Legal Perspective on Transition to Green Energy Economy; Climate Change Resilience and Sustaibanle Development in Nigeria

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Abstract

Discourse on green energy transition has assumed prominence in the legal and policy lexicon of states across the globe. The Nigerian green energy sector has been regulated by an avalanche of policies that have been largely unsuccessful in establishing a sustainable green energy economy in the country. Previous studies identified economic and environmental importance of transitioning, with little emphasis on the regulatory framework for green energy economy in Nigeria. The study therefore, is designed to examine how an effective regulatory framework can impact on green energy economy, mitigate climate and promote sustained development in Nigeria. The doctrinal method of research is adopted with reliance on primary and secondary data. The national policies on green energy in Nigeria were merely political and administrative rhetoric lacking justiciable impact. The Electricity Act (EA) 2023 provides extensive perspective on green energy transition, with prospects for enhancing climate resilience and changing the energy trajectory in Nigeria. However, realizing these objectives is arduous in the face of poor institutional collaboration, deficit in energy infrastructure and restrictive private sector participation. The integrated approach towards a green energy economy under the EA 2023 can be leveraged upon to address the institutional and infrastructural limitations, as well as promote a robust private sector participation in the transition to a green energy economy in Nigeria. Political commitment, promotion of institutional corroboration and incentives for robust private sector participation are core precursors to a vibrant green energy economy, capable of facilitating climate change resilience and sustained development in Nigeria.

Keywords: Legal perspective, Transition, Green Energy Economy, Sustainable development

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1. Introduction;

Besides environmental concerns, the quest for achieving energy security has influenced the global paradigm shift towards a green energy economy. The use of conventional energy, with adverse impact on global environment, has contributed to the rise in climate change and greenhouse emissions, with attendant socio economic and environmental consequences. These have orchestrated the need for alternative energy sources with emphasis being placed on green energy transition. The prospects for this transition are numerous and include; enhancing climate change mitigation, reduction in greenhouse emissions¹, ensuring energy security² and facilitating overall economic development objectives of nation states.³ For ease of reference, the concept of green and renewable energy shall be used interchangeably in this study.

Nigeria is the largest economy in Africa, with a population of over Two Hundred Million people and unarguably, regarded as a nations with endemic energy poverty. Although blessed with a rich green energy profile, it has remained untapped, owing majorly to the avalanche of unfruitful policies. This has contributing to the entrenchment of energy poverty in Nigeria. In recent times, the drive for an efficient energy system has influenced policy shift towards green energy in Nigeria, Besides being signatory to various international treaties on energy transition, climate change and environmental sustainability⁴, Nigeria has initiated sundry policies aimed at harnessing her enormous energy resources and promoting a green energy economy, with the objective of achieving a stable reliable and secured energy system, that is capable of facilitating a robust economic transformation in the country. The potentials derivable from a green energy economy underscore the imperative of entrenching an effective legal framework on the subject, which until

¹ Inter-governmental panel on climate change Intergovernmental Panel on Climate Change (IPCC), Climate Change 2007: Synthesis Report: An Assessment of the Intergovernmental Panel on Climate Change, available at: http://www.ipcc.ch/ pdf/assessmentreport/ar4/syr/ar4_syr.pdf (accessed on 3oth June 2022)

² Oniemola, International Law on Renewable Energy; The need for a worldwide Treaty, German Yearbook of International law, Vol. 56 (2015)

³ William, Moomaw et al, introduction, in; Ottmar Edenhofer *et al*, (eds.), IPCC Special Report on Renewable Energy Sources and Climate Change Mitigation (2011), 161, 167, 191.

⁴ This includes inter alia, the United Nations Framework Convention on Climate Change (UNFCCC), Kyoto Protocol and the Paris Agreement

recently, was regulated by a compendium of declarations and statements made by various agencies of government, but lacking coercive measures for compliance.

The advent of the Nigerian Electricity Act 3023, with copious provisions on green energy has injected life on the regulatory framework on green energy governance with prospects for changing the energy trajectory in Nigeria. What is debatable among scholars and analysts is the extent of implementation of the Act which unarguably, is the first legislation on green energy in Nigeria with extensive provisions and insightful references on the governance of green energy investment in Nigeria. This unarguably, is a radical departure from the path of political rhetoric that had dominated discourse on green energy transition.

