



TOPE ADEBAYO LP

ENERGY AND NATURAL RESOURCES REPORT

VOLUME 1



PARTNER'S NOTE

Energy is pivotal to the socio-economic growth and development of any nation and as Nigeria continues to grapple with issues surrounding the extraction, exploitation, and beneficiation of resources in its energy and natural resources sectors in the era of sustainable development and energy transition, certain considerations come into play.

This maiden edition of Tope Adebayo LP's Energy and Natural Resources Report 2023 seeks to examine the current state of play in the Oil and Gas, Power, and Mining sectors of the Nigerian economy as it relates majorly to energy access, efficiency, sustainability and security. The transition to clean energy for the purpose of achieving Nigeria's energy security goals in the power sector does, as of necessity involve the simultaneous, strategic and deliberate development of its oil and gas, power and mining sectors.

This Report considers amongst others, Nigeria's Decade of Gas agenda and the issues surrounding it. Where are we almost three years down the line? Are we likely to achieve significant progress by the end of the earmarked decade or are we set to continue on the same trajectory of failed projections and deliverables as is our custom?

What role does the decade of gas play in our energy transition plan and how does the power sector plug into this plan? With the repeal of the Electric Power Sector Reform Act 2005 and the recent enactment of the Electricity Act 2023 which seeks to amongst others, provide for a holistic integrated resource plan and policy that recognizes all sources for the generation, transmission, and distribution of electricity, including the integration of renewable energy to Nigeria's energy mix, what improved role hopefully will renewable energy sources play in our energy security agenda and how are State governments poised to take advantage of the provisions of the Act which now vests in them the power to regulate their individual electric-

ity markets in order to achieve energy security within their jurisdictions? Where is our mining industry headed and what are we doing to develop that industry? Will we be proactive in aligning our mining policies and development agenda with the development of future minerals which are minerals key to advanced energy future (which interestingly dovetails into the energy transition agenda)? How do we tackle insecurity issues plaguing our mining industry in a manner that allows us to attain sustainable exploitation and beneficiation of that sector? Are we likely to attract sufficient funding for the attainment of these goals?

These are questions we expect to stimulate your mind as you read this Report which comprises of three chapters on Power, Oil and Gas and Mining respectively. Your guess is as good as ours on what 2024 portends but we hope to see significant improvements in the overall energy transition agenda as Nigeria consolidates on current gains and pursues the implementation of more recent policies.

From the Energy Desk

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CHAPTER 1

**POWER SECTOR
INDUSTRY OVERVIEW:
ENERGY TRANSITION
AND RENEWABLE
ENERGY DEVELOPMENT
IN NIGERIA**

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While Energy Transition is not a recent phenomenon, its global momentum and prominence have notably surged since the adoption of the Paris Agreement at COP 21 in 2015. Faced with the pressing challenges of climate change, the Paris Agreement received widespread acceptance from majority of nations around the world and has culminated in the introduction and implementation of various measures to address climate change both on the international scene and domestically.

Africa, responsible for roughly 4% of global carbon emissions,¹ has been tagged the world's most vulnerable region to the adverse impacts of climate change.² Despite being host to about 30% of the world's mineral reserves,³

as at 2022⁴ Africa had approximately 431 million people living below extreme poverty line⁵ and 43% of its total population lacking access to energy.⁶ Confronted by extreme poverty and significant electricity deficit, many oil-rich African nations found themselves at crossroads on the global transition train. Recognizing that sustainability entails addressing current needs while preserving the ability of future generations to meet their own needs, African leaders have consistently advocated for the adoption of a 'just transition'.⁷ This approach leverages readily available resources, including fossil fuels, towards meeting developmental needs, building capacity, and funding a gradual shift to clean energy.

¹ <https://www.aljazeera.com/news/2023/9/4/how-much-does-africa-contribute-to-global-carbon-emissions#:~:text=Comprising%20about%2017%20percent%20of,emissions%20at%201.45%20billion%20tonnes>. (Last accessed December 25, 2023)

² <https://www.afdb.org/en/cop25/climate-change-africa#:~:text=Africa%2C%20despite%20its%20low%20contribution,scenarios%20above%201.5%20degrees%20Celsius>. (Last accessed December 25, 2023)

³ <https://www.unep.org/regions/africa/our-work-africa> (Last accessed December 25, 2023)

⁴ <https://www.statista.com/statistics/1228533/number-of-people-living-below-the-extreme-poverty-line-in-africa/> (Last accessed December 25, 2023)

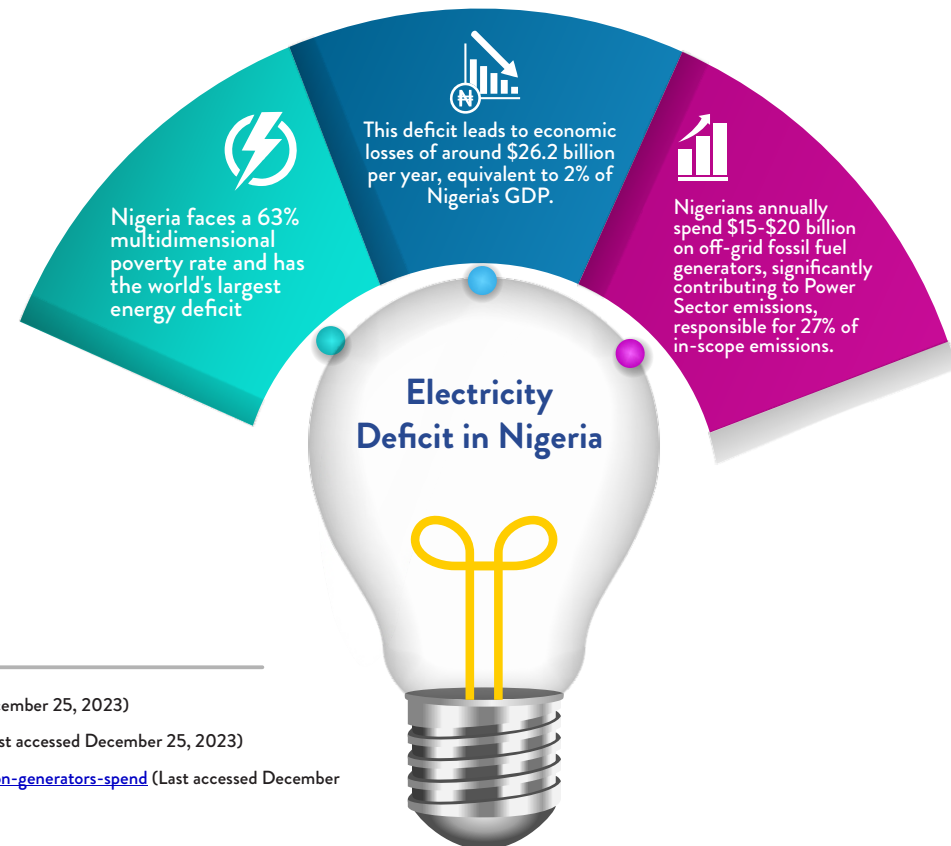
⁵ <https://www.statista.com/statistics/1228533/number-of-people-living-below-the-extreme-poverty-line-in-africa/> (Last accessed December 25, 2023)

