

Framing Nigeria's Energy Transition Strategy: Imperative of an Overarching Policy Direction

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Abstract

At COP26, Nigeria's delegation to the climate conference in Glasgow led by President Muhammadu Buhari expressed the country's firm commitment to energy transition. Also, President Buhari highlighted the importance of global support to enable Nigeria and other developing countries to meet their climate obligations. The 2021 updated Nationally Determined Contributions (NDC) report built on the points raised by Nigeria at COP26 and elaborated on the prospects and challenges of energy transition for developing a nation such as Nigeria, which is facing significant social and economic challenges. Additionally, the Nigerian Energy Transition Plan (NETP) was launched in 2022. It enumerates the potential advantages of the energy transition, particularly in bridging the energy poverty gap, potential for new jobs to be created, attraction of new investments, and dealing with climate change.

Conversely, the two documents (the Updated NDC and NETP) similarly underscored the fact that Nigeria would require \$10 billion worth of investments annually or \$1.9 trillion of new spending from 2021 to 2060 to enable the country to make the necessary adjustments and fund the current transition plan. However, these very good initial actions appear to have fallen short on some important points crucial to Nigeria's domestic or local realities. The existing documents and report have not critically examined some innocuous adverse impacts of the expected decline of the traditional energy sector together with these stated demands of energy transition and the challenges of revenue decline from oil due to the shrinking market for oil globally. Also, the extant instruments do not seem to have critically analysed Nigeria's clean technology strategy. This Policy Brief examines the role of an energy transition policy in harmonising the various plans and identifying possible inward-looking transition technology strategies for Nigeria.

Introduction

Nigeria's climate action and energy transition plan are regulated by multiple regulatory and other guiding documents. The 2021 Climate Change Act is a key legislation enacted to facilitate mainstreaming Nigeria's climate actions, provide a mechanism for carbon budgeting, and establish the National Council on Climate Change.¹ Also, the updated 2021 Nigeria's Nationally Determined Contribution was released.

The document outlines Nigeria's commitment to its climate change obligations under the United Nations Framework Convention on Climate Change (UNFCCC)² and the 2015 Paris Agreement.³ The other relevant documents are the Nigerian Energy Roadmap, the Nigerian Energy Transition Plan, the National Renewable Energy Action Plan, and the National Renewable Energy and Energy Efficiency Policy, among many others.

[1] The National Assembly, Climate Change Act, 2021.

[2] United Nations, 'The United Nations Framework Convention on Climate Change,' available at: <https://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf>

[3] United Nations, 'Paris Climate Agreement,' available at: <https://unfccc.int/sites/default/files/english_paris_agreement.pdf> accessed June 24, 2022

The Act was enacted to provide the regulatory framework to reduce or attain low greenhouse gas emissions levels and facilitate inclusive growth and sustainable economic development.⁴ To achieve these objectives, the Act enumerates specific measures such as formulating policies for achieving enduring climate mitigation and adaptation goals, facilitating the coordination of climate change action, and mainstreaming climate change actions consistent with Nigerian national development priorities.⁵

In addition, the Act is expected to institute measures that will ensure that climate change policies and actions are integrated with related policies to promote social and economic development and environmental responsibility. Furthermore, it provides for the establishment of a mechanism for the mobilisation of finances and other resources needed for effective action on climate change, as well as empowering state institutes to identify risks and vulnerabilities within the energy system and national economy, articulate responses that build resilience and strengthens existing adaptive capacities against the adverse impacts of climate change.

The Act establishes a framework to implement mitigation measures that promote a low-carbon economy, facilitate sustainable livelihood, and enable private and public institutions to comply with existing climate change strategies and targets, including the National Climate Change Action Plan. Importantly, the Act established the National Council and Climate Change and vests it with powers to make policies and decisions on all matters concerning climate change in Nigeria.⁶ Also, Section 15 of the Act established a Climate Change Fund, which shall be managed by the Council for climate change mitigation and actions. The Council was inaugurated by President Buhari before the end of his tenure and is expected to begin to assume these responsibilities.