Identifying the importance of a comprehensive legal framework on green energy in Nigeria, the paper appreciates that a just energy transition has linkages with climate resilience and sustainable development. Therefore, measures to create climate change resilience through energy transition can strengthen and promote sustainable development both globally and at the national level. The study encapsulates the international regional and national documents on green energy as well as the policy framework on green energy in Nigeria. The study argues that against the policy framework that preceded the Electricity Act 2023, the establishment of a binding legal framework to regulate green energy in Nigeria has prospects not only for changing the energy landscape in Nigeria, but also mitigating climate change and driving the process for sustainable development The study is divided into six sections. Section two is on the global trends on energy transition while section three deals with the international legal framework on green energy. Section four examines the legal and policy framework on green energy in Nigeria. Section Five is on green energy economy as pathway to sustainable development in Nigeria. Section six forms the concluding part of the study with the necessary recommendations.

2. Global Trends on Green Energy Transition: A historic discourse

International discourse on green economy is traced to the 1970s, when issues relating to energy security, energy market and environmental protection began to find expression in the domain of public International law⁵. Preceded by environmental concerns as indicated in the Stockholm declaration, subsequent conventions like the Rio earth summit⁶ of 1992 provided major mile stones in the debates on renewable energy. A novel component of the Rio declaration is that for the first time in world history, the principle of state sovereignty was de-emphasized with respect to the exploitation of natural resources within territorial borders of states, under circumstances considered adverse to world environment⁷.

The declaration has been opined to be the watershed for a new global partnership on resolving environmental crisis⁸ within the framework of equitable international economic relations and the promotion of international cooperation and sustainable development⁹. The Johannesburg plan of action¹⁰ further placed emphasis on states, regional and International cooperation on green energy¹¹. The group of eight Gleneagles 2005¹² plan and the Beijing

⁵ Oniemola, supra see foot note number 3

⁶ The Earth summit is the root of two international but nonbinding documents that provide emphasis on sustainable development and renewable energy. These instruments are the Rio Declaration and the Agenda 21.

⁷ See principle 2 of the Rio Declaration 1992.

⁸ Agenda 21 which was also adopted by the United Nations Conference on Environment and Development made emphasis that environmental challenges such as acid rain and climate change can be tacled by the adoption of clean and renewable energy with obligation reposed on Governments to be involved in the development of energy sources that are economically and environmentally viable.

⁹ See principle 7of the Declaration which enjoins states to cooperate in conserving, protecting and restoring the eco system with states required under principle 9 to strengthen endogenous capacity building for sustainable development through improved scientific understanding and exchange of scientific and transfer of technological knowledge

¹⁰ Being a follow up to the Rio summit, energy formed a central theme of the conference with obligation on state parties to diversify their energy sources through measures that include renewable energy sources.

¹¹ See Paragraph 20 of the plan of implementation wable energy, and battle climate change.

¹¹ The Declaration is a product of the Beijing International Renewable Energy conference that was held in 2005. The Beijing Declaration focuses on development, implementation, technology transfer and rapid commercialization of energy with emphasis

¹² Held in Scotland in 2005 and attended by states like China, India, Mexico, Brazil and South Africa with focus on reduction in green house gas missions, continuous development of renewable energy, and battle climate change.

declaration¹³ are other international summits where nations of the earth engaged extensively on issues of climate change, green house emission and the radical transition to renewable energy. The Rio plus convention of 2012, with emphasis on green economy and poverty reduction within the context of sustainable development elevated and deepened intellectual discourse on green energy transition as a pathway to economic development and poverty reduction. The United Nations conference on sustainable development in 2015 and the Paris Climate Change Agreement further intensified discussions on green economy and energy security in the policy framework of states and non-states actors alike. Between 2015 till date, the United Nations has initiated positive actions aimed at promoting the shift towards a green energy economy, the most recent being the Glasgow Climate Pact of 2021¹⁴

State actors across the globe are embarking on reforms towards energy transition through legislative and policy measures. In 2010, Germany launched the Energiewende project under which it shut down coal plants and proceeded to invest heavily in wind power¹⁵. The renewable sources of energy have surpassed the conventional coal used by the German Government in 2018. As at 2020, 55. 8% of the power generation in Germany was from the renewable with wind power accounting for 30% of the total revenue generation¹⁶. The European Union green deal¹⁷ was introduced in 2019 with the objective of making Europe climate neutral by 2050. Under this plan, member states of the union plan to phase out fossil fuel through adoption of greener technologies to boost economy and promote cleaner environment.

¹³ The Declaration is a product of the Beijing International Renewable Energy conference that was held in 2005. The Beijing Declaration focuses on development, implementation, technology transfer and rapid commercialization of energy with emphasis on energy efficiency and increased investments in renewable energy as well as promoting national regional and International cooperation for market uptake of energy technologies.

