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THE ENERGY TRANSITION PLAN:

TAKING STOCK OF NIGERIA'S ENERGY TRANSITION PROGRESS **MORE THAN** TWO YEARS ON

MAY 2025

INTRODUCTION

In August 2022, Nigeria published the Energy Transition Plan (**ETP**) in line with its objective of achieving net zero emissions by 2060. In order to facilitate the attainment of this objective, Nigeria developed an energy transition strategy focused on progressively cutting emissions in five (5) key areas: industry, transportation, cooking, oil and gas, and power (the **Key Sectors**). Approximately sixty five percent (65%) of the nation's two hundred and seventy five (275) metric tonnes (mt) of carbon dioxide equivalent (total greenhouse gas emissions) come from these sectors, with the power sector accounting for the highest percentage of these emissions.[1]

The implementation of the ETP is to be overseen by the Energy Transition Implementation Working Group (the **Working Group**). The Working Group was chaired, at the time of inception, by the former Vice President, Professor Yemi Osinbajo, SAN and comprised several key ministers including the Ministers for Power, Environment, Works & Housing, Finance, Petroleum and Foreign Affairs, all of whose participation was fundamental to the attainment of the objectives set in respect of each Key Sector.[2] The Working Group is further supported by an Energy Transition Office (**ETO**) which functioned as a secretariat and was domiciled in the Office of the Vice President.[3]

Energy transition is important as global climate change reports indicate that the period from September 2024 – November 2024 was the second warmest in a 175-year record, highlighting the severe impacts of global warming.[5] Nigeria's adoption of the ETP therefore flows from the recognition of the catastrophic effects of climate change which requires drastic action at reducing greenhouse gas emissions.[4] Transitioning to cleaner energy also presents major investment prospects for Nigeria, including building and expanding industries for renewable energy, electric vehicles, as well as exploiting its vast natural gas resources for economic development. The energy revolution also provides an opportunity to ease Nigeria's petroleum dependence.

In this newsletter, we provide a comprehensive assessment of Nigeria's energy transition progress more than two years after the publication of the ETP. This newsletter also evaluates the goals and objectives of the ETP, and further identifies the existing gaps, challenges, and recommendations for the attainment of the lofty aims of the ETP.

1. *Emmanuel Onyeuche, "Nigeria's Energy Transition Plan and the power sector", https://businessday.ng/energy/article/nigerias-energy-transition-plan-and-the-power-sector/ accessed 06/01/2025.*
2. *"Implementation" available at https://www.energytransition.gov.ng/implementation/ Accessed 17 January 2025.*
3. *Ibid.*
4. *https://unfoundation.org/what-we-do/issues/sustainable-devel'opment-goals/*
5. *National Centers for Environmental Information November 2024 Global Climate Report accessed at https://www.ncei.noaa.gov/access/monitoring/monthly-report/global/202411#:~:text=The%20September%202024%E2%80%93November%202024,warm%20September%E2%80%93November%20of%202023. on 09 January 2025*
6. *MRC Group, "What does the Energy Transition mean for Nigeria?" (May 2, 2024) https://www.energymrc.ng/what-does-the-energy-transition-mean-for-Nigeria/#:~:text=Nigeria%27s%20energy%20transition%20represents%20the%20country%E2%80%99s%20effort%20to,such%20as%20solar%20energy%2C%20hydrogen%2C%20and%20electric%20vehicles. Accessed 06/01/25.*

THE NIGERIAN ENERGY TRANSITION PLAN 2022: AN OVERVIEW

The ETP is intended to be a bespoke strategy for the achievement of Nigeria's net zero ambitions. It maps out a pathway for Nigeria's transition towards a more sustainable and environmentally friendly ecosystem of activities in the Key Sectors. This is sought to be achieved by establishing a timeline and framework for reducing emissions across the five Key Sectors.[7]

Amidst its various targets, the ETP's aspirations are informed by five (5) key objectives including: (i) poverty alleviation; (ii) provision of modern energy services to the populace; (iii) managing projected job losses; (iv) promoting a just, fair, equitable and inclusive energy transition process across Africa; and (v) promoting energy transition initiatives. In furtherance of the foregoing, the ETP outlines a comprehensive decarbonization strategy across the Key Sectors to achieve its climate goals and transition towards a sustainable energy future, as well as the corresponding actions necessary for the actualization of the specific goals.

Power Sector

With respect to the power sector, the ETP acknowledges that majority of the emissions in the power sector are largely attributable to the use of diesel/petrol generators as self-generating off-grid power solutions, as well as gas combustion in power plants. In response, the ETP's strategy to combat this is to:

Expand the capacity of renewable power generation in Nigeria.

Ramp-up Nigeria's gas-fired power generation capacity in a bid to provide baseload power that meets rising electricity demand and supports the integration of renewables.

Ultimately, completely eliminate the use of diesel/petrol generators.[8]

7. *Climate Action Africa, "Nigeria's Energy Transition Plan, 2022: The Race Against Energy Poverty" https://climateaction.africa/wp-content/uploads/2024/08/Nigerias-Energy-Transition-Plan.pdf accessed 06/01/2025*
8. *https://www.energytransition.gov.ng/power/*

Transport

As it pertains to the transport sector, emissions generally come from passenger cars that predominantly make use of petrol (contributing to carbon dioxide, nitrogen dioxide, and particulate matter (PM) emissions), domestic and international flights and diesel-powered trains.[9] To effect decarbonization, the ETP suggests reducing transport emissions by transitioning to "low-emission transport technologies and mode-shifting"[10], such as moving from gasoline/diesel and hybrid vehicles to electric buses and two- or three-wheelers as well as the use of electric vehicles in passenger car segments.