[4] The National Assembly, Climate Change Act, see section 1.

[5] Ibid.

[6] Ibid. See. Section 3.

Nigerian 2021 Updated Nationally Determined Contributions (NDC)

The Nigerian NDC was developed in line with Article 4 of the Paris Agreement, which requires all Parties to prepare and communicate ambitious efforts towards climate change mitigation and greenhouse gas emissions reduction. Furthermore, Article 4 provides that developing countries should begin their climate actions at the level of mitigation efforts and advance over time towards economy-wide emissions reduction or limitation targets subject to the special circumstances of individual countries.

Thus, least-developed countries and small island developing States may prepare and communicate strategies, plans, and actions for low greenhouse gas emissions. In furtherance of the provisions of the Paris Agreement, the Nigerian updated 2021 NDC has been prepared and communicated. The updated NDC submitted in May 2021 replaces the first NDC of 2015. It outlines measures, plans, strategies, and actions proposed by the Federal Government of Nigeria towards greenhouse gas emissions reduction and climate change mitigation.

The Nigerian 2021 NDC acknowledges the country's current economic fundamentals by restating existing socio-economic challenges, such as the need to grow the economy more rapidly to meet the needs of a bulging population, create jobs and other economic opportunities, reduce poverty and ensure food security. Also, it highlighted the country's development priorities as the need for growth in non-oil revenue, which is considered essential for job creation by the Micro, Small, and Medium-Sized Enterprises (MSMEs). Furthermore, it emphasises the importance of economic diversification, poverty reduction, and food security, which are considered top priorities by the government. Continuing its appraisal of the country's situation, the 2021 NDC noted that to achieve these objectives of enabling economic growth and diversifying the economy, a sustainable debt level, stable revenue, and substantial investment in infrastructure and power are essential. These are some of the challenges to which Nigeria must find urgent and sustainable solutions in addition to funding its energy transition and climate change obligations.

On emissions reduction and climate change mitigation, Nigeria undertakes an ambitious 47 percent contingent emissions cut, representing around 100 metric tonnes of carbon dioxide equivalent (MtCO₂e) below the 2018 levels and 20 percent unconditional cut.⁷ Also, the NDC upgraded the 2010-2018 base year emissions levels from 247 MtCO₂e to 347 MtCO₂e because of the availability of recent data. In the updated baseline projection, Nigeria's GHG emissions level in 2030 is estimated to reach 453 MtCO₂e.

This implies that the national emissions level is projected to increase by 2.6 percent annually or 31 percent between 2018-2030. In 2018, the energy sector was the largest source of GHG emissions, with 209MtCO₂e representing about 60 percent of total emissions. Additionally, Energy and Agriculture, Forestry, and Other Land Uses (AFOLU) maintain their ranking as the largest single sources of GHG emissions, contributing 51 percent and 33 percent of total emissions in 2030, respectively. The breakdown of the energy sector contribution suggests that oil and gas contributed 36 percent of the sector's total emissions in 2018, followed by transport, electricity generation (grid and off-grid), and residential and industrial energy consumption.

Furthermore, the 2021 NDC made substantial progress in closing the data or information gap relating to formally uncharted emissions sources, such as the waste sector, where data did not exist previously, leading to the creation of Forest Reference Emissions levels to capture emissions from that sector. Also, it expanded the GHG mitigation assessment to cover eleven pollutants, including short-lived climate pollutants such as black carbon and air pollutants.

Nigeria proposes to meet its unconditional contribution by eliminating kerosene lighting by 2030, facilitating greater uptake of public bus transit, 50 percent reduction in crop residue burning by 2030, and implementing a forest programme to achieve 20 percent GHG emissions reduction, among other measures. Thus, the updated NDC did an excellent job of articulating plans, strategies, and actions that will enable Nigeria to meet international climate change obligations when implemented.