¹⁴ The Pact is based on the recognition of the role of multilateralism in addressing climate change and promoting regional and International cooperation in order to strengthen climate action in the context o sustainable development.

¹⁵ Jürgen-Friedrich Hake, Wolfgang Fischer, et al; "The German Energiewende History and status quo"

https://www.researchgate.net/publication/277937823_The_German_Energiewende____History_and_status_quo; accessed on July 20, 2022.

¹⁶ ibid

¹⁷ ibid

The Canadian dream for green energy attained a positive milestone with the enactment of the Green Energy Act in 2009¹⁸. Preceded by the Electricity Restructuring Act¹⁹, a major policy thrust of the legislation was the development of strategic framework aimed at enhancing investments and sustainable energy supply from non-renewable sources for the Ontario province. By 2011, the power mix directive was issued by the Ontario Government²⁰ with a projected 10,700MW of wind, solar and bio energy by 2018. Further projection to provide a system of energy mix to provide for 42% from nuclear, 46% from renewable and 12% from was enacted and tailored towards energy conservation and the inclusion of clean renewable resources into the electricity system²¹.

As at 2019, the installed capacity on the transmission grid of Ontario was approximately 37,000 megawatts under the Canadian energy mix system with nuclear energy contributing 35%, gas/oil 28%, hydro 23%, wind 12%,bio fuel 1% and solar 1%²². Ontario has an ambitious plan of eliminating fossil fuel from her energy mix. This action has led to the enactment of the legislative and policy Framework with the goal of achieving green energy transition, environmental protection, reduction in the emission of fossil fuel green houses in the province of Ontario²³.

Australia has a remarkable commitment towards renewable energy transition. Preceded by a dominance of 86% fossil fuel in her electricity generation mix as at 2015, recent trends anchored on technological innovation has boosted renewable electricity generation and reduction in the emissions of greenhouse gases²⁴. A

¹⁸ Green Energy Act, 2009.

¹⁹ Electricity Restructuring Act, 2004 was enacted with the objectives of resuscitating the electricity sector, promoting energy conservation and stabilizing the price of electricity in the Ontario province of Canada.

²⁰ Ministry of Energy, Government of Ontario supply mix Directive (2011) at 3, Ontario Power Authority, online ;

http://www.powerauthorithyon.ca/sites/default/files/IPSP%20directive%2011027.pdf

²¹ Green Energy and Green Economy Act, 2009.

²² Reality Outlook<http;//www.ieso.ca/en/Learn/Ontario-Supply-Mix/Ontario-Energy-Capacity>.

²³ Some of these legislations include the Cessation of Coal Use Regulation 2007, Green Energy Act 2009, and the Ending Coal for Cleaner Air Act 2015.

²⁴ Kellie Anne, "The Impact of Electricity Market Design on Access to the Grid and Transmission Planning for Renewable Energy in Australia; Can Overseas Examples provide Guidaince" (2011) 1;47, 2RELP,1@14.

major step in the policy framework of the Australian government was the establishment of the mandatory renewable energy target²⁵. The Australian Government also provided the financial incentive initiative where various financial strategists introduced by the Federal Government to enhance the utilization of the renewable energy technologies. Paramount among these were the Photovoltaic Rebate Program (PVRP) and the Renewable Remote Power Generation Program (REPGP)²⁶.The introduction of the indirect carbon pricing mechanism with the objective of pegging a price on energy with associated greenhouse emission was in furtherance to the Green Energy Transition option(GETO), which was replaced by the Direct Action Policy(DAP) aimed at reducing emissions. The Renewable Energy Demonstration Program (RDP) was another initiative introduced to boost renewable energy and mini grids projects.²⁷

Regional and national governments in Africa have initiated deliberate efforts towards green energy transition through defined legal and policy framework. For instance, the African Renewable Energy Initiative (AREI), imputed as being a commitment of the African Union (AU)²⁸ Commission has targets for capacity on green energy²⁹ by 2020 and 2030. As a follow up to regional commitments, states within Africa have set ambitious targets on the transition to green energy initiative through the introduction of robust legal regimes under well-defined enforcement mechanism to realize the objective of integrating renewable in their respective national energy mix³⁰.

²⁵ The purpose of the target was to facilitate the injection of renewable energy into the Australian electricity mix. This led to the subsequent enactment of legislations like The Renewable Energy (Electricity) Act 2000, The Renewable Energy(Electricity) (Charger) Act 2000 and the renewable energy (Electricity) Registration Legislation 2001as amended; See Michael M, "The New Renewable Energy Legislation" (2001) 20 Australian Minning and Petrleum Law Journal 87.