⁶ <https://www.iea.org/reports/africa-energy-outlook-2022/key-findings> (Last accessed December 25, 2023)

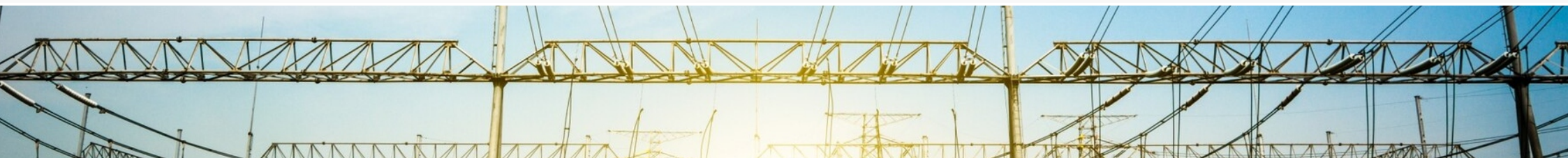
⁷ <https://www.iea.org/reports/africa-energy-outlook-2022/key-findings> (Last accessed December 25, 2023)



Nigeria, the most populous country in Africa, grapples with a multidimensional poverty rate of 63%⁸ and holds the unenviable position of the country with the largest energy deficit globally.⁹ This deficit imposes significant hardships on individuals and businesses, leading to an annual loss of approximately \$26.2 billion, equivalent to 2% of Nigeria's GDP.¹⁰ To meet energy needs, Nigerians spend about \$15- \$20 billion each year on off-grid fossil fuel generators,¹¹ contributing substantially to emissions from the Power Sector which account for 27% of in-scope emissions.



⁷ <https://www.un.org/africarenewal/magazine/november-2022/just-transition-renewable-energy-%C2%A0africa> (Last accessed December 25, 2023)
⁸ <https://www.nigeriapovertymap.com/> (Last accessed December 25, 2023)
⁹ <https://www.worldbank.org/en/news/press-release/2021/02/05/nigeria-to-improve-electricity-access-and-services-to-citizens> (Last accessed December 25, 2023)
¹⁰ https://www.undp.org/sites/g/files/zskgke326/files/2022-10/INEF_Report%5B100%5D.pdf (Last accessed December 25, 2023)
¹¹ <https://www.thisdaylive.com/index.php/2023/07/27/nigerias-renewable-energy-operators-push-for-clean-energy-to-replace-20bn-generators-spend> (Last accessed December 25, 2023)



A decade post privatization, the Nigerian Power Sector remains burdened with a multitude of challenges, resulting in a meager ability to fulfill just 15% of the overall energy demand.¹² These challenges include liquidity issues, poor infrastructure, substantial ATC&C losses, vulnerability to fluctuating exchange rates, unresolved gas-to-power debts, low metering and collection rates, and incidents of vandalism, among others.¹³ According to a recent report by NERC, the average available generation capacity of the 27-grid connected power plants was 4211.44MW in the 3rd Quarter of 2023,¹⁴ falling significantly short of the ambitious 40,000MW generation capacity target set for 2020.¹⁵

In the past year, the Power Sector witnessed a trend of banks taking control of Distribution Companies (DisCos) due to their inability to service their debts.¹⁶ The distribution infrastructure has suffered significant neglect over the years, primarily because investors who participated in privatization acquired shares using loans from banks, which they are now repaying, leaving them unable to allocate resources to improve infrastructure.

Despite garnering substantial investments exceeding N7 trillion¹⁷ through diverse initiatives funded by entities like the World Bank, African Development Bank, French Development Agency, Japan International Cooperation Agency, and the Central Bank of Nigeria, the Power Sector continues to grapple with a myriad of challenges even after multiple bail outs by the Government. Considering these challenges, stakeholders have advocated for a reevaluation of the privatization of the Sector.

Yet, amid the Sector's evident under performance, in December 2023, the Federal Government announced its intention to divest 40% of its shares in Distribution Companies (DisCos).¹⁸ Concerns have been voiced by stakeholders regarding the potential of this decision to exacerbate the current state of affairs within the Sector. This apprehension revolves around potential political biases which may influence the sale of shares, resulting in further entrusting the Sector in the hands of individuals who lack the requisite financial or technical expertise for proficient management.

¹² <https://www.thecable.ng/tinubu-concerned-about-undercapitalisation-in-power-sector-says-privatisation-objectives-unmet> (Last accessed December 25, 2023)

¹³ <https://www.thisdaylive.com/index.php/2022/10/02/62-years-of-unbroken-jinx-in-nigerias-power-sector> (Last accessed December 25, 2023)

¹⁴ <https://nerc.gov.ng/index.php/library/documents/func-startdown/1165/> (Last accessed December 25, 2023)

¹⁵ <https://nerc.gov.ng/index.php/home/nesi/403-generation> (Last accessed December 25, 2023)

¹⁶ <https://businessday.ng/energy/article/fidelity-bank-dissolves-boards-of-three-indebted-discos/> (Last accessed December 25, 2023)

¹⁷ <https://www.icirnigeria.org/post-privatisation-power-sector-failed-despite-over-n7trn-interventions/> (Last accessed December 25, 2023)

¹⁸ <https://punchng.com/fg-plans-sale-of-40-stake-in-discos-others/> (Last accessed December 26, 2023)

The Nigerian power sector relies extensively on fossil fuels for energy. According to the International Trade Administration,¹⁹ 80% of on-grid electricity generation in Nigeria is sourced from thermal sources, with hydropower making up the remaining 20%. Despite possessing ample gas reserves, Nigeria still struggles with significant energy deficit.

In a bid to address this, Nigeria has pursued diversification through the integration of renewable energy, under various policies and regulations. Some key policies and regulations include the National Biofuel Policy and Incentives 2007, the Nigerian Renewable Energy and Energy Efficiency Policy (NREEEP) 2015, Regulations on Feed-in-Tariff for Renewable Energy Sourced Electricity in Nigeria (REFIT) 2015, National Renewable Energy Action Plan 2015, Mini-Grid Regulations 2016, Sustainable Energy for All Action Agenda (SE4ALL Agenda) 2016, Rural Electrification Strategy and Implementation Plan (RESIP) 2016, Rural Electrification Fund Operational Guidelines (REFOG) 2017, and the Renewable Energy Roadmap 2023. These policies aim to promote the integration of various forms of renewable energy in Nigeria through subsidies, tax incentives, and investment in research and development. For instance, the SE4ALL Agenda introduced Vision 30:30:30, aspiring to achieve a 30,000 MW generation capacity with 30% from renewable energy by 2030.²⁰ The NREEEP called for prioritizing the completion of hydropower projects and allocating revenue from other energy subsectors to support renewable energy initiatives.

The 2015 REFIT Regulations²¹ aimed to stimulate renewable energy

generation by establishing a guaranteed market for developers. It imposed purchase obligations on both the Nigerian Bulk Electricity Trading Plc (NBET) and DisCos, requiring them to take 50% each of renewable energy generated. Despite being perceived as a game-changer, there is limited data on the effectiveness and success of this regulation in Nigeria.