[7] Ibid

National Renewable Energy & Energy Efficiency Policy (NREEEP)

The Federal Government of Nigeria released the NREEEP in April 2015. The Policy is grounded on important data, which provided the pivot for its framing. Some of the key information upon which the policy was founded was that Nigeria was a country of over 170 million people, and 65 percent of this population was between 18 and 45 years old. Also, the Policy stated that only 40 percent of the country's population has access to electricity, mainly provided through the national grid. The national grid continues to be constrained by its very limited reach, with most rural communities not connected to the grid.⁸ This background is vital to understanding the scope and focus of the policy-making framework of the NREEEP. The Policy underscored the scale of energy poverty in Nigeria. That is, the amount of power generated and distributed through the grid system has been less than the existing power requirements for Nigeria's social and economic activities.

Moreover, the Policy acknowledges that Nigeria is endowed with abundant renewable energy resources such as up to 9 hours of sunlight daily, hydro, biomass, and, to a lesser degree, wind energy.

In addition, it noted that despite the abundant renewable energy resources, there has not been a nationally acceptable renewable energy and energy efficiency policy drawn out to harness these resources to improve energy access in the country. Before the release of the NREEEP, some Ministries, Departments, and Agencies (MDAs) of the Federal Government developed documents that enabled them to pursue specific goals relating to electricity or the power sector.

Thus, it became necessary for the government to draft the NREEEP to explore and exploit other available energy sources to complement the electrical energy from the grid and expand access to electricity in Nigeria. The Policy then proposed reforms to diversify the energy mix toward providing the population with stable, affordable, and realisable access to electricity.

[8] Ministry of Power, 'National Renewable and Energy Efficiency Policy (NREEEP)' retrieved from: <http://admin.theiguides.org/Media/Documents/NREEEP%20POLICY%202015-%20FEC%20APPROVED%20COPY.pdf>, on July 2, 2023

The Policy underscored the importance of policy-making to address a key and multi-dimensional challenge of renewable energy onboarding in Nigeria. That is, there is a need to have a national renewable energy and energy efficiency policy to systematically and effectively tackle the challenge of energy poverty by leveraging all realisable renewable energy sources. The Policy then analyses all identified renewable energy sources, proposing a framework for harnessing each to expand energy access in Nigeria. Simply put, the thrust of the NREEEP is the optimisation of the nation's renewable energy resources to reduce or eliminate the inadequate supply of electrical power for the development of the economy and improve productivity. The Policy was developed in line with the 2010 Roadmap for Power Sector Reforms,⁹ the 2003 National Energy Policy,¹⁰ the Rural Electrification Strategy and Implementation Plan,¹¹ the Millennium Development Goals, and the National Economic and Development Strategy.¹²

Additionally, the NREEEP enabled the preparation of the Renewable Energy and Energy Efficiency Plan (REEEP),¹³ and the National Renewable Energy Action Plan (NREAP)¹⁴ to operationalise the Policy.

This is consistent with the best practice approach to policy-making, which is to either develop a policy framework within an in-built plan or create a policy document that provides an overarching conceptual basis, context, purpose, drivers, aims, and objectives of the policy coupled with a strategic or implementation plan.

[9] Federal Government of Nigeria, 'Roadmap for Power Sector Reform,' retrieved from: < <http://anedng.com/wp-content/uploads/2016/03/Roadmap-for-Power-Sector-Reform-Full-Version.pdf>>, on July 2, 2023.

[10] Federal Government of Nigeria, 'National Energy Policy,' retrieved from: < https://rea.gov.ng/wp-content/uploads/2017/09/National_Energy_Policy_Nigeria.pdf>, on July 2, 2023.

[11] Rural Electrification Agency, 'Rural Electrification Strategy and Implementation Plan,' retrieved from < <https://rea.gov.ng/download/rural-electrification-strategy-implementation-plan-resip/>>, on July 2, 2023.