²⁶ Australian Green house office, Renewable Remote power Generation Program, Online; <www.greenhouse.govt.au/renewable/ rrrpgp/index.html>; Energy South Austrlia, Regional and Remote Areas RRGP; sustinable.energy.sa.gov.au/dhtml/ss/section.php. Cited in Ogechi J, Rnewable Energyas an Alternatie to Fossil Fuel Use; A Legal Framework for Advancing Low Carbon Energy Transituoin in Nigeria

²⁷ ibid

²⁸ Ajibade, foot note 30

²⁹ Ibid

Some states within the African region have followed the green energy transition trend through legislative and policy measures. Kenya for instance, has a green energy agenda as a national priority, with a regulatory regime that shows deep commitment towards green energy aimed at achieving what has been termed as a coordinated effort to diversify energy options and increase electrification from renewable energy sources through well-defined objectives, resources and technologies, energy market reforms and contextual frameworks³¹.

The constitution of Kenya provides for a devolved government structure with a mandate on country government authorities to govern and manage the energy sector at all levels³². The Draft National Energy and Petroleum Policy (Draft NEPP) and energy bill among other legislations are current regulatory framework working in tandem with the Kenyan constitution to impact effectively on the renewable energy sector, facilitate climate change mitigation and reduce carbon emissions in Kenya. The implication for financial instruments as viable and motivational tools for investment in the renewable energy sector, and strategically used as a form of incentive in the sector made the Kenyan Government adopt sundry measures to include Legal Notice 165. By a committed regulatory framework, Kenya's installed capacity of generated electricity as at 2018 includes 47% geothermal, 39% hydropower and 1% wind. This translates to about 923 MW geothermal, 819 MW hydroelectricity and 25.7MW of wind33.

Ghana has an ambitious development plan for green energy under a clear legal and policy framework articulated by relevant agencies of government. The strategic National Energy plan (2006-2020) and the Energy sector strategy and Development plan (ESSDP) form the foundation for the legislative framework on renewables in Ghana. Ghana's Renewable Energy Act (832) demonstrates a positive commitment by government to the green energy transition as the objective of the legislation provides for FITS

³¹ Ajibade, National Strategies to promote Renewable Energy Development; Whither Nigeria? Journal of Sustainable Development and policy, Volume 10.1. 2019

³² Fourth Schedule, 2010 Constitution of Kenya.

³³ Ajibade Supra, note 29

for pricing strategies, renewable energy purchase obligation mandating power producers to place a specific percentage of renewable sourced electricity on the national grid.

Ghana therefore presents an ideal picture of an inclusive and sound legal and policy framework for energy planning that engages relevant stakeholders like citizens, governments, development partners and industry experts. The commitment of the South African state towards the green energy transition is commendable. Working within the framework of the South Africa's National Development plan which stipulates additional electricity capacity from renewable sources, the renewable sources of energy account for 6,925 MW of total 10,000 MW projected in the South African state as at 2018³⁴

3. International Legal Framework on Green Energy Transition

The International legal framework on green energy is an emerging concept³⁵ intertwined with environmental concerns. Therefore, the aspiration for energy transition has influenced the regime of international environmental principles as well as treaty based instruments imposing obligations on state parties on the protection of environment and mitigation of climate change effect on the global community. Some of these principles are gradually metamorphosing into customary international law by reason of their uniformity and consistency in usage³⁶.

The principle of sustainable development and intergenerational equity, based on the philosophy of meeting the economic needs of the present generation without compromising the ability of future generations,³⁷ has given impetus to the green energy transition agenda. Another international principle is the precautionary principle which is premised on the need to prevent harmful environmental acts before their occurrence³⁸. The polluter pays principle places liability on any form of environmental degradation and overexploitation. This

36 ibid

³⁴ ibid

³⁵ Oniemola, supra note 3

³⁷ See the definition on sustainable development as adopted by the World Commission on Environment and Development (WCED)

³⁸ The principle is relevant to the green economy concept as it promotes a healthy environment as compared to conventional sources of energy.

principle advocates that those involved in causing anthropogenic greenhouse emissions and other externalities will bear the consequences in terms of environmental cost. This is relevant to the green energy economy where there is reduced social cost for pollution, resource depletion and ensured sustainability in the use of natural resources³⁹.