Cooking

In the cooking sector, studies show that cooking emissions primarily stem from the use of traditional biomass fuels, such as firewood, kerosene and charcoal, which a significant portion of the Nigerian populace uses to meet daily cooking needs. These fuels produce substantial amounts of carbon dioxide, methane, and PM, contributing to indoor air pollution and health issues. Additionally, kerosene, another standard cooking fuel, emits harmful pollutants such as black carbon[11]. To decarbonize the cooking sector, the ETP proposes:

- rapid replacement of traditional firewood, kerosene, and charcoal with liquefied petroleum gas (LPG) up to 2030 by deploying two million LPG stoves per year; and
- transition to electric cook stoves and biogas post-2030.

Industry

Industry represents 16% of greenhouse gas (GHG) emissions in Nigeria with cement production, ammonia production and industrial heating accounting for 93% of the energy-related emissions.[12]

The primary emission sources include the burning of fossil fuels for energy in manufacturing and processing facilities, which leads to CO2 and other GHG emissions. Cement production is a major industrial activity that releases substantial amounts of CO2 during the calcination process. Additionally, flaring and venting natural gas in the oil and gas sector results in methane and CO2 emissions.[13] To decarbonize this sector, the ETP proposes the following:

- promotion of the use of natural gas as a cleaner alternative to coal and oil in industrial processes and integration of renewable energy sources, such as solar and wind, into industrial energy systems; and
- implementation of carbon capture technologies to capture CO2 emissions from cement production processes.

Oil and Gas

Lastly, the oil and gas sector in Nigeria is a major source of emissions, contributing significantly to both air pollution and GHG emissions. Key sources include flaring and venting of natural gas during oil extraction, which releases large quantities of CO2 and Methane, both potent GHGs. Further, fugitive emissions occur throughout the supply chain, from leaks in pipelines and equipment to emissions from processing and refining activities. Combustion processes in refineries and petrochemical plants also contribute to CO2 and nitrogen oxides (NO2) emissions. To decarbonize this sector, the ETP seeks to:

- promote investments in solar, wind, and bioenergy projects to diversify energy sources and reduce reliance on fossil fuels; and
- implement measures to capture and utilize associated gas from oil production rather than flaring it, in line with the World Bank's "Zero Routine Flaring by 2030" initiative.

9. *Climate Action, "Nigeria's Energy Transition Plan, 2022: The Race Against Energy Poverty" (August 2024) https://climateaction.africa/wp-content/uploads/2024/08/Nigerias-Energy-Transition-Plan.pdf accessed 09/01/2025.*
10. *https://www.energytransition.gov.ng/transport-2-2/*
11. *Ibid.*
12. *https://www.energytransition.gov.ng/industry-2-2-2/*
13. *Ibid.*

ASSESSING THE PROGRESS OF THE ETP: HOW FAR, HOW WELL?

Almost two years since the publication of the ETP, it has become necessary to evaluate the progress of the ETP, especially against the action items for each Key Sector as well as the developments across the Key Sectors aimed at the realization of the ETP's ambitions. This part seeks to conduct this evaluation and highlight the progress and status of the ETP thus far.

Decarbonisation

One of the fundamental objectives of the ETP is the reduction of the emissions contributed by each of the Key Sectors and the ultimate decarbonisation of the Key Sectors in pursuit of Nigeria's net-zero ambitions. However, since the publication of the ETP, Nigeria's carbon emissions have seen an upward trend across the Key Sectors.

Statistics published in November 2024 indicate that in the course of 2023 emissions attributable to the Nigerian power sector rose to around 21.3 million metric tons of carbon dioxide equivalent, representing a significant increase compared to the 19 million metric tons of carbon dioxide equivalent recorded in 2022 when the ETP was published.[14] As a result, there has been minimal progress in decarbonising the power sector since the launch of the ETP and the subsequent legislative reforms introduced in the sector.

On a global scale, Nigeria generally appears to be regarded as having made very little progress towards achieving its net zero goals, as it fell nine places in the Climate Change Performance Index (CCPI) published in 2025 – from 17th place in 2024's CCPI to 26th place in 2025. The CCPI measures the climate mitigation performance of each country across fourteen indicators grouped into four principal categories: GHG Emissions, Renewable Energy, Energy Use and Climate Policy.[15]

14. *Doris Dokua Sasu (Statista) "Power sector emissions in Nigeria from 2000 to 2023" Available at: https://www.statista.com/statistics/1307126/power-sector-carbon-emissions-in-nigeria/. Accessed 31 January 2025.*
15. *Jan Burck, Thea Uhlich, Christoph Bals, Niklas Höhne, Leonardo Nascrimiento, "Climate Change Performance Index 2025"*

Progress on Action Items

With regard to each of the Key Sectors, the ETP highlights certain action items to be undertaken for the realisation of the set targets, which are discussed in turn below.