[12] National Planning Commission, 'Nigeria: National Economic Empowerment and Development Strategy (NEEDS),' retrieved from: < <https://www.cbn.gov.ng/out/publications/communique/guidelines/rd/2004/needs.pdf>>, on July 2, 2023.

[13] Federal Executive Council, 'National Renewable Energy & Energy Efficiency Plan,' retrieved from < https://www.all-on.com/media/publications/simplified-guides-to-nigerias-energy-access-policies-and-regulations/jcr_content/par/textimage.stream/1595010022370/2415fb964b5387e6cca3ea4546d4118e8c8ed77f/national-renewable-energy-and-energy-efficiency-policy-nreeep.pdf>, on July 2, 2023.

[14] The National Council on Power, 'National Renewable Energy Action Plan (NREAP)' retrieved from < https://www.all-on.com/media/publications/simplified-guides-to-nigerias-energy-access-policies-and-regulations/jcr_content/par/textimage.stream/1595008848747/8d18c624aa6792e0c9afe79f1bd595831a7d0697/national-renewable-energy-action-plan-nreap.pdf>, on July 2, 2023.

In August 2022, Nigeria launched the Nigeria Energy Transition Plan (NETP), which espoused the country's pathway to achieving net-zero GHG emissions by 2060.¹⁵ The 2060 timeline is quite interesting because it represents a middle point of the 2050-2070 timeline set by the 2021 Climate Change Act.¹⁶ The Plan evinces Nigeria's readiness to play a leadership role in facilitating a just and equitable climate future for Africa, particularly in articulating the transition strategy and mobilising climate financing for the country and the rest of Africa.

The 2022 NETP improved on the initial plan released by Nigeria at COP26 in Glasgow, which was centred around the adoption of natural gas as the country's transition fuel, the goal to lift 100 million people out of poverty by 2060, driving economic growth, bringing modern energy services to the entire population, as well as managing the long term job loss expected in the oil and gas sector.¹⁷ Notably, the Plan did not provide sufficient information concerning how the 100 million people will be lifted from poverty.

Nigeria's current socio-economic context, the impacts of climate change on the country, the national challenges of a rapidly rising population, the need for socio-economic development, and the need to improve the living conditions of citizens were adequately highlighted by the NETP. In particular, it notes that the country experiences desertification in the north, floods in the south, pollution and erosions, and other environmental challenges as a result of climate change.

In addition, the NETP has been described as a home-grown, data-backed, multi-dimensional strategy to achieve net-zero emissions by 2060. It succinctly articulated Nigeria's climate change commitment and the decarbonisation pathway. The plan identified power, cooking, oil and gas, transport, and industry as the sectors that will drive Nigeria's unconditional decarbonisation agenda through energy consumption adjustment.

[15] The Energy Transition Office, 'Nigerian Energy Transition Plan,' retrieved from: < <https://www.energytransition.gov.ng/#Plan>>, on July 3, 2023.

[16] Section 1(f), Climate Change Act, 2021.

[17] Rural Electrification Agency, 'The Unveiling of Nigeria's Energy Transition Plan at COP26,' retrieved from: <https://rea.gov.ng/the-unveiling-of-nigerias-energy-transition-plan-at-cop26/>>, on July 2, 2023.

The NETP shows that about 65 percent of Nigeria's total emissions come from power-48 MtCO₂e, transport-43MtCO₂e, oil and gas- 19MtCO₂e, cooking-40MtCO₂e, and industry-29MtCO₂e. The contribution from power GHG emissions comes from grid power (electricity) generation, distribution, and power generation through fossil fuels-powered generators. Also, because the country lacks a functional mass transit system, Nigerians depend on personalised and private actors-led transport systems. This contributes 43MtCO₂e of emissions into the environment.