The common but differentiated obligation is another principle under international environmental law with underpinning that all states, both developed and developing, have a common but differentiated obligation on environmental protection based on the quantum of degradation effected. This principle takes into consideration the extent of development by the Northern and southern nations and the need for the southern states in the global divide to maintain their pace of economic development in a way and manner that is compatible with the protection of environment.

There are also non-binding legal instruments on green energy at the International plane. According to Oniemola⁴⁰, these nonbinding international instruments provide an important motivation and moral persuasion as incentives for states in the promotion of renewable energy, bearing in mind their international obligations under the various international principles on environment⁴¹. The Rio earth summit for instance, contained two important but non-binding documents that have relevance on green energy to wit; the Rio declaration on environment and development as well as the agenda 21. They contain far reaching principles that serve as regulatory guide to state parties on climate change and green energy⁴².

The Johannesburg plan of action in 2002 which had as its central theme issues on energy access, subsidies and integration of renewable in the energy mix⁴³. Other declarations and conventions on climate change, greenhouse emissions, green energy and sustainable development include the group of eight (G8) Gleneagles

41 Ibid

³⁹ Oniemola, supra note 3

⁴⁰ Ibid

⁴² The Report of the United Nations conference on Environment and Development captioned Agenda 21; UN Doc. A/CONF.151/26 (1992); Also available at; http://sustainabledevelopment.un.org/content/documents/Agenda21.

⁴³ Oniemola, supra note 3

2005 plan of action⁴⁴ and the Beijing declaration are all non-binding international instruments that support to green energy economy⁴⁵.

The United Nations convention on the law of the sea (UNCLOS) provides for the right of sovereign states to explore their natural resources within their exclusive economic zones, including right to resources like off shore wind thermal and other renewables within her maritime space and installation of offshore turbines for development⁴⁶. The United Nations Framework on climate change and the Kyoto protocol emphasizes on the use of renewables as a measure to mitigate climate change effect through legal measures adopted by states⁴⁷.

The Kyoto protocol to the UNCFCC sets limits on greenhouse emissions by developed countries with emphasis on research and promotion, development and increased use of renewable forms of energy. Under the convention, state parties are obligated to cooperate in the strategic transfer of technology, scientific and technical research, development, education and training.⁴⁸The convention on access to environmental information, public participation in decisions making and access to justice in environmental matters⁴⁹, the World Trade Organization (WTO) agreements and other international investments treaties provide recommendations and policy framework that incentivize green energy as a viable source for ensuring energy security, economic development and environmental protection.

4. Legal and Policy Framework Relevant to Green Energy in Nigeria

Even though Nigeria is a party to some of the International treaties on green energy and environmental protection, the impact of these treaties at the national level is debatable. Worthy of note is the fact that for decades, the green energy sector in Nigeria was regulated by a cluster of policies, statements and directives made by

⁴⁴ Ibid

⁴⁵ ibid

⁴⁶ Art 55 and 57 of the Convention.

⁴⁷ United Nations Framework Convention on Climate Change, 1992, UNTS 1771, 107 (UNFCCC)

⁴⁸ Article 4 of the Convention.

⁴⁹ Also known as Arthus Convention, 25June, 1998, UNTS 2161,447

various agencies and tiers of government across board, which merely reflected wishful aspirations on the need for energy transition, without significant impact. However, the enactment of the Electricity Act 2023, provides a framework for enforceable policies intended to serve as a road map in the transition to a green energy economy. Therefore, the study shall be dwelling on the legal and policy framework on green energy in Nigeria by examining the various policies on the subject as well as examining extensively on the relevant provisions on green energy under the Electricity Act 2023.

4.1. The National Energy Policy of 2003-2005

Realizing the importance of the energy sector to the economic prosperity of Nigeria, the National Energy policy of 2003 was initiated by the Energy commission of Nigeria. The objective of the policy is to put in place a coordinated and coherent energy framework for harnessing variety of energy in having optimal energy mix, while ensuring sustainable and environmental friendly energy sources within the country. The first draft National Energy policy earlier developed in 1993 was later reviewed by the Inter ministerial committee in 1996. Contingent on the need for an integrated policy that would ensure effective utilization of the energy resources in Nigeria led to the establishment of the National Energy policy in 2003, with the objectives of ensuring the enforcement of relevant previsions relating to energy sources and utilization; manpower development; financing of energy projects on energy data and the planning monitoring and implementation of energy projects⁵⁰. However, agitations for cleaner and reliable sources of energy in Nigeria led to the development of a three tier time frame plan of 20 years tagged the Renewable Energy master plan (REMP) in 2005. The objective of REMP was aimed towards the achievement of a cleaner, affordable and reliable energy supply premised upon an established mechanism to allow private sector participation in the

⁵⁰ M.T Ladan " policy, Legislative and Regulatory challenges in promoting Efficient and Renewable Energy for Sustainable Development and climate change mitigation in Nigeria" paper delivered at the 3rd symposium and 2nd scientific onference of ASELAU, Nairobi, March2009.

electricity sector. In 2005, a bill of the National Assembly was passed into law liberalizing the electricity sector.

