

THE RIGHT TO SELF-GENERATE ELECTRICITY AS A CONSUMER IN NIGERIA: OPTIONS IN EMERGING RENEWABLE ENERGY♦♦

Abstract

The electricity supply in Nigeria has not been consistent despite the huge resources that are available for power generation. This has hindered the comfort of not only household consumers but also commercial consumers. The major supply of electricity in Nigeria comes from the grid and as such only those connected to this can enjoy the supply. Essentially, not all persons are connected to the grid and those connected do not enjoy constant and consistent supply of electricity. This paper therefore sets out to analyse the available options for security of supply of electricity in the midst of numerous sources of energy and ineffective supply of electricity. The use of renewable energy as an alternative means is explored while an overview of the various legal and institutional frameworks is carried out for the purpose of self-generation. This paper observes that emphasis is not laid on self-generation of electricity for individuals and the applicable law seems complex for achieving same. It is therefore against this backdrop that this paper suggests among others that efforts should be put in place to create a clear structure that would encourage individuals to generate electricity not only through renewable energy but also through other available resources.

1.0 Introduction

Nigeria is the sixth largest oil producing country in the world.¹ In spite of this, it is highly energy deficient in terms of its energy consumption needs.² Nigeria has been able to trace the collapse of her industrial sector, and small and medium scale businesses and economic downturn to the inadequate and erratic state of the country's electricity market.³ Energy is an essential ingredient for economic growth, running existing industries, establishing new ones, rapid urbanization and achieving a higher standard of living.⁴

Nigeria is richly blessed with reasonably high qualities of various energy resources, such as crude oil, tar sands, natural gas and coal yet about 90% of the country's economy is

♦♦ Olukayode O. Aguda, B.A (Ibadan), B.L, LL.B (Unilag), LL.M (Swansea), PhD (Ibadan), Lecturer, Department of Private and Business Law, Faculty of Law, Ajayi Crowther University, Oyo. Email address: kayus2013@gmail.com; o.aguda@acu.edu.ng

¹ Qua Petroleum Refinery Project (2015). Facts about Nigeria, (www.quarefinery.com/facts-about-nigeria.html).

² Tallapragada PVSN, (2009). "Nigeria's Electricity Sector: Electricity and Gas Pricing Barriers", International Association for Energy Economics, First Quarter, pp. 29 – 34.

³ T. K. Olugbenga, A. A. Jumah and D. A. Phillips (2013). "The Current and Future Challenges of Electricity Market in Nigeria in the face of Deregulation Process", *African Journal of Engineering Research*, Vol. 1(2), pp.33-39, March.

⁴ Mohamed Shaabana, J.O. Petinrina, (2014), Renewable energy potentials in Nigeria: Meeting rural energy needs, *Renewable and Sustainable Energy Reviews*, DOI:10.1016/j.rser.2013.08.078, accessed from <https://www.researchgate.net/publication/258201667> .

dependent on crude oil.⁵ Nigeria is equally blessed with renewable energy (RE) resources like wind, solar, biomass and hydropower.⁶

Nigeria is also endowed with myriads of renewable energy resources which have been advocated by many to be used in the power sector. In a study carried out in twelve (12) states and four (4) river basins, over 278 unexploited small hydropower (SHP) sites with total potentials of 734.3 MW were identified.⁷ However, even without the use of these renewable energy sources, the power sector of Nigeria still suffers miserably. Notably, it has been estimated that Nigeria's fossil fuels will be depleted to an uneconomical point by the year 2050.⁸

Nigeria is a country with an estimated population of 170 Million people out of which only about 40% of the population has access to electricity supply.⁹ There is limited extension of the grid to most communities, and it would take decades to reach most areas in Nigeria. Even the available electricity capacity is insufficient to meet existing power needs of the less than 40% who have access to the national grid.

