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Renewable energy transition for building resilience to energy poverty in Sub-Saharan Africa: policy roadblocks on the way

By Peter Makwanya

Executive Summary

Energy access in Africa is not only at individual or household levels but has gone beyond national, regional and continental parameters. As the whole world is transitioning to renewable energy while dumping fossil fuel-based energy sources, the Sub Saharan African region has not done much, experienced much and learned much. The meaning for renewable energy access transition should be matched with ambitions and actions on the ground while transcending boundaries and knowledge frontiers. Renewable energy policy frontiers for Africa lack solid baselines, regional collaborations, national intrinsic drives, supportive private sector funding and participation in order to energize the donor fatigue. In this view, Sub Saharan Africa needs to be an active participant in renewable energy transitional matters in order to build energy resilience, amplify and articulate the African voice, build strong institutions and infrastructure for the sustainable African continent that they want.

1. Introduction

As the majority of people in Sub-Saharan Africa suffer from acute energy supplies, they are always bombarded with the gospel of renewable energy technologies without coming across or realising even the minimum of these essential livelihood options. Countries which make up the Sub-Saharan African block are still confronted with grim realities of continuous power cuts, energy shortages for household and industrial uses, and low-levels of electricity generation due to the impacts of climate change on the once reliable hydro-electric water-generating sources. The question still remains the same, yesterday, today and in the future. When will their fair share of reliable, clean, cost-effective and sustainable renewable energy supplies ever reach their doorsteps? According to the people of these regions, access to renewable energy still remains a mirage and a pipe dream. Therefore, renewable energy can only exist in the newspapers, radios, and televisions and perennially on the lips of lying government officials and politicians, busy emitting falsehoods and false solutions. Expectations are always that, once upon a time and at last, this time around, smooth transitions will be realised.

The acceleration of renewable energy on the African continent remains a given and in the public domain too. Despite energy issues being the most complex and problematic need on the African continent, hope has never been lost. In the midst of all these expectations, some countries were identified to have urgent energy needs as compared to others by virtue of their politics, power, numbers and economic potential. These come about as a result of the international energy policy mix, intricacies, gaps and procedural moral defects. What makes the African energy transition policy highly problematic is trying to handle the renewable energy transition in isolation without integrating it with climate finance and politics, including reporting energy transition in Africa. All these three pillars are instrumental in shaping the complex renewable energy access, revolution and transition on the African continent. The thrust of this discussion is to explore how these critical pillars can be integrated into a complementary whole, unearth what exactly Africa is missing out on or not doing right and what other global communities of nations have succeeded in doing, and finally, to suggest how best to deconstruct these militating energy transition roadblocks that have brought misery and suffering to the countries of Sub-Saharan Africa. Despite the potential of the African continent a source and supplier of renewable energy, the continent as

continues to experience clean energy blues, woos and deficiencies, although its future is bright and beautiful in terms of clean energy realisation.

2. Background and Justification

Renewable energy, or green energy, is sourced from readily available natural resources like solar energy from sunlight, wind, biomass from plants, geothermal energy from the heat inside the earth, hydropower from flowing water, among others. Although these renewable energy sources depend on the location of given countries, as in the case of wind and flowing water, the majority of the African continent is sunny and blazingly hot, while it also boasts a wide range of plants for biomass. Despite all these ingredients of renewable energy, the majority of African countries continue to be deeply entrenched in energy poverty.

When the International Conference on Renewable Energy was held in Cape Town, South Africa in 2015, expectations were quite high that, last but not least, not only the desire but also the commitment was demonstrated. What was agreed upon was to accelerate the growth of renewable energy establishments on the continent. Some countries were identified as having enormous potential for wind farming. These are coastal ones like Kenya, Madagascar, South Africa, and Mozambique, among others while others were identified as having a need for renewable energy funding potential like South Africa, ironically, more than energy starved countries like Eswatini, Zimbabwe, Namibia, Malawi, and Zambia, among others.