Challenges such as the unreliability and limited access to the national grid prompted the introduction of Mini-Grid Regulations (which was recently revised in 2023), providing a legal framework for mini-grid development in Nigeria. The capital requirements and construction timelines of large hydro projects, and limited data on wind energy, led to the popularity of solar mini-grids as a major off-grid solution, which has been used to support initiatives like the Nigeria Electrification Project (NEP) and the Solar Power Naija.

In line with global trends on energy transition and a desire for portfolio diversification, major oil companies have begun investing in renewable energy. Notably, in 2022, Shell acquired Daystar Power, a Nigerian off-grid solar solution provider.²² In 2023, NNPC signed an MOU with the Niger State government for low-carbon projects, including the development of an ethanol plant and hydroelectric projects.²³ The shift towards renewable energy is also evident in the manufacturing sector, with companies like Nigerian Breweries investing in solar energy. Banks in Nigeria, such as Access Bank, have also reduced reliance on fossil fuels by adopting solar technology. For instance, Access Bank on Ogunlana Drive in Surulere reportedly operates solely on solar power.²⁴

¹⁹ <https://www.trade.gov/country-commercial-guides/electricity-power-systems-and-renewable-energy> (Last accessed December 26, 2023)

²⁰ https://www.all-on.com/media/publications/simplified-guides-to-nigerias-energy-access-policies-and-regulations/_jcr_content/par/textimage.stream/1595008887899/b748c007483f7392af611a7a38aac90d8f05321d/sustainable-energy-for-all-action-agenda-se4all-aa.pdf (Last accessed December 26, 2023)

²¹ https://rise.esmap.org/data/files/library/nigeria/Renewable%20Energy/Nigeria_REGULATIONS%20ON%20FEED-IN%20TARIFF%20FOR%20RENEWABLE%20ENERGY%20SOURCED%20ELECTRICITY_REFIT_2015.pdf (Last accessed December 26, 2023)

²² <https://www.daystar-power.com/news-post/daystar-power-announces-completion-of-acquisition-by-shell#:~:text=LAGOS%2C%20Nigeria%2015%20December%202022,the%20approval%20of%20regulatory%20authorities>. (Last accessed December 26, 2023)

²³ <https://punchng.com/niger-nnpcl-sign-renewable-energy-pact/> (Last accessed December 26, 2023)

²⁴ <https://www.vanguardngr.com/2023/08/energy-crisis-cost-of-solar-systems-rises-120-to-n50000-as-forex-inflation-worsen/>



The Federal Government had successfully secured a combined funding of \$550 million (\$350 million from the World Bank and \$200 million from the African Development Bank) to support the implementation of the National Electrification Project (NEP). Spearheaded by the Rural Electrification Agency (REA), the initiative has recorded significant strides over the years. Since 2020,²⁵ NEP has proficiently delivered electricity to 5,000,000 people, aided the completion of 67 mini-grids, facilitated the deployment of 995,396 solar home systems (SHS), and contributed to the conservation of 249,193 tonnes of CO2 equivalent.

The components of the NEP are as follows:

1. Solar Hybrid Mini Grids, including subcomponents namely (i) the Performance Based Grant (PBG), (ii) Minimum Subsidy Tender (MST), and (iii) the COVID-19 & Beyond Initiative;
2. Standalone Solar Home Systems (SHS) with subcomponents

namely (i) Output Based Fund (OBF) and (ii) Market Scale-Up Challenge Fund (MSCF) under the World Bank;

3. Energy Efficient Productive Use Appliances & Equipment (PUE) under the African Development Bank;
4. Energizing Education Programme (EEP) Phase II & III; and,
5. Technical Assistance (TA).

The Performance Based Grant (PBG) is a significant sub-component of the NEP with an allocation of \$48 million. This funding is dedicated to support the viability of solar hybrid systems with generation capacity of up to 1MW in unserved and underserved communities. In 2021, the PBG amount was revised from \$350 to \$600 grant per connection, and the funds remain available till depletion. According to the REA, a total of 4MW PV capacity has been installed with 67 mini-grids commissioned under the PBG.²⁶

²⁵ <https://nep.rea.gov.ng/NEP-PHOTO-BOOK.pdf> (Last accessed December 26, 2023)

²⁶ <https://rea.gov.ng/world-bank-nep-intervention-rescuing-nigerias-communities-darkness/#:~:text=The%20component%20consists%20of%20three,US%2418%2C000%20per%20mini%2Dgrid.> (Last accessed December 25, 2023)

ADDRESSING ENERGY DEFICIT IN NIGERIA: THE CONSTITUTIONAL AMENDMENT 2023

Since the establishment of the first electric utility company in 1929, the Nigerian Power Sector has undergone a significant transformation to address the persistent energy deficit in the country. Initially functioning as a government monopoly, the Sector faced challenges such as corruption, limited investment, and mismanagement of assets, which led to its partial privatization in 2013.²⁷ Despite the change in management, issues like high indebtedness, electricity theft, and infrastructure deterioration continue to plague the Sector.

The unreliability of the national grid has compelled individuals and businesses to seek off-grid and decentralized solutions to meet their energy needs. This situation prompted States, including Lagos,²⁸ to formulate independent electricity policies aimed at utilizing resources within their respective territories to meet energy demands. These States had advocated for autonomy to develop and oversee their electricity markets, leading to debates on the constitutionality of such actions. Some stakeholders argued that Paragraph 14(b) of Part II of the Second Schedule to the Constitution only empowered the State House of Assembly to legislate on the generation, transmission, and distribution of electricity in areas not covered by the national grid system within each State.²⁹ This debate was finally resolved by the amendment of the Constitution in 2023.³⁰

In March 2023, the Federal Government assented to a Bill amending the Constitution including the modification of the Paragraph 14(b) of Part II of the Second Schedule to the Constitution by deleting the controversial phrase “not covered by a national grid system,” thereby unequivocally affirming the authority of States to regulate electricity generation, transmission, and distribution within their respective territories, whether on or off the national grid.

Following the constitutional amendment, the Federal Government promptly passed the Electricity Bill into law. This marked a significant step towards fully recognizing the autonomy of States in regulating their individual electricity markets. The 2023 Electricity Act (the “Act”) not only repealed the Electric Power Sector Reform Act of 2005 but also introduced several provisions designed to address the electricity deficit in Nigeria. Notably, section 2(2) of the Act solidified the supremacy of State regulation over all activities within their respective electricity markets. Additionally, the Act included specific provisions aimed at harnessing renewable energy sources in Nigeria to meet the nation’s energy demands.