Part of the 60% includes those in areas far-flung from the national grid i.e. in rural areas. This has become a matter of necessity for exploitation and establishment of other energy resources to complement and supplement the limited power generation and supply available in Nigeria. Consequently, there is need to put rural communities on a grid of their own with renewable energy as the source. This will no doubt enhance Nigeria's electricity bottom line.

2.0 Electricity in Nigeria: Brief Historical Background

Various sources have suggested that electricity was first produced in Lagos, Nigeria in 1896 while the first generating power plant was established in Lagos in 1898.¹⁰ As early as 1896 even prior to the 1914 amalgamation of the Northern and Southern Protectorates, there was

⁵ O.I. Okoro, E. Chikuni, P. Govender, (2007), "Prospects of wind energy in Nigeria." Proceedings of the international conference on the domestic use of energy; 2007.

⁶ M. Adaramola, O. Oyewola, (2011), "On Wind Speed Pattern and Energy Potential in Nigeria". Energy Policy 39(5):2501-6.

⁷ U. O. Aliyu and S. B. Elegba, "Prospects for small hydropower development for rural application in Nigeria," Nig.J of Ren. Energy, vol. 1, pp. 74-86, 1990.

⁸ C. Augustine, M. Nnabuchi, (2009), "Relationship between Global Solar Radiation and Sunshine Hours for Calabar, Port Harcourt and Enugu, Nigeria". *International Journal of Physical Sciences* 2009; 4(4):182-8.

⁹ Retrieved from "National Renewable Energy And Energy Efficiency Policy (NREEEP) Approved By FEC For The Electricity Sector" dated 4/20/2015

¹⁰ O.M. Erhun, D. Johnson, (2018), "A Legal Framework for Sustainable Electrical Energy Industry in Nigeria", <https://doi.org/10.5539/eer.v8n2p45> accessed from https://www.researchgate.net/publication/329216017_A_Legal_Framework_for_Sustainable_Electrical_Energy_Industry_in_Nigeria on 18 September, 2020.

government involvement in the power sector of what would later be known as Nigeria. History has it that the first-ever diesel firing plant in Nigeria, with capacity to produce 20 MW of electricity, was installed in Ijora,¹¹ Lagos. The Nigerian government Electricity Undertaking was established in 1946 under the jurisdiction of the Public Works Department, to take over the responsibility of electricity supply in Lagos. It came in the form of individual power undertakings in various towns while other bodies had licenses to produce electricity in some locations in Nigeria.¹² By 1951, Electric Corporation of Nigeria (ECN) was established as a statutory public corporation to take over power generation projects from native authorities. ECN became responsible mainly for the distribution and sale of electricity.

In 1962, the Niger Dams Authority (NDA) was established as an autonomous entity charged with the responsibility for the provision of hydropower and to construct and maintain dams and other works on the River Niger and elsewhere and to generate electricity by means of water power, improving navigation and irrigation among other things. It was also in charge of electricity stations and transmission lines. In addition, the agency had the responsibility of exploring, building, and managing hydroelectric dams and other sources of power generation (gas, oil, and coal) in the country.

The Niger Dams Authority succeeded in raising the country's power generation to 3,000 MW with equivalent transmission grid between 1961 and 1972. By 1972, both the ECN and NDA were merged to form the National Electric Power Authority (NEPA) in order to effectively utilise human, financial and other resources with a view to improving the electric industry of the country.¹³ This brought all power sector value chain activities involving generation, transmission, distribution, and marketing under the purview of this single entity. The strategic importance of the sector, economies of scale, and effective coordination and standardization were some of the rationale for the bundling policy.

NEPA quickly became the sole provider of electricity to the exclusion of all others.¹⁴ NEPA was given the statutory mandate of developing and maintaining an efficient coordinate and check economical system of electricity supply throughout the country.¹⁵ Inefficiencies in

¹¹Eric Kehinde Ogunleye, Political economy of Nigerian power sector reform, WIDER Working Paper 2016/9.