Any country's renewable energy capacity largely depends on off-the-grid establishments, of which Rwanda, Tanzania, Zambia, and South Africa are already covered in this regard as they have their own independent grids. What is ironic is that countries like Eswatini and Lesotho, which are surrounded by South Africa, experience acute renewable energy challenges. The same applies to neighbouring countries like Zimbabwe, Botswana, Namibia, Zambia, and Malawi. If there is something like regional integration in the name of the Southern African Development Community (SADC), for example, why the integrative nature of these countries does fail to work when it comes to renewable energy issues? Is it because of regional policy inconsistencies or so much to do with any given country's existing population potential, where a country with 51 million people obviously requires more energy sources than countries with 3, 7 or 10 million people?

Africa is home to 16% of the world's population but produces only about 3% of the world's energy requirements. The other major undoing of Africa's renewable energy potential is the

lack of technology, as only Kenya and Rwanda are said to have relevant technological capacities for geothermal power generation (IRENA, 2019). The others, on the other hand, have potential but lack expertise. Weak policies and poor institutional energy frameworks are major hindrances for African countries to realising clean energy self-sufficiency. There are also challenges in the continental countries' implementing the cross-border frameworks such as the East African and Southern African Power Pools. If fully standardised and utilised, these regional power pools can bring regional energy integration and collaboration. If regional power pools can operate sufficiently well in Europe, then what can stop them from working sustainably in Africa too? In Africa, there are countries that sell power to their neighbours, like Mozambique selling power to Zimbabwe because it has nothing much to do with the power. The same applies to Uganda selling power to Kenya because it has nothing much to do with its power. There are also situations in which power-starved Zimbabwe also transmits power to Botswana and Namibia, not because it has more power, but to settle work done by Namibia in refurbishing Zimbabwe's thermal power stations. This is highly bilateral rather than business.

Then, in terms of green finance, the bilateral donors would not only provide green finance if any particular country does not seem to show ambitions and a hunger for power, but also use power for industrial development and generate more revenue. There is a need to situate how best science can be connected to policy frameworks and decision making. There is also an inherent problem that is universal and cross-cutting to African countries' need for green financial assistance from the West and multilateral lending institutions. African countries need foreign assistance but do not explain how they use their available money and mineral resources. That one is never open and remains murky and backgrounded for as long as the truth and transparency are needed.

3. Problem Statement

Why is the Sub-Saharan African region still heavily involved in the extensive use of coal in Africa's energy mix, due to inadequate planning, policy gaps, and roadblocks, including investment in non-hydro renewable energy (wind and solar) and the continuous lack of energy access not only in rural communities but also in urban areas? Despite the African continent's having an abundance of renewable energy sources like solar energy from sunlight, wind, biomass from plants, geothermal energy from the heat inside the earth and hydro power from flowing water, among others, it continues to experience acute energy

shortages and power cuts. Africa's renewable energy transition from fossil fuel energy sources to clean or green energy sources would not be meaningful because the people never enjoyed the dirty forms of energy being phased out. It is still a pity that the majority of African countries still have to make do with archaic energy sources of the stone-age era. Talk of smoky and sooty oil lamps, coupled with suffocating emission-loaded coal stoves, includes emission from intensive farming and agricultural production processes. Despite known dangers to the environment, acting as catalysts to global warming, diseases such as tuberculosis, asthma, lung cancer, and mental health issues to deal with, Africa is always where it was for centuries. Despite the potential of the African continent as a source and supplier of renewable energy, the continent continues to experience clean energy blues, woos, and deficiencies, although its future is bright and beautiful in terms of clean energy realisation. According to the people of these regions, access to renewable energy still remains a mirage and a pipe dream. Therefore, renewable energy can only exist in the newspapers, radios, and televisions, and perennially on the lips of lying government officials and politicians, busy emitting falsehoods and false solutions.

4. Objectives

- To drive a just transition from coal to renewable energy solutions in the Sub-Saharan Africa region.
- To address national policy and regulatory frameworks for a renewable energy transition on the continent.
- To facilitate the divestment of African financial institutions from coal-fired power plants and increase financial flows to renewable energy sources.
- To enhance women-led renewable energy enterprises on the African continent.