4.2. Electric Power Sector Reforms Act 2005

The Act was the regulatory legislation in the electricity industry that introduced reforms of the Nigeria's electricity supply industry between 2006 and 2023⁵¹. Intended to ensure seamless transfer of the assets and liabilities of the National Electric Power Authority, The Act provided for market liberalization and private sector participation in the power sector. The establishment of the Nigerian Electricity Regulatory Commission (NERC) is a major innovation in the regime on electricity as compared to preceding policies regulating the sector⁵². In furtherance to her mandate as provided under the Act, NERC proceeded to issue a regulatory framework on mini-grid system and feed in tariff system⁵³

The Nigeria Mini-grid regulation is a system where power is generated from an independent source and supplied to more than one customer and can be operated in isolation or connected to a distribution licensees' network. The term applies to any isolated or interconnected mini- grid in the quantum between 0KW to 1MW of

⁵¹ The EPSRA was signed into law in March 2004

⁵² The NERC is a body corporate with the responsibility of ensuring constant and reliable power supply essential for the growth of the Nigerian economy, to encourage private sector participation in the Nigerian electricity industry and ensuring that proper guidelines are created to foster competition by market players in the electricity supply industry; other statutory functions of NERC include the prevention of market abuse, to ensure the development of fair pricing rules etc. Another significant component of the Act is the establishment of the Rural Electrification Agency (REA) with the mandate of promoting, supporting, and providing rural electrification fund as well as the encouragement of public and private participation in the actualization of increased access to electricity for rural dwellers in Nigeria

⁵³ 'The NERC mini-Grid Regulation and the Nigerian mini-Grid Market Opportunity for Investment",

online <http://www.mondaq.com/Nigeria/X/781960/Renewables/The+Nerc+minigrid+Regulati ons+And+The+Nigerian+MiniGrid+Oppurtunity+For+Investment>; The world bank defines mini grid as small privately owned and operated systems with a generation of up to 10MW capacities and a network which distributes power to several customers⁵³. It has also been defined as "A stand- alone power system or an integrated local generation local generation and distribution system with installed capacity below 1MW, capable of serving numerous end-users independently of national ". A makor advantage in the mini- grid system is that it can provide constant and affordable electricity in remote places where the population density is too low to economically justify connecting that community to the national grid. and represents a viable and cost-effective solution for the electrification of Nigerian communities through a decentralized energy system

generation capacity⁵⁴ The mini-Grid system has been structured into isolated mini-grid and interconnected mini-grid systems⁵⁵. While the former is utilized to autonomously provide electricity in area where there is absence of national grids, the latter is used in situations where they are existing grids like national grids and have been developed such that interconnection is possible and convenient.

The Feed-in- Tariff (FITs) has been defined by Ajibade⁵⁶ as " policy instruments that attract investments in the Renewable energy for long term guaranteed purchase agreement to power producers sell their electricity to the national grid". The FITs have been described as the most utilized mechanism for electricity production⁵⁷ across transitional and developed economies which have proved to be effective in a developing economy like Kenya⁵⁸. The Nigerian feed in tariff regulation is intended to achieve national targets in the quest for available electricity through the deployment of electricity from sources like renewable to meet the energy needs of the nation. The use of FITs is also used by states to reduce carbon emissions and mitigate climate change in addition to the aspiration of meeting national targets in the generation of electricity from renewable energy sources, encourage private sector participation in renewable power generation, increase access to electricity, provision of market for generated energy as well allowing competition in the energy market in Nigeria⁵⁹.

4.3. Renewable Energy Policy 2006

The Renewable energy policy was developed by the Federal Government in 2006 as a policy guideline on renewable energy. Its enactment was premised on the discovery that a decentralized renewable energy will be cost effective option for the Nigerian power sector. By the provisions of this policy, NERC is mandated to develop simpler licensing techniques for investments in renewable, develop a framework for power purchase agreement to ensure access

- ⁵⁸ ibid
- 59 ibid

⁵⁴ The NERC Rewgulation for Mini-Grids 2006.

⁵⁵ Ibid.