Transport

In the transport sector, the two short-term action items for the reduction of carbon emissions include: (a) mode-shifting from passenger cars to public transport/ electric two and three wheelers; and (b) deployment of biofuels. The quest to improve the adoption of biofuels received a boost from the inclusion of items such as biogas digesters, biogas compressors, bio-ethanol refinery equipment, fermentation tanks, and various biofuel-related chemicals on the VAT exemption list.[16]

Notwithstanding, since the introduction of the ETP, there has been no notable indication of any significant increase in the adoption of biofuels, or changes in the transport pattern of Nigerians to suggest a mode shift and a greater predilection for public transport or electric vehicles.

However, we note the recent efforts of the Federal Government in promoting the use of alternative fuel sources such as compressed natural gas (CNG) which burns cleaner than traditional fuels. At the forefront of these efforts is the Presidential CNG Initiative (**Pi-CNG**), which is a component of the palliative intervention of the President Bola Ahmed Tinubu administration directed at providing relief to the masses from the hardships of the fuel subsidy removal policy of the Federal Government of Nigeria.[17] The aim of the Pi-CNG is to facilitate the wider adoption of cleaner, safer, and cheaper fuel sources such as CNG for vehicles. The initiative seeks to achieve this goal by:

- facilitating the conversion of vehicles under its conversion program;[18]
- deploying CNG or bi-fuel vehicles across Nigeria, primarily across three major transit corridors;[19]
- raising funding for the development of CNG infrastructure across Nigeria;
- establishing conversion workshops to enhance capacity building; and
- establishing refueling and gas distribution centers.[20]

It is expected that greater progress will be recorded in the development of CNG infrastructure over the coming years as there is a significant deficit in the existing infrastructure, thus making it impossible to fully service the populace.[21] To facilitate the acceleration CNG adoption, the government has also explored partnerships with stakeholders in the transport sector including the Depots and Petroleum Products Marketers Association of Nigeria[22] and the Nigerian National Petroleum Company Limited.[23] Where the CNG infrastructure can be successfully developed and deployed at an accelerated pace, and CNG is increasingly adopted by the populace, the transportation sector is poised to record significant reduction in overall carbon emissions.

The Federal Executive Council approved the National Automotive Development Plan in 2023, which provides fiscal incentives for assemblers and consumers of electric vehicles.

16. https://www.tekedia.com/nigerian-government-removes-63-items-from-vat-full-list/
17. https://pci.gov.ng/
18. The pilot program was able to service about 21,000 units. See: https://pci.gov.ng/
19. These three corridors include: (a) Lagos - Ibadan - Ilorin; (b) Lokoja - Abuja - Kano; and (c) Uyo - Port Harcourt - Onitsha - Benin.
20. https://pci.gov.ng/
21. According to the Chief Executive of the Nigerian Midstream and Downstream Petroleum Regulatory Authority, Farouk Ahmed: "Nigeria has less than 50 Compressed Natural Gas compression stations to feed 200 million Nigerians." Available at: https://punchng.com/50-cng-stations-servicing-200-million-nigerians-nmdpra/. Accessed 31 January 2025.
22. Punch Nigeria, "Tinubu unveils CNG buses in Abuja". Available at: https://punchng.com/tinubu-unveils-cng-buses-in-abuja/?amp. Accessed 30 January 2025.
23. "President Bola Tinubu inaugurates 30 CNG powered buses donated to the federal government." https://nairametrics.com/2024/08/13/president-tinubu-inaugurates-30-cng-powered-buses-donated-to-the-federal-government/. Accessed 30 January 2025.

Power Sector

In the short term, the ETP projects the implementation of the following action items: (a) the deployment and installation of up to 6.3GW decentralized renewable energy systems; (b) expansion of transmission and distribution network; and (c) upgrade of central generation capacity to achieve 42GW of operational capacity in 2030, including the addition of 3GW per annum up until 2030.[24]

In attaining the target of 42GW of operational capacity in 2030, the power sector is expected to add 3GW of electricity generation capacity every year, including renewable energy systems and gas fired power plants. Renewable systems have experienced significant financing boost in the two years since the ETP was published as a result of the efforts of the Rural Electrification Agency in leading the charge for rural electrification in Nigeria through renewable energy sources.

Nigeria's generation capacity has also gradually increased overtime. As of early 2025, the Nigerian Electricity Supply Industry (NESI) comprised of twenty-four (24) operational grid-connected power generation plants, which constituted a total installed capacity of 10,396 megawatts and an available capacity of 6,056 megawatts. The installed generation capacity was improved by the issuance of two (2) new generation licenses in Q1 2023 to generating entities with a combined capacity of 723MW.

In addition, in January 2023, the erstwhile President of Nigeria commissioned a 10-megawatt Kano Solar Power Project in Kumbotso Local Government, Kano State, funded and managed by the Nigeria Sovereign Investment Authority.[25] The project was described as "*the largest grid-connected solar PV plant*" and "*has provided about 2,000 direct and indirect jobs to the immediate community*."[26] In the same year, the Kano State Government announced the completion of a 10MW hydropower plant at Tiga Dam located in Bebeji LGA.[27] The energy supplied by the plant is intended to serve streetlights in the State alongside the State's water treatment plant at Tamburawa.[28]

In furtherance of the drive to ramp up Nigeria's power generation capabilities, the Maiduguri Emergency Power Project was inaugurated in March 2023 and is expected to supply up to 50MW of electricity to Maiduguri and its environs.[29] In August 2023, His Excellency, President Bola Tinubu also officially kicked off the construction of the 1,350MW Gwagwalada Independent Power Plant in Abuja, with the first phase expected to comprise 350MW.