The limited use of modern cooking methods, particularly in rural or non-urban centres, means that a vast majority of Nigerians use traditional cooking methods which rely on woodpiles and stove lengths. Therefore, it is projected that if these five major contributors are modernised by diversifying the energy mix, lifestyle adjustment and the introduction of energy efficiency measures, implementing functional and attractive mass transit systems, reforming or reducing the carbon footprint in oil and gas exploration and exploitation, modernising the cooking methods, and improving the country's industrial processes for efficiency and sustainability, Nigeria will significantly reduce GHG emissions in line with her climate obligations.

Finally, the Plan projects that job losses will occur in the oil and gas sector. However, nearly 840,000 jobs will be created in the clean energy ecosystem by 2060, although there is no indication of how these jobs will be created and the framework and strategies required to enable job creation.

Furthermore, the NETP did not inquire into the impact of the anticipated progressive decline in the foreign exchange earnings from the oil and gas sector. Being a resource rent-dependent nation with huge social and economic development issues, it is essential to identify how the country intends to navigate the consequences of a likely reduction in foreign exchange earnings to ensure that national growth and economic sustainability goals are not impaired.

Need for Overarching Energy Transition Policy

An energy transition policy will conceptualise the country's perception or understanding of energy in all its ramifications. The country needs to develop or articulate its perception, understanding, or perspective on energy transition within the context of its climate, national socio-economic realities, and growth agenda. This will reflect the key principles and approaches which will guide Nigeria in dealing with the global community concerning how it intends to pursue climate change commitments. Also, the scope should cover an assessment of Nigeria's social and economic realities, potential challenges, risks, opportunities, and the possibilities of energy transition.

Additionally, particular actions, policies, and decisions that will be implemented or engaged to ensure that identified opportunities are realized should be identified and explored. Importantly, this should address Nigeria's perception or perspective concerning the positive and likely adverse implications of the decline of its foreign exchange revenue from oil and gas because of the anticipated shift away from fossil fuels. The effects of reduced revenue from oil on the country's economic goals, funding economic diversification, growth, and job creation, among others.

The renewable energy sector is driven by or heavily reliant on technologies. Nigeria has identified solar, hydro, biomass, wind, and hydrogen as the renewable energy sources that will drive both the power sector goal of making affordable and reliable energy available for all and its decarbonisation programme. Each of these renewable sources is technology-dependent. Therefore, it is essential to consider a technology policy for the domestication or localisation of some or all of the relevant technologies. Renewable energy products are usually expensive, even in technologically advanced jurisdictions.

In line with the desire to provide reliable and affordable electrical power for economic and industrial growth, the domestication of these technologies could be key to affordability. In other words, a transition policy must address the role of clean energy technologies and Nigeria's policy approach. This will determine whether the intention is to pursue a policy of dependency on expensive foreign technologies, the degree of such dependence, or to focus on encouraging the development and growth of local technologies in line with Nigeria's renewable energy and energy efficiency policy.

Affordability will be key to making renewable energy accessible to rural and urban dwellers. So, a Nigeria transition policy has to encourage local manufacture of clean technologies, stimulate research and development to grow technical capabilities and produce affordable products. This policy approach could reduce risks of dependency on imported technologies amidst the anticipated decline in foreign exchange receipt from oil, particularly for a country with relatively low non-oil exports.

Importantly, one area of transition policy-making is climate mitigation. Climate change is a global problem that affects countries in diversities of ways.¹⁸ In Nigeria, excessive rainfalls, flooding, drought, heat waves, rising sea levels, coastal erosion, and other incidences indicate the exacerbation of the climate crisis.¹⁹ While the global communities continue to work on the various deals and agreements regarding national, regional, and global climate change commitments, Nigeria must take measures to mitigate the harshness or severity of these adverse impacts of climate. In other words, there should be an increased focus on resilience building and climate change adaptation mechanisms in different sectors of the economy to mitigate the severity of the negative impacts of climate change. Being so severely affected by climate change, Nigeria has rightly committed to a bold and ambitious emissions reduction as contained in the 2021 updated NDC.