⁵⁶ Ajibade, supra note 29

⁵⁷ Ibid ⁵⁸ ibid

to grid based renewable electricity, lower license charges on the development and maintenance of equipment and installations of renewable electricity; to ensure the proper conduct of the requisite environmental impact assessment before the award of license and to update the president and national assembly on the status of the renewable sector in quarterly basis. The Rural electrification agency (REA) and Renewal Electricity Trust Fund were established with the sole aim of financing renewable electricity was also provide for under this policy framework.

4.4. National Energy Master plan

The National Energy master plan contains holistic recommendations on the energy sector in Nigeria including renewable or green energy. The document took into consideration the constraints in the renewable sector and recommended inter alia, for an intensified public awareness on renewables, significant investments in Research and development, building of indigenous human and manufacturing capacities, as well as intensification of the on gong economic reforms; providing enabling environment through financial and fiscal incentives, legal and regulatory framework for attracting FDI and indigenous participation in the establishment and operation of renewable energy plants⁶⁰.

4.5. National Renewable Energy and Energy Efficiency Policy (NREEEP) 20015⁶¹

The policy is a detailed policy framework that provides strategic guidelines tailored towards addressing the constraints on renewable energy sector and bringing the sector at par with other forms of energy in Nigeria. The policy also developed implementation strategies in the multifaceted energy sector aimed at

Other objectives include; establishing strategic factories for local manufacturing of major renewable energy equipment and spare parts; developing codes and standards for renewable energy systems components; establishment of renewable energy fund and the establishment of renewable energy agency as a regulatory body for renewable energy. Other recommendations in the national master plan on environment include reviewing, updating and harmonizing existing energy related guidelines and standards for environmental protection; ensuring 10% reduction in energy related emissions by 2020 as well as funding research and development on energy related environmental problems.

⁶¹ Approved by the Federal Executive Council of Nigeria for the Nigerian Electricity sector in 2015

addressing diverse issues in the energy sector such as renewable energy supply and utilization, renewable energy pricing and financing, legislation, regulation and standards; energy efficiency etc., The specific objectives of the policy include: setting out a framework to address the Nigerian electricity challenge: increase access to modern and clean energy sources: improved energy security and climate objectives. Other objective of the policy are aimed at meeting the benchmark of Nigeria's electricity generated from renewable energy sources as stipulated by the ECOWAS regional policy target for renewable electricity generation for 2020 and beyond, set national targets for the achievement of electricity from renewable energy and facilitate the establishment of a framework for sustainable financing of renewable energy projects and programs in Nigeria.

4.6. Nigerian Electricity Act 2023

The legislation repealed the Electricity and Power Sector Reforms Act of 2005. It introduced full liberalization of the Nigerian electricity sector by allowing for participation of both federal sub national and private entities to be actively involved in the generation transmission and distribution of electricity in Nigeria. Under the Act, states can issue licenses to private entities tom operate mini grids and power plants within their jurisdictions. Interestingly, the Act prioritizes the development and utilization of renewable energy⁶² by allowing for the integration of renewable energy technologies into the existing grid system in Nigeria. The Act provides for electricity generation licensees to as a matter of obligation, meet renewable energy targets in the way and manner as may be prescribed by the NERC

In addition to the foregoing, the Act has further revolutionized the governance of green energy investment in Nigeria by introducing market mechanism that would serve as incentives to potential investors in the green energy market. These incentives include the feed in tariffs, tax incentives; establishment of guidelines that would create some degree of certainty in the licensing, monitoring and supervision of market participants in the sector that would prevent anti competition and allow fair investment opportunities for all potential investors in the market.

5. Towards a Green Energy Economy: Path to Sustainable Development in Nigeria

As indicated in the introductory section of this study, there is a strong linkage between a just and effective energy transition, climate change resilience and sustainable development in Nigeria. Statistics indicate that greenhouse emission arising from the use of fossil fuels account for 65 percent of greenhouse emissions in Nigeria. This makes Nigeria to be at cross roads between meeting her immediate energy needs and the need for promoting an environment for climate change resilience, which may undermine national economic development in the future if left unchecked. From this premise, it is obvious that the shift towards the green energy economy is inevitable.

The path to a green energy transition in Nigeria is impaired by numerous challenges. Primarily, the possibility of providing green energy is capital intensive and technically challenging with demand for a robust infrastructural base worth billions of dollars, seems a difficult task for Nigerians. The erstwhile monopolistic grip of the energy sector by the state which made private sector investment cumbersome is another clog in the green energy dream. The liberalization of the energy sector under the ESPRA seemed inchoate with government monopoly being very visible in the transmission segment of the electricity value chain in Nigeria.