5. Options

- *Addressing policy and regulatory frameworks for a renewable energy transition*
- *Trade and investment in renewable energy technologies are ways that can help address environmental concerns associated with energy production and use, such as climate change, deforestation, and biodiversity loss.*
- *Africa has a large domestic energy market with significant opportunities through regional economic communities.*

6. Analysis of options

In this regard, African countries should be seen to be taking bold steps in addressing policy and regulatory frameworks for a renewable energy transition. Facilitating the financial institutions' strategic and smooth transition from coal-fired power plants and increasing financial flows to renewable energy including women led renewable energy, enterprises for sustainable development. These are still as visible as the previously missed renewable energy opportunities.

Developed countries, which are supposed to provide financial aid to renewable energy-starved African countries, are themselves not saints and sincere. Somehow, they do not walk the talk and are guilty of double-dealings and speaking. Equally guilty are their African counterparts, who seem to have mastered the art of misinformation, information massaging, lack of accountability, blaming others for their ills, and concealment of the truth. Misinformation destroys trust. When you destroy trust, you destroy the bonds that hold society together (Overmire, 2020). That is why everything does not seem to add up because both parties are bad merchants, always sceptical of one another, so nothing concrete gets harvested.

The stark realities of energy poverty in this part of the world should motivate African leaders and policymakers to move with great speed, practice favourable policy shifts, and establish firm foundations for renewable energy growth. The United Nations launched the Sustainable Energy for All by 2030 campaign. The clock is ticking fast towards the halfway mark, but many inhabitants of Africa and the developing world continue to ask when they will be delivered from the jaws of energy poverty. Evidence on the ground clearly suggests that many nations in Africa, south of the Sahara, are not yet ready to part ways with fossil fuels exploration. In the SADC region, for example, South Africa has the largest number of thermal power stations at around eighteen (18), while Zimbabwe has four (4) and Namibia has three (3). Botswana has two (2), Eswatini three (3), Madagascar two (2), Angola, Zambia, Tanzania, and Malawi have one thermal power station each. There are numerous coal deposits in the majority of Southern and Central African countries, complimented by base minerals such as gold, copper, nickel, diamonds, uranium, iron-ore, platinum, emeralds, and liquefied natural gas and oil deposits.

While Southern, Central, and Eastern African countries are mostly coal dominated, with a little bit of oil reserves, the majority of Western and Northern African countries have large deposits of oil. This means that, the economies of most of these countries are driven by fossil

fuels, although they have other mineral reserves such as diamonds, manganese, bauxite, gold, and uranium, among others. Nigeria is considered one of the leading oil producers not only on the African continent but also in the world, qualifying it to be a member of Oil and Petroleum Exporting Countries (OPEC). According to the African Special Report on Climate Change (2016), Africa's energy profile was projected to change with the share of coal shrinking. But before that, it must be clear to everyone that, in Africa alone, South Africa's total CO₂ emissions from consumption energy is the highest in the continent, at 4.73 metric tonnes, higher than the rest of Sub-Saharan Africa combined. According to this report, other Sub-Saharan carbon emitting countries included South Africa at 9.1%, Senegal at 0.5%, Ghana at 0.4%, Kenya at 0.3%, Tanzania and Mozambique at 0.2%, while Ethiopia is at 0.1%.

In terms of electricity generation in Sub-Saharan Africa, coal was found to be dominant with 56%, followed by hydro at 22%, with oil coming third at 9%, while oil and gas both stand at 9%, followed by nuclear power at 3%, with both bioenergy and renewables at 0.5%. From these tabulations, it is evidently clear that renewables are falling far behind, and from the look of things, the realisation of the renewable energy transition in Sub-Saharan Africa requires more transformation and collaboration. Of course, since this report, a lot has since changed from the continents over dependence on fossil fuels, although the percentage transformation is still minimal. This means lots of homework from Africa, more action and less reasoning in order to achieve sustainable renewable energy resilience.

The African Report on Climate Change also singled out Cameroun and Rwanda as having immense potential in transitioning to a low-carbon economy. Cameroun has been cited as one of the few countries in the world to have retained extremely diversified ecosystems, including a magnificent and still pristine rainforest, and has halted desertification, becoming one of the African champions in the fight against climate change. Cameroun is balancing its rapid economic growth whilst reducing its greenhouse gas emissions sustainably. Cameroun's economic transformation plan envisages quadrupling energy production capacity to 6GW by 2025. This ultimate goal is to raise the share of renewable energy sources to 25% of the energy mix by 2035 (Africa Report on Climate Change, 2016).