²⁷ <https://african.business/2022/04/energy-resources/privatisation-fails-to-end-nigerias-power-woes> (Last accessed December 26, 2023)

²⁸ <https://www.vanguardngr.com/2021/12/lagos-unveils-electricity-policy-for-reliable-affordable-energy-2/> (Last accessed December 26, 2023)

²⁹ <https://businessday.ng/energy/article/hurdles-facing-lagos-electricity-market-plan/> (Last accessed December 26, 2023)

³⁰ [Click here to read our full article on the constitutional amendment on power sector regulation](#)

Ondo State

Prior to the introduction of the Electricity Act in 2023, the Ondo State Government had already enacted the Ondo State Power Sector Law in 2020. This law recognized the authority of the State Government to establish and regulate its autonomous electricity market³¹ and established the Ondo State Electricity Regulatory Bureau (the "Bureau") for administrative purposes. Following a meeting at NERC's headquarters in August 2023, the Ondo State Government announced that NERC had expressed its willingness to transfer its regulatory functions within Ondo State to the Bureau in accordance with the Electricity Act.³²

Lagos State

Lagos also took early and proactive measures towards charting the course for the establishment and independent regulation of its electricity market by the introduction of the Lagos State Electricity Policy (LSEP or the "Policy") in 2021.³³ Notably the Policy recognized the role and effectiveness of off-grid low carbon solutions in addressing the energy needs of unserved and underserved areas.

In 2022, the Lagos State Government introduced the Integrated Resource Plan (IRP)³⁴ in collaboration with USAID Power Africa. Remarkably, the IRP contains predicted energy demand growth over the course of 20 years as well as cost effective generation, transmission and distribution plans.

Notably, a key element highlighted in the LSEP for achieving a viable State electricity market was the need for an enabling legal framework within the Constitution. Following the Constitutional amendment and the introduction of the Electricity Act, Lagos is now empowered to take complete regulatory control in accordance with the provisions of the Act.

It is important to highlight that sequel to the introduction of the Electricity Act, other States have also implemented measures towards establishing their respective markets. Of note is Enugu State, which successfully passed its Electricity Bill into law in September 2023.³⁵

³¹ https://www.linkedin.com/posts/odion-omonfoman-79405513_ondo-state-formally-kick-started-the-process-activity-7095098014045773824-ZShb/ (Last accessed December 25, 2023)

³² https://www.linkedin.com/posts/ondogov_ondo-state-on-track-to-be-the-first-nigerian-activity-7095122799798693888-JKEB/ (Last accessed December 25, 2023)

³³ <https://memr.lagosstate.gov.ng/wp-content/uploads/sites/57/2021/12/BROCHURE-SINGLE-PAGE-VIEW-LASG-Electricity-Policy-1.pdf> (Last accessed December 26, 2023)

³⁴ https://memr.lagosstate.gov.ng/wp-content/uploads/sites/57/2023/05/PA-NPSP_Lagos-State-IRP-Report.pdf (Last accessed December 26, 2023)

³⁵ <https://www.thecable.ng/enugu-to-generate-own-electricity-as-peter-mbah-signs-bill-into-law> (Last accessed December 26, 2023)



As previously noted, Section 2(2) of the Electricity Act asserts the primacy of State regulation over all activities within their individual electricity markets. This empowers States to manage electricity-related matters within their territories, utilizing available resources without interference from the national regulator, the Nigerian Electricity Regulatory Commission (NERC or the “Commission”). However, within this regulatory framework, NERC will continue to oversee the regulation of interstate and transnational transmission and distribution of electricity³⁶ as well as maintain regulatory oversight in States yet to establish their own electricity market.

As mandated by Section 3 of the Electricity Act, the Ministry of Power is required to commence the development of an Integrated National Electricity Policy and Strategic Implementation Plan (the “Plan”) within one year of the Act’s commencement. The Plan is to be designed to encompass a variety of measures aimed at advancing development within the Power Sector. It is required to incorporate provisions tailored towards harnessing and utilizing renewable energy sources in Nigeria, with the ultimate objective of addressing the electricity deficit in the country.

³⁶ See section 230 of the Act

THE 2023 ELECTRICITY ACT AND ITS POTENTIAL FOR RENEWABLE ENERGY DEVELOPMENT AND ADOPTION IN NIGERIA

Sections 80 and 113 of the Act make NERC and the Independent System Operator (ISO) responsible for advancing the generation, transmission, and distribution of renewable energy through the issuance and administration of licenses. NERC is mandated to promote the adoption of renewable energy through initiatives such as simplified licensing procedures, implementing regulations that facilitate the connection of renewable energy generators to the national grid and to distribution networks etc.¹⁷ Section 167 of the Act also recognizes the authority of the Commission to impose renewable energy purchase obligations on bulk customers in Nigeria.³⁸

Additionally, NERC is directed to formulate regulations delineating the roles of various stakeholders in fostering the integration of renewable energy,³⁹ reviewing existing regulations on local content development within the Power Sector and issuing specific guidelines for harnessing each source of renewable energy.⁴⁰ NERC is further empowered to grant mini-grid concessions to renewable energy companies, mandating them to exclusively serve specific geographical locations.⁴¹

Section 165 of the Act delineates the distinct levels within the Power value chain where renewable energy companies may engage, namely, generation, distribution, sales, and installation. It empowers NERC to limit or extend

the range of activities they may undertake in each domain. The Federal Ministry of Finance is also mandated to introduce tax incentives necessary to promote and facilitate the adoption and development of renewable energy in Nigeria.

While the Act could potentially enhance the development and adoption of renewable energy in Nigeria, there are concerns surrounding the vagueness of some provisions. This, to some extent places the Act in a similar position as policies predating it whose implementation were and still remain dependent on subsequent regulations giving life to their provisions. For instance, stakeholders had anticipated that the Electricity Act would serve as a comprehensive framework explicitly detailing tax and fiscal incentives across different levels of the value chain, however, the Act delegates the responsibility of introducing these incentives to the Federal Ministry of Finance without specifying a timeframe for their formulation. This arrangement leaves the framework for incentives within the sector heavily dependent on the political will of the regulators. Nevertheless, it will be interesting to observe how this matter unfolds in the near future.