24. https://www.energytransition.gov.ng/power/
25. https://nairametrics.com/2023/12/01/nigeria-germany-sign-agreement-to-expedite-implementation-of-presidential-power-initiative/
26. ibid
27. https://www.premiumtimesng.com/news/more-news/574996-kano-10-megawatts-hydropower-plant-completed-begins-test-run.html
28. Ibid
29. https://www.premiumtimesng.com/news/more-news/585718-buhari-inaugurates-nnpc-power-project-in-maiduguri.html

Progress also continued into 2024 with the inauguration, completion and financing of several projects. For instance, in January 2024, Kano Electricity Distribution Company (KEDC) was reported to have partnered with BlackAion Capital, a Mauritius-based infrastructure and energy investment, advisory and development company, to provide $200 million in investment to KEDC to facilitate the upgrade of its existing infrastructure in Kano, Katsina and Jigawa States.[30] This project is intended to create a minimum of 200 MW of incremental capacity through the establishment of 100 mini-grids and embedded generation projects.[31]

The Federal Government in 2024 also officially handed over the operations of the recently commissioned $1,300,000,000 (One Billion Three Hundred Million United States Dollars) Zungeru Hydroelectric Power Plant to Penstock Limited, a private operator. This landmark handover signified a crucial stride in bolstering the country's power generation capacity. The dam became operational in Q2 2024, bringing the total number of grid connected plants to twenty-eight (28). Nigeria's power sector also reached an output of 5000MW in 2024, for the first time in three years.[32]

The totality of the foregoing indicates constant progress towards the expansion of Nigeria's power generation capacity, although the total generation capacity still does not add up to the addition of 6GW of electricity generation over the past two years since the publication of the ETP.

On the regulatory front, the deployment of renewable energy systems also received a boost from the enactment of the Electricity Act 2023 (the **EA**) which emphasizes the promotion of renewable energy sources in Nigeria's energy mix. Amongst other things, the Act provides for establishing the National Integrated Electricity Policy and Strategic Implementation Plan, which shall encompass the optimal utilisation of renewable energy in the power sector and create waivers and subsidies to stimulate renewable energy development, amongst others. [33]

The EA also mandates the Nigerian Electricity Regulatory Commission (**NERC**) to support the incorporation of renewable energy into the energy mix by taking measures to provide a simplified licensing and favourable fee regime for renewable energy generation and distribution, issue commercial and technical regulations for connectivity of renewable energy generators to the grid and distribution networks, impose an obligation on the Nigeria Bulk Electricity Trader (NBET) and DisCos to purchase a specified percentage of its electricity from renewable energy sources and guarantee the feed-in-tariff rates for electricity generated from renewable energy sources.[34]

Generally, the EA aims to encourage sustainable energy practices, reduce dependence on fossil fuels, and contribute to a cleaner environment. By promoting renewable energy, Nigeria can decrease its carbon footprint, mitigate climate change, and ensure a more sustainable future for its citizens.

30. https://newscentral.africa/kano-disco-seeks-200-million-investment-to-adress-power-needs/
31. https://businessday.ng/energy/article/25-million-nigerians-to-access-power-on-kano-disco-200m-funding/
32. https://nairametrics.com/2024/05/24/power-sector-achieved-5000mw-in-may-for-the-first-time-in-3-years-adelabu/
33. Section 3(1) of the Electricity Act, 2023.
34. Section 164 of the Electricity Act, 2023.

As it pertains to the expansion of transmission and distribution network, the Federal Executive Council, in the first quarter of 2023, approved over twenty-six (26) billion Naira for the procurement and installation of electricity conductors for upgrading of transmission lines nationwide.[35] During the same period, the Federal Government also laid the foundation for a transmission sub-station in Kwara State.[36] Further, in 2023, the sum of N122,289,344,369.39 (One Hundred and Twenty-Two Billion, Two Hundred and Eighty-Nine Thousand, Three Hundred and Forty-Four Thousand, Three Hundred and Sixty Nine Naira, Thirty Nine Kobo) was disbursed from the Nigeria Electricity Market Stabilization Facility-3 to facilitate projects aimed at expanding the transmission and distribution networks.[37] The Presidential Power Initiative also continued its efforts towards bolstering Nigeria's transmission capacities through the addition of two additional mobile substations in Kebbi and Lagos State which was stated to increase transmission wheeling capacity by 123MW.[38]