Rwanda has also been cited as one of the leading countries in Sub-Saharan Africa that is building climate friendly cities, despite having limited land. Rwanda is also being lauded for enlisting both local and foreign architects to work on ambitious projects that are aimed at

providing models for sustainable living in Africa. Rwanda's low carbon energy transition is being described as the government's green agenda, aimed at halting the over-reliance on high carbon imported materials (Light Earth Designs, 2014).

Several policies have been adopted nationally and regionally to promote trade in various environmentally sound energy technologies. However, some barriers continue to inhibit trade, inhibit the distribution and uptake of these green energy technologies and services.

According to one of the demands of sustainable development goals (SDGs), renewable energy should be realised by the local and rural poor, including women's groups. If the rural poor are left out of the energy renewal programmes, then one of the most fundamental SDGs (Goal 7, ensure access to affordable, reliable, sustainable and modern energy for all) components will sadly be missing. Ensure universal access to affordable, dependable and modern energy services by 2030. Increase substantially the share of renewable energy in the global energy mix, including doubling the global rate of improvement in energy efficiency by 2030. Enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency, and advanced and fossil-fuel cleaner technology, and promote investment in energy infrastructure and clean energy technology. All these benchmarks, guidelines, and frameworks also apply to Africa as a global player in the International Renewable Energy Agency (IRENA) and also as a member of the United Nations Conference of Parties (COPs) for international climate change negotiations.

In the same framework, if green energy technologies become too expensive and unaffordable for the rural poor, the marginalised and the disadvantaged, then the market-led and human-centred clean energy delivery will not be realised. The main barrier to overcome is to allow developing countries to be able to manage the escalating energy poverty in Sub-Saharan Africa. Africa needs to seriously consider addressing energy inequalities that are threatening to bring back the grim realities of Africa as a dark continent. One of the main questions that continue to nag and occupy the minds of the African majority is despite the United Nations Sustainable Energy for All by 2030, up to this day, the majority cannot be convinced that fossil fuels are dirty and unhealthy, when they have never realised the full capacity of fossil fuel-based energy, let alone the pipe dream of renewable energy.

Concerning Africa's clean energy revolution and transition, which remains a mirage and as elusive as ever, the majority of Africans, ordinary, laypeople and the well-informed, would

still have more questions than answers. Although the majority of Africans are unaware, they continue to wonder how this clean energy is, when this clean energy will be smart, and how smart is climate smart agriculture after all.

According to the Special Report on Africa about Climate Change, and Clean Energy Development in 2016, only six African countries emerged as beacons of change for new future cleaner energy sources on the African continent. These are Ethiopia, Kenya, South Africa, Morocco, Egypt, and Mauritania. What makes these countries special, or the focal point, is only their potential to do better in terms of clean energy realisation, nothing else, nothing more or less. Morocco is the only exception in this regard, as it has managed to transform itself into a comprehensive energy source and an exporter of renewable energy to Europe. The other 48 or so African countries still remain in the dark, wondering when their day of clean energy reckoning will actually come. While the above listed countries were cited as the pioneers, with more potential and commitment, it is not very clear how far they have transformed themselves in this regard.

According to Steiner (2015) of the Nairobi based United Nations Environmental Programme (UNEP), “Africa’s potential for renewable energy is enormous”. Of course, Steiner’s assumptions are based on prospects and the ability to do well and transform. Indeed, he focused and forecasted the potential for enormous growth to do so, without taking into account other issues like political will, corruption, or issues of governance and human rights abuses, among others, from the majority of African governments. Considering what Africa has at its disposal, which include an abundance of mineral resources, arable land, tourism and wildlife, a favourable climate, and human capital dotted around the globe looking for greener pastures, not forgetting plenty of sunshine and wind, surely Africa is poised for growth, but regrettably, that is not the case. Also, Africa, being Africa, never ceases to amaze at shooting itself in the foot, stifling economic growth and development.