³⁷ See section 164 of the Act

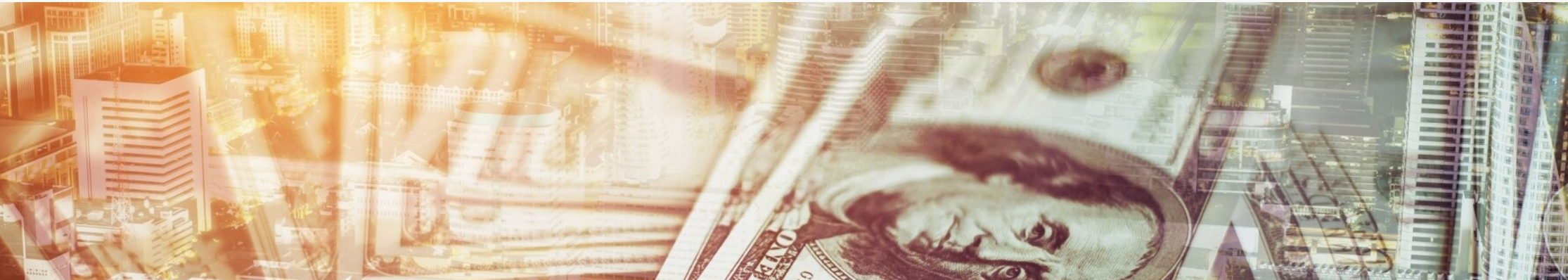
³⁸ See section 167(2) of the Act

³⁹ See section 164 of the Act

⁴⁰ Ibid

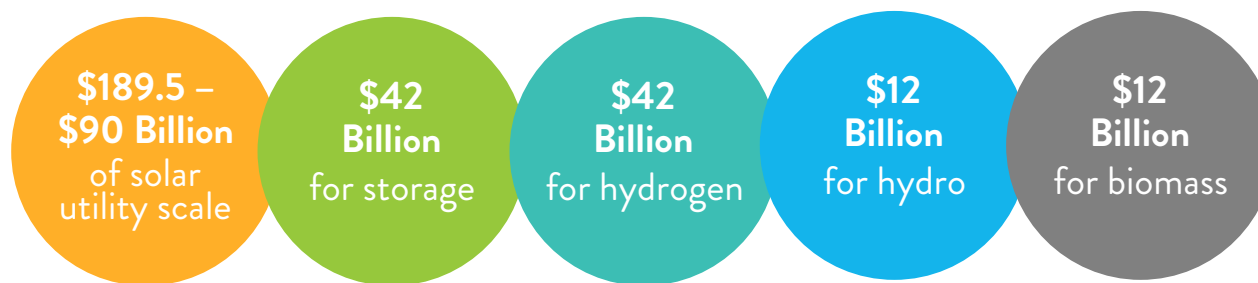
⁴¹ Ibid

FINANCING ENERGY TRANSITION AND THE ADOPTION OF RENEWABLE ENERGY IN NIGERIA



In 2021, Nigeria became the first country to develop a comprehensive Energy Transition Plan (ETP) in Africa.⁴² While reaffirming the nation's goal to achieve Net-Zero by 2060, the ETP emphasizes the pivotal role of gas as the transition fuel for the Nigerian economy. However, it also recognizes the gradual integration of renewables into the energy mix and outlines the necessity of 220GW of solar, hydropower, and biomass generation capacity, along with 90GW of storage and 34GW of hydrogen systems, to attain Net-Zero goals in the Power Sector by 2060.⁴³

To achieve its Net-Zero objectives by 2060, Nigeria needs a total of \$1.9 trillion, including \$410 Billion above projected usual spending. To fulfill the decarbonization targets of the Power Sector, Nigeria requires the following for centralized power infrastructure development:⁴⁴



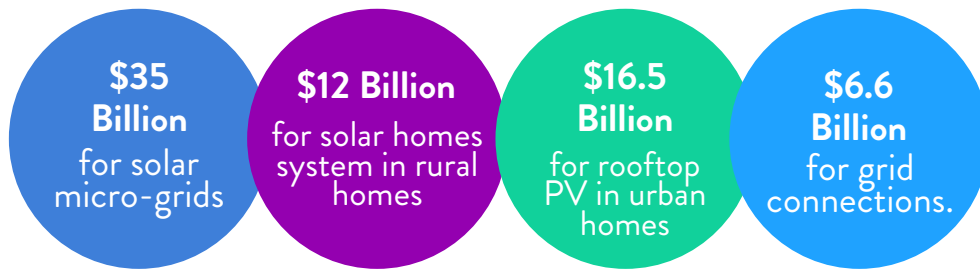
⁴² <https://www.energytransition.gov.ng/event/implementing-nigerias-energy-transition-plan/> (Last accessed December 25, 2023)

⁴³ <https://www.energytransition.gov.ng/finance/> (Last accessed December 25, 2023)

⁴⁴ <https://www.energytransition.gov.ng/finance/> (Last accessed December 25, 2023)

FINANCING ENERGY TRANSITION AND THE ADOPTION OF RENEWABLE ENERGY IN NIGERIA

For decentralized power,⁴⁵ Nigeria needs about \$82 Billion including:



Nigeria's daunting ETP budget requires financing from not only the domestic Private Sector but from international finance partners as well. During the 2023 Women in Energy Dialogue, Lolade Abiola,⁴⁶ Co-head of the Energy Transition Office and Principal Specialist in Energy and Climate, revealed that the Federal Government had successfully secured \$8.2 billion in commitments out of the \$10 billion required annually for the implementation of the ETP. In pursuit of financing for the ETP, the Federal Government noted that it was working towards the development of a proposal for submission to the G7, aimed at securing funding through the Just Energy Transition Partnership.⁴⁷ Additionally, in November 2023,⁴⁸ the Minister of Power, Adebayo Adedun, announced that the Federal Government had identified \$23 Billion investment opportunities linked to energy transition projects in Nigeria.

The renewable energy subsector in Nigeria has received investments from both Public and Private Sectors over the years. Public Sector financing, primarily in the form of loans and grants, is mostly targeted towards the supply side of renewable energy. The Bank of Industry, the African Development Bank, and the World Bank have established various grants to support renewable energy development in Nigeria. Some key projects in this regard include the Performance Based Grant under the Nigeria Electrification Project and the African Mini-grids Program, financed by the Global Environment Facility. Nigeria also issued its first and second Sovereign Green Bonds in 2017⁴⁹ and 2019⁵⁰ respectively, providing funding for green projects including the Energizing Education Programme.

With regard to Private Sector finance, firms⁵¹ like All On provide funding for renewable energy development through instruments like debt finance. Notably, firms like Infra credit have gone a step further by striving to mitigate investment risks through the provision of local currency guarantees for the advancement of renewable energy projects in Nigeria.⁵²

On the demand side of renewable energy, several banks have rolled out various facilities to support renewable energy adoption in Nigeria. A noteworthy example is the FCMB Energy Finance Loan introduced by FCB in 2023, aimed at promoting the adoption of renewable energy by households and MSMEs.

⁴⁵ Ibid
⁴⁶ <https://www.thisdaylive.com/index.php/2023/05/22/fg-secures-8-2bn-financing-from-local-foreign-partners-for-execution-of-nigerias-energy-transition-projects> (Last accessed December 26, 2023)

⁴⁷ <https://www.thecable.ng/acs23-nigeria-working-to-secure-just-energy-partnership-to-accelerate-transition-says-tinubu> (Last accessed December 26, 2023)

⁴⁸ <https://www.thecable.ng/adelabu-weve-identified-23bn-investment-opportunities-in-nigerias-energy-transition-plan> (Last accessed December 26, 2023)

⁴⁹ <https://www.climatebonds.net/resources/press-releases/2017/12/nigeria-first-nation-issue-climate-bonds-certified-sovereign-green> (Last accessed December 25, 2023)

⁵⁰ https://www.pdnigeria.org/re/wp-content/uploads/2020/01/P3387_PDFII_stories_of_change_GREEN_BONDS_PRINT_WEB.pdf (Last accessed December 25, 2023)

⁵¹ <https://thenextier.com/financing-options-for-renewable-energy-development-in-nigeria/> (Last accessed December 25, 2023)

⁵² <https://infraafrica.com/infracredits-guarantee-supported-by-uk-funded-climate-finance-blending-facility-mobilises-first-green-certified-local-currency-debt-issue-for-off-grid-solar-rural-electrification-project-in-n/> (Last accessed December 26, 2023)

Below are some recently secured deals and development on renewable energy in Nigeria:

1. Crossboundary, ENGIE Energy Access seal pact on mini-grid project.⁵³

In 2022, Crossboundary Energy Access (CBEA) and ENGIE Energy Access signed a \$60 million project finance agreement towards the construction of a pipeline of mini-grids connecting 150,000 people to power in Nigeria.