¹² Such as Native Authorities (who carried out their operations through the Public Works Department) and the Nigerian Electricity Supply Company.

¹³ O.M. Erhun, D. Johnson, (2018), "A Legal Framework for Sustainable Electrical Energy Industry in Nigeria", <https://doi.org/10.5539/eer.v8n2p45> accessed from https://www.researchgate.net/publication/329216017_A_Legal_Framework_for_Sustainable_Electrical_Energy_Industry_in_Nigeria on 18 September, 2020.

¹⁴ Section 1(1) of the National Electric Power Authority (NEPA) 1990 Act Cap. 256, LFN.

¹⁵ Section 1(1) of the National Electric Power Authority (NEPA) 1990 Act Cap. 256, LFN.

operations and financial performance of NEPA led to the amendment of the Electricity and NEPA Acts by the FGN in 1998 to remove the monopoly held by NEPA and encouraged the participation of the private sector.¹⁶ It was later privatised in order to ensure that the electric situation of the country would be adequate to meet the needs of the citizens.¹⁷

A reform agenda was specified in the National Electric Power Policy in 2001, while the legal basis for the unbundling of NEPA and formulation of successor companies (including privatization) was provided in the Electric Power Sector Reform Act (EPSRA).¹⁸ NEPA was restructured to form the Power Holding Company of Nigeria (PHCN) in 2007 which stopped existing after September 30th 2013.¹⁹ The generation companies are now called the GENCOs, while the distribution companies are called the DISCOs,²⁰ and the FGN operates the Transmission Company of Nigeria (TCN).²¹ The generators and transmission lines are interconnected in the national grid system which is controlled at the National Control Centre, Oshogbo.

The FGN took the next step in setting up the Nigerian Electricity Regulatory Commission (NERC) and the Nigerian Bulk Electricity Trading Plc. (NBET).²² The Operators of the Nigerian Electricity Market (ONEM)²³ was established with the responsibility of the wholesale market and settlement operator. The Electric Power Sector Reform Act was put in place as part of the measures towards achieving this goal.

3.0 Shortfalls of Current Energy Source

Nigeria's over-dependence on one source of energy has always proved to be inadequate. There have been various energy sector reforms. The energy sector consists of various industries such as the petroleum and gas industries.

The petroleum industry reforms brought into existence the Nigeria National Petroleum Corporation (NNPC) in 1975, the Petroleum Products Pricing Regulatory Authority (PPPRA)

¹⁶ www.placng.org/new/laws/E7.pdf

¹⁷ Chudi Nelson, "Road Map to the Reform of the Electric Power Sector."

¹⁸ National Mirror (2014) Electricity: still in the dark hour. www.nationalmirroronline.net/new/electricity-still-in-the-dark-hour. Accessed 29 Dec 2014.

¹⁹ www.nigeriaelectricityprivatisation.com/.

²⁰ The TCN is divided into two divisions; the systems operator division and a market operator division.

²¹ KPMG (2013) A guide to the Nigerian power sector. www.kpmg.com/Africa/en/IssuesAndInsights/Articles-Publications/Documents/Guide%20to%20the%20Nigerian%20Power%20Sector.pdf; accessed 30 Dec 2014.

²² The NBET was set-up, although not fully effective, but was intended to come into full operation when the Nigerian electricity market becomes completely privatized and then the power purchase agreements will be signed and passed on to the DISCOs (The Presidency 2013).

²³ This responsibility extends to the management of the metering system of the TCN, DISCOs and the GENCOs.

in the early 2000s, the Nigerian Local Content Development Initiative and Greenfield Refinery Projects. Apart from these, no other significant reform measures have taken place.²⁴ These initiatives as good as they were, have not been able to address fundamental issues in the industry.