As things stand, the average African citizen can be forgiven for not seeing any meaning in the clean energy development mix because they are preoccupied with other pressing issues such as hunger, poverty, drought, famine, diseases, and human rights violations, among others. In this regard, what the average African wants is an improvement in basic living standards rather than a choice between clean and dirty energy, because most African citizens do not have a choice because they must make do with what is available. Telling them to choose between nothing and scarcity is akin to mocking their circumstances or intelligence. Of

course, clean energy has the potential for growth, but Africans' lives have been riddled with promises since time immemorial, with the majority of them never materialising; as a result, they find it difficult to take promises seriously this time around. Sure, furthermore, as is customary, they will hear but not listen. As a result, sustainable solar and wind farms cannot be built due to lack of ambition, as well as briefcase companies. To achieve clean energy growth, the majority of African countries should work harder to close the current and escalating energy poverty gaps and barriers, where the majority of citizens still lack access to even the dirtiest forms of energy, such as thermal and oil-based fossil fuels.

Right now, the majority of African citizens are being told to dump what they do not have, or never realised to their full capacity. Can we say Africans are making progress toward a sustainable clean energy revolution until and unless green energy technologies make practical sense and policy shifts benefit the majority of the poor? Truly indeed, Africans cannot be left out of all these innovations and everything that is new, but the plain and living fact is that Africans have lots of things to catch up with, the renewable energy revolution included, and it is not going to be easy. The majority of Africans are being left behind in the green energy transition revolution due to exorbitant costs. Despite their desperate circumstances, Africans will have questions about their business revolution or transformation that is so unkind to their own concerns.

Where is the promised rush to invest in solar and wind farms in East and Central Africa? What about Southern, West, and North Africa? Is it business, investment or policy inadequacies, and distortions that are failing? As a result, Africans continue to have many unanswered questions that may or may not have readily available answers. In some African countries, these kinds of questions will not be asked because of an inherent lack of freedom of expression or lest they can be accused of being treasonous. While developed countries may not feel compelled to answer African questions on behalf of Africans or questions that have lots to do with Africans' own carbon footprints or sins, underlying an ecological debt to Africa.

All in all, it is not easy to situate Africa in the clean energy matrix as truths, ambitions, and policy elements are regrettably missing as underlying unsolicited needs analysis. To be placed in the public domain, these questions are comprehensive and holistic foregrounding. Instead of some communities benefiting, they have been pushed backwards to the Stone Age, with hunting and gathering as the only available livelihood options.

7. Recommendations

- Unanswered questions about Africa's renewable energy transition necessitate long-term and empowering solutions as part of adequate preparedness, resilience, and mitigation.
- Nations must demonstrate ambition and hunger for renewable energy realisation in order to drive a just transition from coal to renewable energy solutions in Sub-Saharan Africa.
- Private sector, banks and other domestic institutions must chip in and collaborate with governments to address national policy and regulatory frameworks for a renewable energy transition on the continent.
- To facilitate African financial institutions' divestment from coal-fired power plants and increase financial flows to renewable energy, comprehensive policy implementation is required. To improve women-led renewable energy enterprises on the African continent, they must be integrated into development and climate action strategies at all levels.
- The challenges that African countries face in implementing cross-border frameworks such as the East African and Southern African Power Pools must be overcome and made operational.
- Africa must seriously consider addressing the energy inequalities that are threatening to resurrect the continent's grim reality as a dark continent.

References

- Africa Energy Futures Report. (2021), Horizon 2030 Report: Ola PIPER Africa. ([www. africa-energy-futures-report-v10.pdf](http://www.africa-energy-futures-report-v10.pdf)) Accessed 04 January 2022.
- Africa Report on Climate Change. (2016), Clean Energy, Africa's Opportunity, Harnessing the Sun. (www.newafricanmagazine.com) Accessed 9 September 2021.
- Light Earth Designs. (2014), Architectural Magazine, Architectural Design/Architecture Online: Zonda Media, Delaware (<https://www.architectmagazine.com/firms/light-earth-designs>) Accessed 5 January, 2022.
- POWER AFRICA. (2021), OFF-GRID ENERGY IN 2030, An Exercise in Fore sighting: United States Agency for International Development (USAID). (www.power-africa-energy-foresighting-Report.pdf)
- Steiner, A. (2015), United Nations Environmental Programme (UNEP): Nairobi. Kenya. ([www. unep-africa@un.org](http://www.unep-africa@un.org))