a thorough evaluation of the progress made should be carried out, which would certainly set an example for the rest of the world.

Sources recommended

- Cripps, E. (2022). *What climate justice means and why we should care*. Bloomsbury Publishing.
- Nalule, V. R. (Ed.). (2020). *Energy Transitions and the Future of the African Energy Sector: Law, Policy and Governance*. Springer Nature.
- Sokona et al. (2023). *Transition juste : Une vision pour le climat, l'énergie et le développement de l'Afrique*. Independent Expert Group on Just Transition and Development. https://justtransitionafrica.org/wp-content/uploads/2023/05/Just-Transition-Afrique_FR_single-pages.pdf

About Afrika Nunya

Afrika Nunya is a pan-African research center that aims to transform African societies through the endogenous mobilization and creation of a capital of knowledge transferrable to the continent's decision-making processes. The Institute promotes dialogue, the creation and dissemination of knowledge and the exchange of endogenous ideas on the challenges facing Africa and its diaspora, to propose evidence-based solutions and orientations. Headquartered in Lomé, Togo, Afrika Nunya is dedicated to establishing interdisciplinary platforms on issues affecting the continent in the fields of peace and security, sustainable development and human rights.