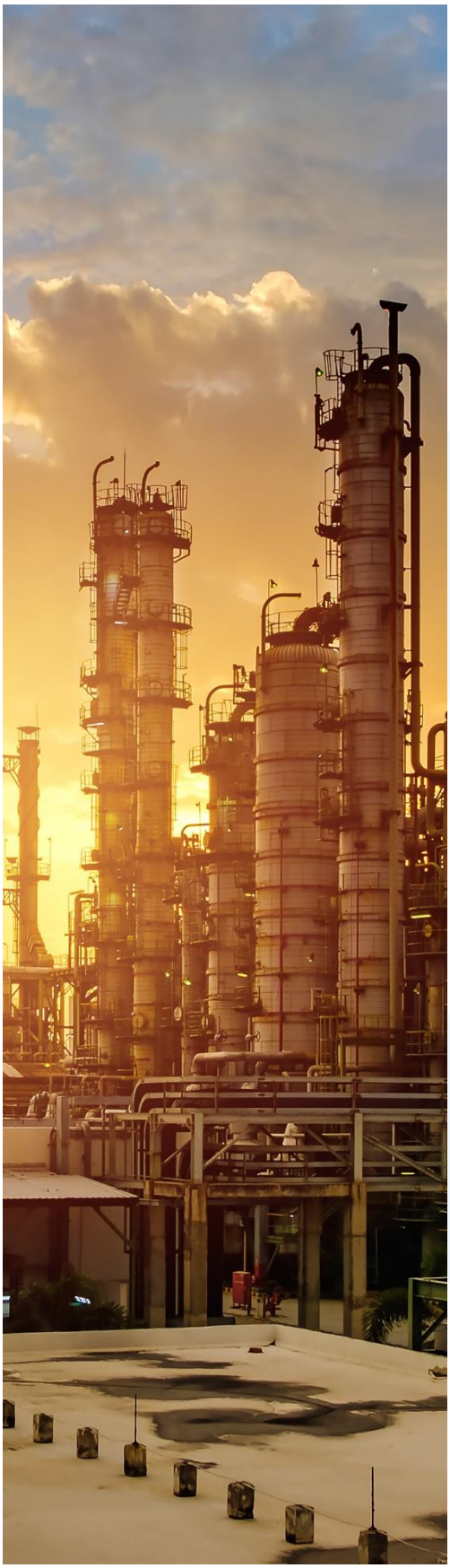
Additionally, with the implementation of state electricity laws, various states within the federation are in the process of establishing their electricity markets. In this decentralized electricity market, more targeted actions can be taken to promote the adoption of renewable energy sources for electricity generation within states. For instance, Section 116 of the Lagos State Electricity Law requires the Ministry of Energy and Mineral Resources to develop a Renewable Energy, Energy Efficiency, and Demand Side Management Strategy and Action Plan for the state. The goal of this initiative is to incentivize the use of renewable energy within Lagos State, among other objectives. This is a notable step towards the achievement of the objectives of the ETP.

Given these developments, the path to achieving 6GW by 2030, as outlined in the ETP, is expected to accelerate significantly over the next five years.

Cooking

In the immediate, the decarbonisation strategy for the cooking sector is hinged on the replacement of traditional firewood, kerosene and charcoal by LPG which is to be achieved by the deployment of two million LPG stoves per year. In May 2024, it was reported that the federal government had commenced the free distribution of free LPG cylinders to rural women in the Federal Capital Territory, in fulfilment of a target of distributing same to 250,000 homes annually across different parts of the country.[39] This distribution programme was undertaken under the Decade of Gas cooking gas outreach programme initiated by the Federal Ministry of Petroleum Resources. However, this development still falls short of the ambitious target of two million LPG stoves per year. Further, the Lagos State Government, in collaboration with GreenPlinth Africa, is set to commence distribution of 6 million cookstoves free of charge in June 2025 as part of the 80 million Clean Cookstoves Project.

35. *Transmission Company of Nigeria, Newsletter March 2023 p. 6* https://www.tcn.org.ng/repository/newsletters/JjKlr_14_07_2023-Newsletter.pdf
36. *Ibid at 8*
37. https://nairametrics.com/2023/12/01/nigeria-germany-sign-agreement-to-expedite-implementation-of-presidential-power-initiative/
38. https://nairametrics.com/2024/05/03/fg-inaugurates-two-siemens-mobile-substation-adds-625-megawatts-to-national-grid/
39. https://punchng.com/fg-begins-free-cooking-gas-distribution-to-one-million-homes/#google_vignette



Oil and Gas

Interestingly, the oil and gas sector is the only sector without a specific list of action items under the ETP, although the ETP contains a decarbonisation strategy hinged on abating residual emissions by:

(a) reducing leaks and fugitives;

(b) improving flaring efficiency; and

(c) reducing upstream emissions.

The ETP also expresses a goal of 100% reduction of flaring emissions by 2030.

Whilst it is difficult to conduct a precise evaluation of the recorded progress in the absence of specific short and long term targets, we note that there have been recent efforts aimed at the decarbonisation of the sector, including the introduction of a requirement for applicants for oil licences and permits to present evidence of low carbon emissions and a renewable energy program before approvals are granted by the regulators.[40] This requirement is to be enforced from January 1, 2025, and applicants are to be guided by the Upstream Petroleum Decarbonisation Template published by the Nigerian Upstream Petroleum Regulatory Commission.[41]

The Petroleum Industry Act mandates that operators in the sector must submit an environmental management plan for projects requiring an environmental impact assessment. It also requires contributions to the environmental fund and prohibits gas flaring, imposing strict penalties on those who violate these provisions in sections 103 to 105. Further, the NUPRC has also prioritized the introduction of a regulatory framework aimed at reducing or encouraging the reduction of emissions in the upstream sector, such as 2022 Guidelines for Management of Fugitive Methane and Greenhouse Gases Emissions in the Upstream Oil and Gas Operations in Nigeria and the 2023 Gas Flare, Venting & Methane Prevention of Waste & Pollution Regulations.