Among the efforts is the Gas Master Plan, aimed at providing a framework that would ensure the realisation of maximum value from the country's gas resources. It is intended to leverage on the multiplier effect of gas in the domestic economy and optimise the nation's share of the high value export market.²⁵ Specifically, the Plan was targeted at addressing impediments to the development of the domestic gas sector, engender the monetisation of gas, reduce gas flaring and guarantee long-term gas security for Nigeria. The plan is also expected to facilitate timely and cost- effective gas production to meet global and domestic demands. The plan was hinged on three critical elements, namely Gas pricing policy (the policy); domestic gas supply regulations (the regulation); and gas infrastructure blueprint (the blueprint).

The capacity of Nigeria to diversify her energy needs to renewable energy sources is tremendous. Global wind and solar power capacity shows improvement for every year which sometimes doubles the previous year²⁶ and indicates great potential for renewable energy sources globally.

4.0 Prospect of Renewable Energy Resources

Renewable energy sources are sources that can be replenished or produced quickly through natural processes. The rate at which they are used does not affect their availability in future and as such cannot be exhausted while Non-Renewable energy resources are resources that cannot be produced, generated, grown or used on a scale that can sustain its consumption rate because they will not be available for future need once they are depleted.²⁷ Examples of renewable energy are wind energy, solar energy, hydro power, etc while examples of non-renewable energy are fossil fuels such as gas, petroleum, etc.

²⁴ S. Chukwueyem et al, (2015), Analysis of Energy Market Conditions in Nigeria, Central Bank Of Nigeria Occasional paper no. 55.

²⁵ S. Chukwueyem et al, (2015), Analysis of Energy Market Conditions in Nigeria, Central Bank Of Nigeria Occasional paper no. 55.

²⁶ EcoWatch (2015): "5 Countries Leading the Way Toward 100% Renewable Energy" accessed at <http://ecowatch.com/2015/01/09/countries-leadingway-renewable-energy/>

²⁷ Paul Mann, Lisa Gahagan, and Mark B. Gordon, Tectonic Setting of The World's Giant Oil and Gas Field, In Michel T. Halbouty (Ed) Giant Oil And Gas Field Of The Decade, 1990-1999.

Renewable energy is, undoubtedly, a promising solution to Nigeria's energy challenges. Apart from being sustainable and inexhaustible, it can be established in smaller units, thus, suitable for rural community management and ownership, and could be pivotal to economic development.

Renewable energy promotes system decentralisation and local solutions that are not necessarily dependent on the national network, thus, enhancing the flexibility of the system and provides economic benefits to small isolated populations.

Statistics have shown that over 65.0 per cent of Nigerians live in the rural areas.²⁸ Thus, unless deliberate efforts are made, these Nigerians may be excluded from energy supply, as the current grid expansion takes a long time to get to the rural areas.

Globally, energy projections stipulate that between 2002 and 2025, global energy needs may rise by over 34%, with that of developing nations doubling this percentage.²⁹ A robust solution must be found to end the nation's energy crises. This viewpoint compares the energy potential of Nigeria with the challenges faced. Nigeria receives a huge amount of solar radiation, has abundant wind energy resources, and large deposits of fossil fuel, as well as enormous hydro-power resources from Niger and Benue Rivers. However, of these about 80% of hydro-power remains untapped, the total 5.5KW-hr/m²/day of solar radiation is not utilized and wind energy resources remain unexploited.³⁰

Energy has been described as a force multiplier that enhances man's ability to convert raw materials into useful products, providing varieties of useful services.³¹ It is of different kinds and forms with broad division under the renewable and non-renewable energy sources.³² An international projection reported that the energy dependence of the world is expected to rise by over 34% between 2002 and 2025, while that of developing nations only will double the present demand.³³

²⁸ A. Adenikinju, (2008). "Efficiency of the Energy Sector and its Impact on the Competitiveness of the Nigerian Economy", Proceedings of International Association of Energy Economics, pp. 27 - 31.

²⁹ O.O. Ajayi, K.O. Ajanaku, (2009), Nigeria's Energy Challenge and Power Development: The Way Forward, Energy & Environment Vol. 20 No. 3, United Kingdom. Multi-Science Publishing Co. Ltd.