Other constraints like administrative bottlenecks, absence of sound macroeconomic policies on renewable energy that would provide for a robust economic framework aimed at addressing diverse issues like energy pricing and financing, absence of incentives for investments in the renewable energy sector, challenges in technology transfers and the manifest absence of an effective regime on green energy. These have been, and continue to constitute a clog on the quest for a green energy economy in Nigeria. Undoubtedly, these challenges could not be addressed through administrative policies as observed over time in Nigeria.

The imperatives for a legislative framework on green energy governance in Nigeria stand out as one of the hallmarks for the enactment of the Electricity Act 2023. The law provides an ideal legal and institutional framework for energy governance, with emphasis on the green energy that will leverage on the anticipated gains of the privatization phase of the electricity sector in Nigeria⁶³. The Act has decentralized the energy architecture in the country and allows for state governments and private sector engagement in the generation and transmission of energy, with emphasis on investment in the green energy economy. When eventually implemented. sector would have the green energy been revolutionized with prospects for huge investment in the sector and attainment of energy security

This regime has taken into considerations the extensive recommendations as contained in various policy frameworks initiated overtime time and relevant to green energy in Nigeria. It has a framework for simplified licensing procedures, an effective regulatory system for compliance and dispute resolutions, quality and standards maintenance, environmental protection as well as providing a robust economic framework with key provisions on access to electricity through independent small and medium scale grid based electricity system⁶⁴. This is intended to enhance energy diversification, ensure private sector participation and competition in the renewable energy sector, as well as providing the needed incentives to local and foreign investors.

Unarguably, the Electricity Act 2023 has revolutionized the energy governance architecture in Nigeria. Barring all constraints, the regime promises to provide the needed regulatory platform that will facilitate the seamless transition to a green energy economy in the most populated black nation on the face of the earth. The green energy economy stands out as a beautiful bride on the energy landscape of Nigeria waiting for the effective implementation of the

⁶³ Premium Times of July 21, 2022

⁴ The provision of such mini-grid systems should remove the restrictions placed on the quantum of energy supplied under the mini-grid regulation as contained in the NERC Mini-Grid Regulation 2006. This will allow for greater energy investments under the Mini-grid system as well as enhancing greater access to rural dwellers in Nigeria where access to the national grid is often defeated by reason of distance to topography and other prevailing inhibitions.

Energy Act 2023 to bring forth all the potentials buried in her. When this eventually happens, it would have far reaching economic, social and environmental benefits with implication for sustainable development in Nigeria.

6. Conclusion

The study has undertaken a detailed historic and legal analysis of the concept of green energy economy within the context of international law, economic development and environmental protection. In the light of international perception on the imperatives for energy transition and environmental concerns, the study examined both International and regional instruments on green energy economy as well as the obligations and commitments of state parties.

Also examined are the basic international environmental principles related to the concept of green energy economy within the context of sustainable development goals. The legal and policy measures put in place by states at the domestic plane have also been critically examined. It is on this premise that the study found that the ambitious claim by the Nigerian state towards green energy transition and environmental protection has been given a boost by the enactment of the Electricity Act 2023.

The legislation is the first national binding document that provides an extensive legal and economic framework on green energy in Nigeria. The study however, in appreciation of the imperatives of a sound economic framework that provides the requisite market dynamics, recommends the strict implementation of market liberalization as the policy thrust for energy governance trade and investment in Nigeria. Furthermore, the need for institutional collaboration by different governmental agencies like the ministries of power, environment, mining, petroleum as well as the justice sector must collaborate to ensure the implementation of the legal framework on green energy in Nigeria. The liberalization of the electricity sector justifies the need for the replication of such corroboration at the sub nationals. Moreover, strategic partnership between states and non-state entities in the green energy investment is critical to energy governance, with emphasis on green energy infrastructure, green energy technology and seamless operation of market mechanism to promote green energy trade and investment in Nigeria.

Following the various initiatives as encapsulated in the Electricity Act 2023, the establishment of an independent ministry on renewables, vested with the responsibility of overseeing affairs on green energy in Nigeria is instructive. Furthermore, the inclusion of market incentives to facilitate private sector participation and mitigate the capital and technological challenges associated with green energy investment is recommended. Ultimately, the establishment of a legal framework that addresses the administrative, regulatory, environmental and economic challenges associated with the transition to green energy economy has prospects for changing the energy trajectory, with implication for promoting climate resilience and sustainable development in Nigeria.