Industry

In industry, the action items include a shift "to lower carbon processes for ammonia and cement production" and "to zero-emissions technologies for industrial heating" with specific milestones of achieving 20% clinker substitute in cement production and 33% hydrogen in ammonia production.[42] However, there are currently no indications that Nigeria is close to achieving these milestones.

40. https://www.reuters.com/world/africa/nigeria-oil-licence-applicants-must-prove-low-carbon-emissions-nigerian-2024-12-31/
41. Ibid.
42. https://www.energytransition.gov.ng/industry-2-2-2/

Gas as a Transitional Fuel

At the centre of the ETP is the notion of gas as a transitional fuel. This suggests a greater reliance on gas, as a relatively cleaner fuel source, across the Key Sectors. This notion is evident in the deployment of CNG vehicles, LPG stoves, and gas-fired power plants, as shown above. The idea of gas as a transitionary fuel is also in keeping with the Decade of Gas initiative (the **Initiative**), which was launched in 2021 (prior to the publication of the ETP). The Initiative aims at making Nigeria a predominantly gas-powered economy by 2030.[43]

The role of gas as indicated under the ETP and the Initiative cannot be realized without galvanising Nigeria's gas capacities to serve the Key Sectors effectively and avoid gas supply shortages, which tend to have far-reaching implications for the Key Sectors. It is important to emphasise that the Initiative predates the ETP, hence there had already been some notable successes recorded in galvanising Nigeria's gas production and supply capacities over the years – such as the Nigeria-Moroccogas Pipeline (NMGP) which has been teased since 2016, and is being advanced.[44]

Another pivotal effort at bolstering Nigeria's gas production and supply is the continuing expansion of the Nigeria LNGTerminalatBonnyIsland,Nigeria, via the NigeriaLNGTrain7project. This project is expected to bolster NLNG's production capacity from 22 million tons per annum to 30 million tons per annum following completion and commencement of operations.[45]

There is also the Trans Nigeria Gas Pipeline Project (TNGP), of which the first phase, the Ajaokuta-Kaduna-Kano Pipeline (AAK) Project , has been said to attain 90% completion per the Minister of Finance and Coordinating Minister of the Economy, Mr. Wale Edun.[46]

The completion of these projects, amongst others, will help position Nigeria in an effective position for gas to truly serve as a transitionary fuel in line with the ETP's aspirations.

43. https://decadeofgas.com.ng/
44. https://www.pipeline-journal.net/news/morocco-launch-tenders-nigeria-morocco-gas-pipeline-2025
45. https://www.nlng.com/products/index.html
46. https://www.vanguardngr.com/2024/06/akk-gas-pipeline-project-90-complete-minister/

GAPS ANALYSIS

The ETP is an ambitious document with the goal of net zero by 2060 and target reduction in emission levels across power, oil and gas, transport, cooking, and industry (which contributed 65% of Nigeria's GHG emission), to attain this net zero goal. It has been almost 3 years since the launch of the ETP, and although some progress towards achieving the goals of ETP has been made, modest reviews of the performance of the ETP conclude that more needs to be done to achieve the goals set out in the ETP.[47]

Some of the major challenges facing the implementation of the ETP have been identified to be:

- lack of climate change awareness and climate change agnosticism;
- inadequate financing for projects;
- infrastructure deficit; and
- technology and skills gaps.

We discuss these challenges in this section and make recommendations on action points.

Challenges

Lack of Climate Change Awareness and Climate Change skepticism

Climate change awareness in Nigeria is still quite low. Some studies put the percentage of unawareness of climate change matters in Nigeria at over 60%,[48] which translates to the fact that about 6 out of 10 Nigerians have never heard about climate change. Part of the remaining 40% that have heard of climate change are skeptical about it, meaning that they do not make a conscious effort to make climate-friendly decisions in their personal, family, profession or business. Creating awareness about the reality and impacts of climate change is critical to achieving the goals of the ETP. This is why one of the functions of the National Council on Climate Change under the Climate Change Act 2021 is to disseminate information on climate change, local vulnerabilities and risk, relevant laws and protocols and adaptation and mitigation measures[49].

47. Chinwendu Obed and Abel B.S. Gaiya, 'Nigeria's Energy Transition Plan Review Series: The Power Sector' (2023) Clean Energy Hub < https://cleantechnologyhub.com/wp-content/uploads/2023/05/CTH-ETP-Review-Series-Power-Sector-new.pdf > access on 31 January 2025.
48. Statista 2023 report on climate change aware in Nigeria, accessible from < https://www.statista.com/statistics/1269701/knowledge-of-climate-change-topic-in-nigeria-by-area/> accessed 31 January 2025.
49. Section 4(m) of the Climate Change Act 2021.