³⁰ O.O. Ajayi, K.O. Ajanaku, (2009), Nigeria's Energy Challenge and Power Development: The Way Forward, Energy & Environment Vol. 20 No. 3, United Kingdom. Multi-Science Publishing Co. Ltd.

³¹ H.A Sorensen, Energy conversion systems, Wiley, USA, 1983, 485-491.

³² Hermann, S. A solar manifesto, James and James LTD, London, 2001, 1-22.

³³ U.S department of Energy. 2005. Energy information administration, international energy outlook 2005. Available on the web [[http://www.eia.doe.gov/oiaf/pdf/0484\(2005\).pdf](http://www.eia.doe.gov/oiaf/pdf/0484(2005).pdf)]

The sole dependence on hydro-power sources for energy supply has also not been adequate, as this is controlled by factors such as the seasonality in the levels of water at the different hydro-power stations. According to a recent report, only 20% of the nation's hydro-power potential is tapped for use, and the amount of solar radiation in the country is about 5.5KW-hr/m²-day.³⁴

This is an indication that the renewable energy used in the country is split essentially between hydroelectricity and traditional fuel wood.³⁵ At wind speed of 3.5m/s or greater, wind powered system can provide energy at cost cheaper than photovoltaic, diesel³⁶ and grid extension,³⁷ therefore making Sokoto and Borno state ideal location for wind power system.³⁸

In other words, about 37% only of the national land area is needed to be utilized³⁹ in order to annually collect from the sun an amount of energy equal to the nation's conventional energy reserve.⁴⁰ Their outcome is that Nigeria has potential for wind power generation, with the potential rank in the order of north, central, south-east, south-south and south-west respectively.⁴¹ Offshore areas of Lagos, Ondo, Delta, Rivers, Bayelsa and AkwaIbom States also have potentials for harvesting strong wind energy throughout the year.⁴²

In 2006, the Renewable Energy Master Plan (REMP) for Nigeria was formulated as part of the African strategy on emission reduction,⁴³ to address the challenges of moving towards clean, reliable, secured and competitive energy supply.⁴⁴ The objectives of the REMP were⁴⁵

³⁴ Energy Commission of Nigeria and United Nations Development Programme (ECN&UNDP). 2005. Renewable energy master plan: final draft report available on [<http://www.icednigeria.org/REMP%20Final%20Report.pdf>, 17 June 2007]

³⁵ Akinbani, 2001, Energy supply mix in Nigeria.

³⁶ Okara Ogbonnaya .I, E.Chikuni and P. Govender. —Prospects of wind energy in Nigeria, University of Nigeria. Accessed from http://active.Cput.ac.za/energy/web/due/papers/2007/0230_Okoro.Pdf

³⁷ Ngala, G.M.B. Alkali and M.A Aji. —Viability of Wind Energy as a power generation sources in Maiduguri, Borno state, Nigeria. Renewable Energy 32 (2007) 2242-2246

³⁸ E.E. Anyanwu and C.J. Iwuagwu, —wind characteristics and Energy potentials for Owerri, Nigerian renewable energy 6.2 (1995) 125-128.

³⁹ C.O. Osueke, C.A.K., Ezugwu, (2011), Study of Nigeria Energy Resources and Its Consumption, International Journal of Scientific & Engineering Research, Volume 2, Issue 12, December-2011, 1 ISSN 2229-5518.

⁴⁰ Chendo, 2002, Renewable energy resources in Nigeria.

⁴¹ L.O. Adekoya, A.A. Adewale, 'Wind energy potential of Nigeria', Renewable Energy, 1992, 2(1), 35-39.

⁴² R.O. Fagbenle and T.G. Karayiannis. On the wind energy resources of Nigeria, International Journal of Energy Research, 1994, 18 (5), 493-508.