2. Former President Muhammadu Buhari Commissions 10MW Solar Plant in Kano, the largest grid-connected PV Solar in Nigeria.⁵⁴

On January 30, 2023, former President Muhammadu Buhari commissioned a \$16 million 10MW solar plant in the Kumbotso Local Government Area of Kano State. The successful completion of this landmark project, recognized as the largest grid-connected PV solar facility in Nigeria, stands as a testament of the nation's capacity to execute large scale renewable energy projects. The project is anticipated to yield positive socio-economic impacts and play a contributory role in the grand scheme of reducing the

nation's carbon footprint.

3. Universal Energy Facility (UEF) provides grants for projects seeking to connect businesses with clean energy as part of its programme designed to support Nigeria's Energy Transition Plan.⁵⁵

In February 2023, UEF announced its commitment to providing grants to renewable energy companies that applied to have their projects financed as part of its Stand-alone Solar for Productive Use programme. The UEF project, which is anticipated to connect approximately 3,500 businesses, markets, shopping malls, cold-storage facilities, clinics, schools, and other productive uses of energy, will span across most States in Nigeria and is projected to be completed within the 12 months. It is also estimated that approximately 5,400 tons of CO2 equivalent per year will be saved once all of the beneficiary projects are completed.

⁵³ <https://guardian.ng/business-services/crossboundary-engie-energy-access-seal-pact-on-mini-grid-project/> (Last accessed December 25, 2023)

⁵⁴ <https://nsia.com.ng/president-buhari-commissions-10mw-kano-solar-project/> (Last accessed December 25, 2023)

⁵⁵ <https://www.seforall.org/news/universal-energy-facility-provides-grants-to-solar-projects-across-nigeria-helping-smes#:~:text=Lagos%2C%202023%20February%202023%20%E2%80%93%20The,alone%20Solar%20for%20Productive%20Use> (Last accessed December 14, 2023)

4. The Global Energy Alliance for People and Planet (GEAPP) in collaboration with Nigerian investment firm, Chapel Hill Denham (CHD), establish a new local currency subordinated debt vehicle: the Energy Transition & Access Facility for Africa (ETAFA).⁵⁷

In June 2023, Chapel Hill Denham revealed that in a collaboration with GEAPP, it had launched an innovative financing solution to address the hurdle of accessing subordinated capital and local currency financing for Distributed Renewable Energy (DRE) projects. This initiative aims to deploy \$50 million to support the growth of DREs in Nigeria towards addressing energy deficit and facilitating the adoption of renewable energy in the country. This commendable initiative represents a substantial stride in unlocking the potential of the DREs in Nigeria.

5. Rensource announces a \$15 Million deal with Afrigreen Debt Impact Fund SLP.⁵⁸

In July 2023, Rensource Energy announced that it had secured a \$15 Million loan facility, a mix of naira and US dollars, from Afrigreen Debt Impact Fund SLP ("Afrigreen") to fund the construction of over 30MW of

Rensource C&I portfolio over the next 3 years.

6. Auxano commissions 100MW capacity Solar PV plant.⁵⁹

In September 2023, a 100MW automated Solar PV manufacturing facility was commissioned by Auxano Solar in Lagos. The project, which was conceived in 2020 and secured a \$20 Million investment from All On, is poised to address issues surrounding access to affordable solar solutions in Nigeria.

7. Nigerian company, WATT Renewable Corporation (WATT) has secured US\$13 Million in funding to catalyse its efforts in advancing renewable energy solutions.⁶⁰

In October 2023, WATT announced that it had successfully secured \$13 Million USD in funding from Empower New Energy. This fund is intended to expand WATT's portfolio by the addition of 8MW installed generation capacity and 14.3MWh storage capacity. This development is envisaged to play a crucial role in advancing the adoption of renewable energy solutions and facilitating the transition to clean energy.

⁵⁷ <https://energyalliance.org/geapp-chapel-hill-denham-nigeria/> (Last accessed December 14, 2023)

⁵⁸ <https://rensourcenergy.com/2023/07/14/rensourc-announces-a-15-million-deal-with-afrigreen-debt-impact-fund-slp/> (Last accessed December 14, 2023)

⁵⁹ <https://businessday.ng/energy/article/auxano-commissions-100mw-capacity-solar-pv-plant/> (Last accessed December 25, 2023)

⁶⁰ <https://www.wattrenewables.com/watt-renewable-corporation-secures-13-million-usd-funding-from-empower-new-energy/> (Last accessed December 14, 2023)

8. Nigeria fully commissions the 700MW Zungeru hydropower project.⁶¹

The 700MW Zungeru hydropower project, one of the largest hydro power plants in Nigeria, located in Niger State, was recently commissioned in October 2023 and is set to generate 2.6 TWh/year. The project was 75% financed by a preferential loan facility from Exim Bank and 25% by the Federal Government. Construction began in 2013 and the initial estimated completion date was fixed for 2018. However, the project experienced substantial delay due to bandit attacks and raids as well as financial constraints amongst others.

9. NSIA unveils Renewables Investment Platform for Limitless Energy ('RIPLE') & signs Partnership Agreement with IFC to propel Energy Transition in Nigeria.⁶²

In November 2023, the Nigerian Sovereign Investment Authority (NSIA) unveiled the Renewables Investment Platform for Limitless Energy (RIPLE), a \$500 million initiative aimed at accelerating the growth of renewable energy projects throughout Nigeria, with the objective of enhancing energy accessibility and efficiency.

The launch of RIPLE was also marked by the establishment of a strategic

partnership with the International Finance Corporation (IFC) towards advancing the development of renewable energy in Nigeria. The initial phase of the initiative will be implemented within the Tokarawa Industrial Hub in Kano State, involving the development of a generation and distribution system capable of meeting a 70MW energy demand from industrial, commercial, and residential sectors.

10. Shell-owned renewable energy firm, Daystar, to install a 4.2MW solar plant for Nigerian Breweries.⁶³

In November 2023, Daystar Power announced that it had signed an agreement with Nigerian Breweries to deploy and manage a 4.2MW solar plant and a 2MWh battery storage system at its Lagos factory and corporate headquarters in Iganmu. Envisioned as a transformative initiative, the project aims to reduce Nigerian Breweries' reliance on fossil fuels by supplying 42% of the facilities' daytime power consumption, thereby contributing to the overarching national agenda of attaining Net-Zero by 2060.