To contextualize the essence of this challenge, for instance, with respect to cooking, the rural population in which a high concentration of homes still use dirty fuels such as charcoal and kerosene to cook, must be informed and convinced to resort to gas – the transition fuel. With the alarming rate of unawareness and skepticism about climate change, more work is required to get Nigerians informed and get their buy-in on the net zero goal.

Inadequate Financing

Inadequate financing of the climate transition is a global challenge. The World Economic Forum puts it simply that despite the ambitious commitments toward financing climate transition, the global financial system has not provided the required estimated USD125trillion financing[50]. At the launch of the ETP, it was projected that USD1.9trillion will be required to fund transition between 2021-2060, and this translated to USD10bilion per annum increase in funding over the period.

Almost three (3) years after the launch of the ETP, the expected financing has not been forthcoming. Indeed, the African Development Bank (AfDB) in its country focused report, published in 2023 stated "*Nigeria's climate financing is extremely low and dominated by public resources*[51]" The situation has not changed since AfDB's report as COP29 closed with a commitment of only USD300billion a year in climate finance by 2035 to developing countries which is considered drastically lower than what the developing countries require. The challenge of mobilising climate transition finance is now more pressing than ever for Nigeria, and additional measures must be implemented to attract private investment if the goals of the ETP are to be achieved.

Infrastructure Deficit

The challenge of infrastructure deficit is closely linked to inadequate financing because the predominant global challenge impeding the construction of essential infrastructure for a sustainable future is the shortage of financial resources allocated to these projects. It is estimated that to meet climate development goals by 2030, some USD6.9 trillion is required for sustainable infrastructure alone[52]. In the context of the ETP, the necessary infrastructure will span across the Key Sectors aimed at reducing emissions. For instance, in the power sector, infrastructure is required for generation, transmission, and distribution. When outlining investment opportunities for the implementation of the ETP, the Federal Government estimated a need for USD 17 billion for funding infrastructure in the private sector and USD 6 billion for the public sector. The investment opportunities presented by the Federal Government projected around USD 4.7 billion for infrastructure initiatives, including the Presidential Power Initiative, the National Mass Metering project, the conversion of 30 million homes from the use of dirty fuels, and improvements to transportation infrastructure. However, these goals remain largely unachieved.

50. *World Economic Forum, 'The 3 Key Challenges to Financing the Climate Transition and What to Do about Them' (2024) < https://www.weforum.org/stories/2024/06/net-zero-climate-finance-transition-challenges/#:~:text=Despite%20ambitious%20commitments%2C%20the%20global,and%20biofuels%20remain%20severely%20underfunded > accessed 31 January 2025.*
51. *AFDB Group, 'Country Focus Report 2023 – Mobilizing Private Sector Financing for Climate and Green Growth' (2023) < https://www.afdb.org/sites/default/files/documents/publications/nigeria_cfr_2023_0.pdf > accessed 31 January 2025.*
52. *OECD, 'Infrastructure for a Climate-Resilient Future' (2024) < https://www.oecd.org/en/publications/infrastructure-for-a-climate-resilient-future_a74a45b0-en.html > accessed 31 January 2025.*

Technology and Skills Gaps

Some of the immediate goals of the ETP investment opportunities roll out were for:

original equipment manufacturers to commence local manufacturing and assembly of key technologies like solar panels, solar standalone systems, inverters, and electric vehicles by 2025. To achieve this, the federal government intends to spur the local production of solar panels in Nigeria.

Also, to be done is the implementation of technical assistance for skill development and knowledge transfer for the development of electric vehicles, establishment of a carbon market, and the development of transition plans beyond oil and gas.

These goals acknowledge the critical role of technologies and skill development in the energy transition and indicate the Federal Government's acknowledgement of the skills gap. Initiatives such as the Rural Electrification Agency's provision of apprenticeships and trainings to prepare young Nigerians for employment by Renewable Energy Service Companies and proposed university programs are further steps towards the achievement of these goals.

Recommendation

Climate Change Education

The challenge of unawareness and climate change skepticism can be solved by actively creating awareness and making information on the effects and impact of climate change easily accessible. One way to mainstream climate change actions as provided in the Climate Change Act is to incorporate it into school curricula across the levels of education in the county. Another way to is to work with locals and localise climate change information (oral and print) in languages accessible to the rural dwellers who constitute the majority of the unaware population and who are all required to understand and key into the ETP. Any reasonable skepticism will give way in the face of accessible and credible information on the impact of climate change. There is a clear lack of up-to-date authoritative information on the impact of climate change in many sectors and this is an area of improvement by relevant government departments and agencies.

Fostering a Supportive Environment for Investments

Given the limitations of inadequate financing, developing countries face significant challenges in enhancing foreign aid for climate transition efforts. As such, these countries must focus more on creating investment-attracting environment in their countries. Some of the ways this can be done are:

- publicizing and implementation of de-risking of investments to incentivize private sector participation. The ETP investment opportunities rolled out by the Federal Government projected the provision of USD2billion for guarantees and de-risking instruments across some the emission reduction focus areas, with USD1billion to de-risk investment in generation of electricity, USD300million for transmission and distribution, USD500million for gas commercialization, USD150million for clean cooking and USD50million for healthcare. These should be publicized and implemented.

54. *op.cit.* (n 47).