⁴³ S. Abumere, S.I. Okafor, O. Oluwasola, (2002), "Rural Infrastructure and the Development Process In Rural Nigeria". Development Policy Centre.

⁴⁴ A.S. Sambo, (2007), "Renewable Energy Development in Nigeria: A Situation Report". In: Proceedings of the international workshop on renewable energy development in Africa.

⁴⁵ U.B. Akuru, O.I. Okoro,(2010), "Renewable Energy Investment in Nigeria: A Review of the Renewable Energy Master Plan." Proceedings of the energy conference and exhibition (EnergyCon), 2010 IEEE International.

to develop and implement strategies that will achieve a clean reliable energy supply and establish mechanisms to develop the sector based on international best practices and to showcase viability for private sector participation. This was geared towards improving the living standard of the Nigerian people particularly those in rural areas who have limited or no access to electricity.

5.0 Legal Framework for Self Generation

The Electric Power Sector Reform Act is the primary framework for self generation of electricity in Nigeria. Enacted on March 11, 2005, the objective of this Act is to ensure private sector participation and bringing about a competitive power market in place of monopoly.⁴⁶Section 62 (2) provides that “a person may construct, own or operate an undertaking for generating electricity not exceeding 1 megawatt (MW) in aggregate at a site or an undertaking for distribution of electricity with a capacity not exceeding 100 kilowatts (KW) in aggregate at a site or such other capacity as the Commission may determine from time to time, without a licence.” The above therefore sets out to give persons with the capacity to generate electricity the right to do so without seeking for licence from the regulators. Furthermore, other regulations have arisen to give further guidelines on the implementation of the above.

The Nigerian Electricity Regulatory Commission (NERC) Regulation for Mini-Grids, 2016 (the Regulation) is another regulation that regulates mini-grids power generation in Nigeria. By definition, according to the US Department of Energy, “a micro grid is a group of interconnected customer loads and Distributed Energy Resource within clearly defined electrical boundaries that acts as a single controllable unit that can connect and disconnect from the national grid.”⁴⁷Section 3(1) of the Mini-Grid defines it to be ‘any electricity supply system with its own power generation capacity, supplying electricity to more than one customer and which can operate in isolation form or be connected to a distribution licensee’s network.’Energy mix depicts a hybrid system where there exists more than one central grid and particularly more than one source of energy. Apart from the larger network usually known as the national grid, some other countries make use of “micro-grids” which as the name implies means smaller grid networks of energy distribution.

⁴⁶ Nigeria Village Square: “Nigeria’s Electric Power Sector Reform: Matters Arising” available at <http://www.nigeriavillagesquare.com/articles/shokos-mixed-bag/nigerias-electric-power-sector-reform>

⁴⁷ Energy Malaysia , (2014), “Towards A World-Class Energy Sector”, Vol. 1, KDN: PP 18074/04/2013(033407) can be accessed through www.st.gov.my

Mini-grids covers generation of power supply to more than one customer which can be isolated or connected to distribution licensee's network (DisCo) for the purpose of generating electricity between 0 kilowatt and 1 megawatt.⁴⁸The mini-grid operator is expected to fill the form in Annex 11 and enter into a contract with the community as well as the disco making it a tripartite contract. The agreement reached shall be delivered to NERC for approval before activities can be commenced by the operator.

Under this agreement the DisCo shall grant the operator an exclusive right of usage of the interconnected network. One of the rights of the operator is to physically inspect the condition of the network and to ensure that the network conforms to NERC technical codes. The operator can also carry out repairs, make new connections the costs of which are to be borne by him and all under NERC'S approval and in accordance with the technical codes in order to ensure that he is able to supply electricity to the community at least 95% of the time. NERC also approves the tariff at which the electricity will be supplied. The Agreement may be renewed for a period of 20 years.⁴⁹