As a member of the comity of nations and a leader in Africa, Nigeria will continue to participate actively in the global efforts to reduce GHG emissions. Conversely, according to a September 2022 report from the World Meteorological Organisation (WMO), Africa only accounts for about 2 percent to 3 percent of the global GHG emissions but “suffers disproportionately from the results.”²⁰ And being so disproportionately affected in addition to existing social and economic pressures, a national transition policy must reflect these realities, providing measures and strategies that counterbalance these pressure areas. In other words, Nigeria should prioritise measures, policies, and approaches that enable it to overcome existing social and economic challenges and create a better socio-economic future without necessarily neglecting or abandoning its climate change action plan.

[18] UN Climate Change, ‘Climate Change is an Increasing Threat to Africa,’ retrieved from: <<https://unfccc.int/news/climate-change-is-an-increasing-threat-to-africa>> on July 3rd, 2023.

[19] Ibid.

[20] World Meteorological Organization, “State of Climate in Africa Highlights Water Stress and Hazards,” retrieved from: <<https://public.wmo.int/en/media/press-release/state-of-climate-africa-highlights-water-stress-and-hazards>> on July 3rd, 2023.

Useful Lessons

This case for a balanced approach regarding the global problem of climate change and the realities of regional or national economic survival was brought to the fore recently when countries in the global north, particularly the United Kingdom and some European Union (EU) nations, adjusted their energy policy to reactive the coal-fired power plants because of the Russian-Ukraine war-induced energy crisis in Europe.²¹ Also, in June 2023, the government of Norway approved USD18 billion to be invested in the development of new oil and gas files.²²

The Norwegians explained that such an investment is necessary because of the urgency to secure the energy security of the EU countries. Therefore, a transition policy that balances these commitments and ensures that Nigeria's energy transition pathway aligns with the national realities of developing resource-revenue-dependent countries with major social and economic challenges that demand urgent attention.

[21] Euronews, 'All the European Countries Retrning to 'Dirty' Coal as Russia Threatens to Turn Off the Gas Tap,' retrieved from: <<https://www.euronews.com/green/2022/06/24/all-the-european-countries-returning-to-dirty-coal-as-russia-threatens-to-turn-off-the-gas>> on 3rd July, 2023; Le Monde, 'Back to Coal,' retrieved from: <https://www.lemonde.fr/en/economy/article/2022/09/02/despite-climate-commitments-the-eu-is-going-back-to-coal_5995594_19.html#:~:text=At%20the%20end%20of%20June,the%20fight%20against%20greenhouse%20gases.>> on July 3rd, 2023.

[22] Bloomberg, 'Norway Approves More Than \$18 Billion of Oil and Gas Projects,' retrieved from: <<https://www.bloomberg.com/news/articles/2023-06-28/norway-approves-more-than-18-billion-of-oil-and-gas-projects>> on July 3rd, 2023.

Harmonisation of Strategies and Plans

In the past, various ministries, departments, and agencies (MDAs) have developed plans, strategies, roadmaps, and similar documents around different topics and themes around energy policy, climate change, renewable energy, power, and electricity. Some of these documents were referred to earlier in this policy brief. The documents would need to be reviewed, updated, and harmonized in line with the current social and economic realities of a developing country in transition. Also, considering energy transition is all about people and communities, broad-based participation and inclusive engagement of every sector of society is critical and the minimum standards for an effective and achievable energy transition policy framework.

This best practice approach has worked well in the global north, particularly in the European Union countries. Finally, concerning a topic as complex and multi-dimensional as climate change and energy transition, policies and critical decisions are usually based on or founded on rigorous research projects commissioned by policymakers to understand all the various issues and data that must be considered to achieve expected policy outcomes. Nigeria should and must adopt this approach in this case.

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