11. The Niger State Government has signed a Memorandum of Understanding (MOU) with the Nigerian National Petroleum Corporation Limited (NNPCL) for the development of the Greenfield

⁶¹ <https://www.enerdata.net/publications/daily-energy-news/nigeria-fully-commissions-700-mw-zungeru-hydropower-project.html#:~:text=Nigeria%20has%20fully%20commissioned%20the,will%20generate%202.6%20TWh%2Fyear.> (Last accessed December 15, 2023)

⁶² <https://nsia.com.ng/nigeria-sovereign-investment-authority-unveils-renewables-investment-platform-for-limitless-energy-riple-and-signs-partnership-agreement-with-ifc-to-propel-energy-transition-in-ni/> (Last accessed December 14, 2023)

⁶³ <https://energydayng.com/2023/11/29/shell-owned-renewable-firm-daystar-to-install-nigerias-largest-solar-projects-at-nigerian-breweries-lagos-factory/> (Last accessed December 14, 2023)

Hydroelectric Power Project in Niger State.⁶⁴

In November 2023, the Niger State Government signed a Memorandum of Understanding (MOU) with NNPC towards the development of renewable energy and low-carbon projects within the State. The MOU aims to facilitate the implementation of low-carbon solutions, encompassing greenfield hydroelectric power project, solar parks in institutions, home solar systems for 250,000 households, and more. This initiative underscores NNPC's commitment towards contributing to the ongoing transition to clean energy.

12. Nigeria and Germany sign \$500 Million Renewable Energy Deal.⁶⁵

In November 2023, Germany's DWS Group and Union Bank of Nigeria signed a memorandum of understanding for a \$500 million investment in renewable energy towards enhancing energy accessibility, primarily in rural communities in Nigeria.

13. Nigeria's first interconnected Hybrid Solar Mini-Grid Plant commissioned in Toto Community, Nasarawa State.⁶⁶

In November 2023, the Rural Electrification Agency commissioned Nigeria's first Interconnected Solar Hybrid Mini-Grid, developed by one of our clients, PowerGen, in the Toto community of Nasarawa State. This 352KWP Interconnected Solar Hybrid Mini-Grid is a product of the Performance Based Grant subcomponent of the Nigeria Electrification Project. It marks a positive step in fostering collaboration between the Federal Government and the Private Sector towards addressing substantial electricity deficit in the country. The interconnected mini-grid currently supplies electricity to over 2000 households, 141 commercial users, 18 productive users, and 45 public users.

14. Oando to roll out Electric Vehicles, 100MW Wind Plant in Cross River State.⁶⁷

In December 2023, at the just concluded COP 28, Oando Clean Energy signed a Memorandum of Understanding (MOU) with the Government of Cross River State to develop a 100MW wind plant within the State. The MOU also encompassed the introduction of electric vehicles for mass transportation and the establishment of an electric vehicle assembly plant.

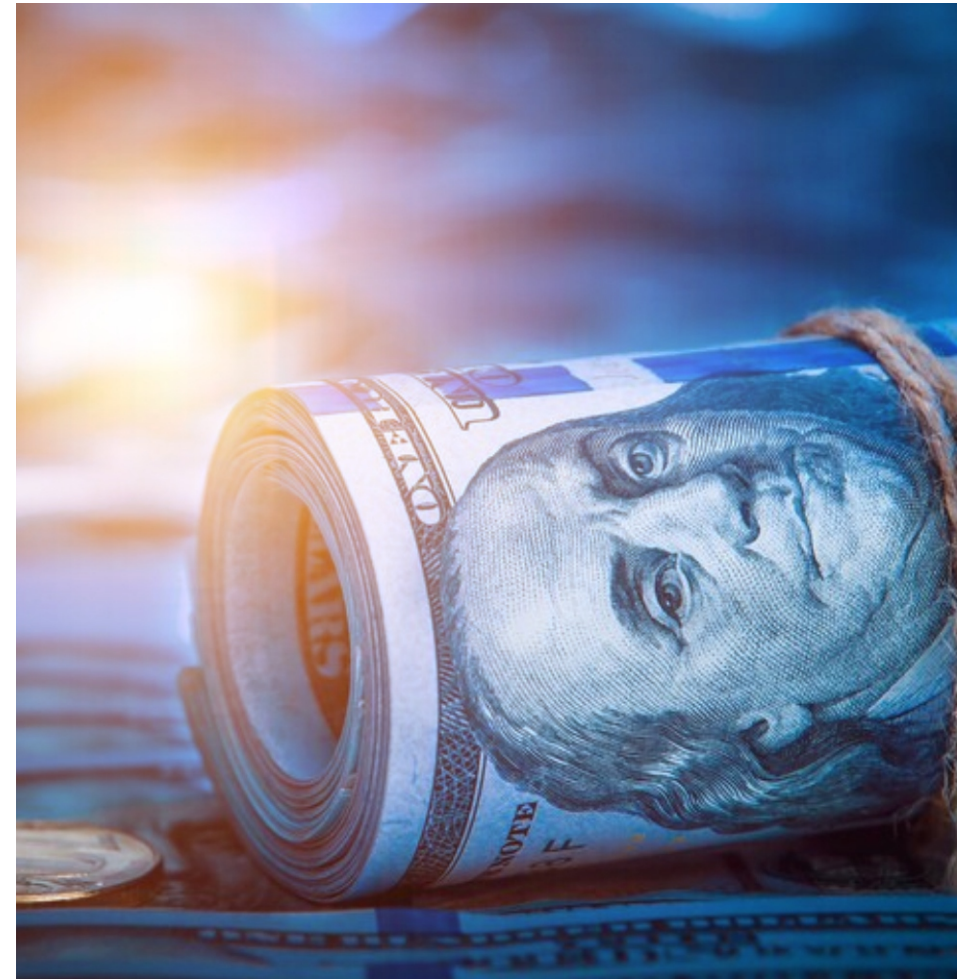
⁶⁴ <https://energycapitalpower.com/nigeria-nnpc-to-develop-renewable-energy-in-niger-state/> (Last accessed December 15, 2023)

⁶⁵ <https://www.reuters.com/sustainability/climate-energy/nigeria-germany-sign-500-mln-renewable-energy-gas-deal-2023-11-21/> (Last accessed December 14, 2023)

⁶⁶ <https://rea.gov.ng/press-release-nigerias-first-interconnected-hybrid-solar-mini-grid-plant-commissioned-toto-community-nasarawa-state/> (Last accessed December 14, 2023)

15. Nigeria Signs a 1GW Solar PV Plant Deal with InfraCorp.⁶⁸

During the recently concluded COP 28 in December 2023, InfraCorp successfully brokered an agreement leading to the signing of a ground-breaking MOU for the establishment of a 1GW Solar PV manufacturing facility in Nigeria. The implementation of this project holds the promise of substantially enhancing access to renewable energy technology.