Unfortunately, as observed⁵⁰ there is no detailed and comprehensive policy for renewable energy in Nigeria. We will still consider some regulatory framework. They are:

i. **The Constitution of the Federal Republic of Nigeria**

The Nigerian constitution is the supreme law that guides all authorities and persons within Nigeria. It posits that this law is prominent and its rules shall be applicable to all persons within the country.⁵¹ Thus, the law notes further that where there is any inconsistency with provisions by any other laws, such will be invalidated to the extent of the inconsistency.⁵²

It is stated under the Fundamental Objectives and Directive Principle of State that the state shall harness the resources of the nation and promote national prosperity and an efficient, a dynamic and self radiant economy.⁵³ The state also pledged to direct its policy

⁴⁸ Emmanuel Ekpenyong, (2017), "Nigeria: Legal Framework for Mini-Grids Power Generation and Distribution in Nigeria", accessed from <https://www.mondaq.com/nigeria/oil-gas-electricity/653884/legal-framework-for-mini-grids-power-generation-nd-distribution-in-nigeria> on 18 September, 2020.

⁴⁹ Emmanuel Ekpenyong, (2017), "Nigeria: Legal Framework for Mini-Grids Power Generation and Distribution in Nigeria", accessed from <https://www.mondaq.com/nigeria/oil-gas-electricity/653884/legal-framework-for-mini-grids-power-generation-nd-distribution-in-nigeria> on 18 September, 2020.

⁵⁰ L. Atsegbua, Akpotaire, V. and F. Dimowo (2010), "Environmental Law in Nigeria, Theory and Practice, Ambik Press, Benin City at p. 304.

⁵¹ CRFN 1999 as amended. section 1(1).

⁵² CRFN 1999 as amended. section 1(3).

⁵³ Section 16(1)(a) of the Constitution of the Federal Republic of Nigeria.

towards ensuring the promotion of a planned and balanced economic development.⁵⁴ All these provisions and more require constant electricity.

ii. **The Electric Power Sector Reform Act 2005**

The above Act led to the transition of National Electric Power Authority to the Power Holding Company of Nigeria. The Act was enacted on March 11, 2005. The objective of this Act is to ensure private sector participation and bringing about a competitive power market in place of monopoly.⁵⁵ It also has the responsibility of ensuring safe, adequate, reliable and affordable services in generation, transmission, distribution and trading of electricity⁵⁶ to ensure private sector participation.

iii. **The Nigerian Electric Regulatory Commission (NERC)**

The Nigerian Electric Regulatory Commission (NERC) was established by the Electric Power Sector Reform Act (EPSRA) to ensure effective implementation of the goals and objectives of the Act with its function to regulate and monitor the Nigerian Electricity Industry.⁵⁷ The mission of the Commission is to promote and ensure an investor friendly industry and its vision is to “keep the lights on” by providing electricity on demand.⁵⁸

iv. **Electric Power Implementation Committee**

This is a steering committee put in place to carry out the functions of synchronising, coordinating and monitoring all activities relating to the reform, restricting and privatisation of the electric power sector, and to formulate proposals for the creation of conditions that will help to sustainably develop the power sector.⁵⁹

v. **The Federal Ministry of Energy**

⁵⁴ Section 16(2)(a) of the Constitution of the Federal Republic of Nigeria.

⁵⁵ Nigeria Village Square: “Nigeria’s Electric Power Sector Reform: Matters Arising” available at <http://www.nigeriavillagesquare.com/articles/shokos-mixed-bag/nigerias-electric-power-sector-reform>

⁵⁶ Nigerian Electricity Regulatory Commission (NERC), “Nigerian Electricity Regulatory Commission; Goals and Objectives”. Available at http://www.nercng.org/index.php?option%3Dcom_content%26task%Dview%26id%3D51%26Itemid%3D29

⁵⁷ Mbendi Information Services, “The Licensing Process.”

⁵⁸ Nigerian Electricity Regulatory Commission (NERC), “Nigerian Electricity Regulatory Commission: Mission and Vision.”