- operationalizing laws that incentivize investment in the focus sectors for reduced emission. Section 15 of the Climate Change Act (CCA) creates the Climate Change Fund, which is to be applied to, amongst other things, incentivizing private and public entities for their efforts in transitioning to clean energy and sustaining a reduction of greenhouse gas emissions. However, this fund is yet to be operationalized. The CCA and other laws creating incentives for investments in renewable energy projects should be fully implemented to encourage investments in these areas.

- seek private sector involvement in developing bankable projects with financial structures that properly apportion risks. The private sector has the capital which the public sector lacks to invest in climate projects which are typically long-term. However, the risk appetite of private investors is impacted by the bankability of a proposed project and the financial structure. Governments must engage the private sector to conduct proper feasibility studies and structure the financing of a proposed project in a way that apportions countries-specific risks to governments which are usually better positioned to handle those risks. This will give investors more comfort.

- creating a framework for the standardization of the Nigerian carbon credit market. Companies in other regions engage in emission reduction activities, earn carbon credits for these efforts, and trade the credits in a carbon market. This system incentivizes emission reduction activities. Nigeria, has developed the International Carbon Market Participation Framework and Manual of Procedures published by the National Council of Climate Change, to facilitate engagement in carbon markets, however, plans are still underway for its full activation and implementation.

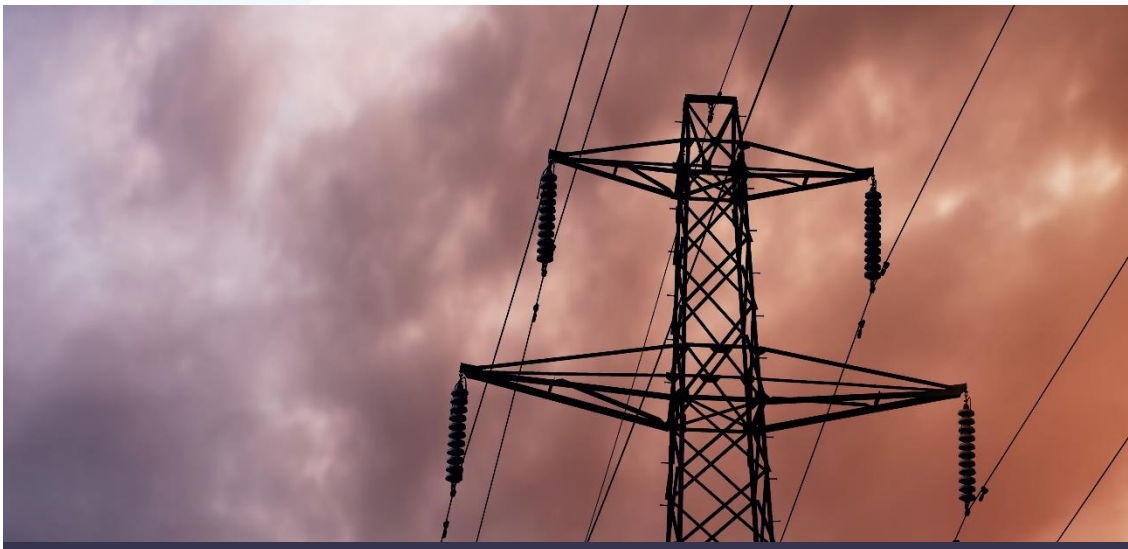
- enforcing sanctions against market malpractices is as important as incentivizing good practices. The Climate Change Act, for instance, creates the offence of acting in a manner that negatively affects efforts towards mitigation and adaptation under the Act for which a person, private and public entities could be liable[55], but there are no significant examples of sanctions against actions that contradict the provisions of the Act. One thing investors look out for is the effectiveness of the legal and regulatory regime in a country. Apart from gaining the confidence of investors, effective sanctions against unlawful or illegal practices will result in shaping the behavior of market participants.

55. *Section 34(1) of the Climate Change Act.*

Since infrastructure is dependent on the provision of adequate financing. In order to attract the financing to build the infrastructure required for the transition contemplated in the ETP, governments must take measures that assure investors of the unlikely intervention with their investment and the guarantee of their ability to recoup their investment. Governments could do this through equity participation in energy transition projects, and bridge the viability gap financing where necessary. Bilateral investment treaties are another way for nationals of treaties parties to invest in Nigeria on contractual terms that ensure fair treatment of such investment and provide against expropriation beyond local provisions.

Technology and skill gaps can be effectively addressed if sufficient financing for the energy transition is secured and infrastructure for emission reduction is developed. Emission reduction projects will entail the transfer of technology to Nigeria. With appropriate regulatory measures in place to ensure that Nigerians learn to use these technologies alongside experts, skill levels will improve. Additionally, another way to tackle the skills gap is to make education in Nigeria more focused on problem-solving by establishing more technical schools and colleges.

CONCLUSION



The Nigerian ETP is an indicator of Africa's journey towards embracing energy transition and doing more to combat climate change and its consequences. However, there is more to be done if Nigeria must attain its 2060 target and realise the action items in respect of each Key Sector. The gaps analysis above also indicates that efforts must be made to overcome the identified challenges. Notwithstanding, there is no gainsaying that Nigeria has not been stagnant in its decarbonisation efforts and there has been some attempts at realising the aspirations of the ETP the results indicate significant room for improvement, as they do not fully meet expectations.

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