⁶⁷ <https://www.energytimesng.com/cop28-oando-to-roll-out-electric-vehicles-100mw-wind-plant-in-c-river-state/> (Last accessed December 25, 2023)

⁶⁸ <https://thenews-chronicle.com/fracorp-inks-mou-for-a-1gw-solar-panel-production-facility-in-nigeria/> (Last accessed December 25, 2023)



Although Nigeria has made significant strides in the development of its renewable energy subsector, its efforts so far still amount to a drop in the ocean considering its energy needs and the role renewable energy needs to play in the energy mix in order to achieve Nigeria's energy transition goals. Kenya is one African country which stands at the forefront of renewable energy development in Africa and which Nigeria can learn a few lessons from. The country has achieved a remarkable increase in its energy access from 28% in 2013 to an impressive 71% in 2020, primarily through the active integration of renewable energy.⁶⁹ Currently, more than 80% of Kenya's energy is derived from renewable sources,⁷⁰ and the

country is home to the largest wind farm in Africa, the Lake Turkana Wind Power Plant.⁷¹

Kenya's commitment towards fostering renewable energy development is evident through the conducive environment for investments it provides. The government has implemented various measures, including fiscal incentives, financial support such as loans and grants, favorable regulations, awareness campaigns, and capacity-building initiatives. Notably, the Kenya Finance Act 2021 exempts solar, and wind specialized equipment from Value Added Tax.⁷² Additionally, import duty exemptions apply

⁶⁹ <https://rapidtransition.org/stories/doing-development-differently-how-kenya-is-rapidly-emerging-as-africas-renewable-energy-superpower/> (Last accessed December 26, 2023)

⁷⁰ <https://www.trade.gov/country-commercial-guides/kenya-energy-electrical-power-systems> (Last accessed December 26, 2023)

⁷¹ <https://www.weforum.org/agenda/2019/07/wind-power-project-opens-in-kenya/> (Last accessed December 26, 2023)

⁷² <https://www.gogla.org/a-big-win-for-kenya-government-reinstates-vat-exemption-on-renewable-energy-products/> (Last accessed December 26, 2023)



to equipment for solar and wind energy development, including deep cycle batteries for solar storage.⁷³

Framework and policies promoting feed-in-tariffs,⁷⁴ net-metering, and carbon trading further enhance the attractiveness of renewable energy adoption. Innovative financing models, like installment payments integrated with mobile money technology, have made renewable energy more accessible to consumers.⁷⁵ Kenya's strategic investment in diverse renewable energy sources has significantly reduced its reliance on fossil fuels, despite its rapidly growing population.

Drawing a parallel to Nigeria, Kenya shares similar policies and initiatives such as VAT exemptions⁷⁶ and feed-in-tariffs. However, the critical factor distinguishing the development of both sectors is political will. The Federal Government and State Governments in Nigeria must prioritize energy access through renewable energy integration in not just policies but in the implementation of laws and regulations. To promote

affordability, the Government should eliminate import duties imposed on solar batteries, spare parts etc⁷⁷ and clamp down on any of its agency that seeks to frustrate its policy implementation. The Government must also focus on awareness creation, capacity building, and promotion of financial solutions to facilitate renewable energy access. Additionally, fostering research and development through resource mapping is crucial to attract investments in the renewable energy subsector.⁷⁸

Although Nigeria's Electricity Act recognizes net-metering,⁷⁹ given the current state of grid infrastructure, the implementation of net-metering in Nigeria today is bound to face significant challenges. It is crucial for the Government to prioritize grid revitalization and grid regionalization before attempting to adopt net-metering. Furthermore, the Federal Government has indicated the development of a framework for carbon market in Nigeria.⁸⁰ A well-structured framework enabling carbon trading would not only encourage the adoption of renewable energy but also facilitate the transition to cleaner energy across all sectors.

⁷³ <https://www.ace-taf.org/wp-content/uploads/2019/10/Importation-Guidelines-For-Solar-PV-Products-and-Systems-in-Kenya-2019-ACE-TAF.pdf> (Last accessed December 26, 2023)

⁷⁴ <https://repository.uneca.org/bitstream/handle/10855/49979/b12039275.pdf?sequence=1&isAllowed=y> (Last accessed December 26, 2023)

⁷⁵ <https://solarquarter.com/2023/05/26/harnessing-the-suns-potential-key-insights-into-kenyas-promising-solar-market-outlook-for-2023/#:~:text=Innovative%20Financing%20Models%3A%20to%20address,customer%20to%20pay%20in%20installments.> (Last accessed December 26, 2023)

⁷⁶ <https://www.pwc.com/ng/en/assets/pdf/nig-min-finance-issue-new-vat-order.pdf> (Last accessed December 26, 2023)

⁷⁷ <https://businessday.ng/news/article/cppe-urges-fg-to-scrap-import-duty-on-renewable-energy-equipment/> (Last accessed December 26, 2023)

⁷⁸ See section 79(1) of the Energy Act of Kenya

⁷⁹ Section 164(1)(t) of the Electricity Act

⁸⁰ <https://www.thecable.ng/fg-to-develop-carbon-tax-framework-for-reduction-of-greenhouse-gas-emissions> (Last accessed December 26, 2023)

Transition to State Regulation

Following the enactment of the Electricity Act in 2023, the year 2024 is poised for significant developments, giving life to various aspects of the Act. Expected developments would include the introduction of the Integrated National Electricity Policy and Strategic Implementation Plan, along with the establishment of a fiscal framework for renewable energy incentives. At the State level, the Ondo State Government has signaled its intent to prompt the transition of its electricity market from National to State regulation in accordance with the Act, paving the way for similar actions from other States.⁸¹ It is anticipated that 2024 will birth the development of electricity policies and laws by other States, and it will be interesting to see how these States incorporate provisions for the integration of renewable energy sources into their various policy framework which would ultimately influence the size and number of renewable energy investments that would flow into each State.

A key area we would be monitoring going forward is the seamless transfer of liabilities and the incorporation of subsidiary Distribution Companies (DisCos) in accordance with the Act.⁸²

Divestment of Federal Government shares in DisCos

In December 2023, the Federal Government revealed its plan to divest its remaining 40% shares in DisCos, alongside its intentions to restructure the Transmission Company of Nigeria in alignment with section 15 of the

Electricity Act.⁸³ These are key developments which may unfold with the year 2024.

Intervention in Failing Licensees

In relation to liquidity challenges, NERC has already commenced the year 2024 on a stern note, dissolving the Board of Kaduna Electricity Distribution Company PLC (KAEDC) further to an intervention order⁸⁴ issued in line with Section 75 of the Electricity Act 2023. This intervention was prompted by KAEDC's inability to service its accumulating debt worth over N110 billion.

In exercise of its powers, NERC has appointed Dr. Umar Abubakar Hashidu as Administrator to oversee the management of KAEDC alongside five special Non-Executive Directors until the conclusion of the sale of the company to a new core investor. This move sends a clear signal to other entities grappling with liquidity challenges, emphasizing the need to formulate innovative solutions towards promptly addressing their precarious circumstances, as failure to do so will expose them to intervention by the regulator.

Deals on Renewable Energy

Lastly with the conclusion of various deals facilitating the development of renewable energy in Nigeria, 2024 is expected to birth mobilization endeavors aimed at realizing the objectives of these agreements.

⁸¹ See section 230 of the Act

⁸² Ibid

⁸³ <https://www.thecable.ng/fg-will-restructure-tcn-into-two-entities-says-adelabu> (Last accessed December 26, 2023)

⁸⁴ <file:///C:/Users/Eyitayo/Downloads/NERC+Order+on+the+Regulatory+Intervention+in+Kaduna+Electricity+Distribution+PLC.pdf> (Last accessed January 12, 2024)

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