⁵⁹ O.M. Erhun, D. Johnson, (2018), “A Legal Framework for Sustainable Electrical Energy Industry in Nigeria”, <https://doi.org/10.5539/er.v8n2p45> accessed from https://www.researchgate.net/publication/329216017_A_Legal_Framework_for_Sustainable_Electrical_Energy_Industry_in_Nigeria on 18 September, 2020.

This Ministry is concerned with the formulation of policies for electric power, including the policy on renewable electricity. The Ministry is responsible for the promotion, monitoring evaluation and assessment of policy implementation of renewable energy utilisation in Nigeria.

vi. **Energy Commission of Nigeria**

The Nigerian Electric Regulatory Commission (NERC) is saddled with the responsibility of conducting strategies, planning and coordination of all national policies in the energy sector with a view to ensuring that the sector is of benefit to government, citizens as well as private companies in an environmentally responsible manner.

6.0 Other Options for Rural Energy

The Johannesburg Declaration created a collective responsibility to advance and strengthen the interdependent and mutually reinforcing pillars of sustainable development⁶⁰ at all levels.

Since the Earth Summit which took place at Rio the concept of sustainable development has been placed on national and international policy agenda and there have been efforts since then to put into operation sustainable development by governments, international organisations, etc.⁶¹ This requires efficient extraction and use of existing energy resources while developing new forms of energy and associated technologies over the longer term, with emphasis on how to ensure the continuous availability of energy.

7.0 Recommendations

It has been discussed that there is no distinct legal and policy framework on self-generation of electricity in Nigeria save for the reference to generation below 1mw. This lack of direction has occasioned untold hardships for Nigerians especially those living the rural areas. Thus, this paper seeks to make some recommendations with the view to alleviating these sufferings and improving the economic life as well as the living standard of Nigerians.

⁶⁰ Economic pillar, the social pillar and the environmental pillar of sustainable development.

⁶¹ O.M. Erhun, D. Johnson, (2018), "A Legal Framework for Sustainable Electrical Energy Industry in Nigeria", <https://doi.org/10.5539/eer.v8n2p45> accessed from https://www.researchgate.net/publication/329216017_A_Legal_Framework_for_Sustainable_Electrical_Energy_Industry_in_Nigeria on 18 September, 2020.

- a. First and foremost is the establishment of an adequate institutional, policy, legal and regulatory framework, this means that there should be provision of a clear legislation. This function can be put as part of the functions of the Nigerian Electricity Regulatory Commission (NERC). Thus, there should be a comprehensive, up-to-date legislation on the rights of individuals and institutions to self generation as well as the duties, requirements and all other specific details involved in the development.
- b. There should also be provisions for financing of sustainable electric energy development projects. It could be in form of subsidy or an outright sponsorship by the government or various institutions. This is crucial especially for inhabitants of areas far flung and unconnected to the national grid who may otherwise be unable to afford these projects but who are in dire need of it.
- c. Nigeria is notorious for its poor maintenance culture which has plagued Nigeria's power sector. Routine maintenance and checks are very crucial in the longevity of these projects. This may require training of locals in basic maintenance and repair techniques as a way of empowerment and as a way of maintaining these rural projects.
- d. It is crucial to ensure that the tariffs are affordable thus legislation on tariff regulation should be amended to reflect these changes and peculiarities. The national grid tariff and mini tariff from all over the country should be prorated to reflect the various peculiarities of each area in the country.
- e. There should also be Environmental Impact Assessment Act and routine checks. Apart from lighting up Nigeria, it is important to always remember that the efforts to light up Nigeria must not darken the world. This is to say that the environmental aspect of the power sector must always be considered with limits set to what constitutes an offence as well as penalties to curb its occurrence.
- f. A comprehensive monitoring framework is very crucial. In some countries, there already exists what is called the smart wire. Technology has advanced and so should Nigeria. There should be a comprehensive monitoring system which can detect errors, trouble shoot and contact the needed individuals all done in real time, this cannot be over-emphasised as it will in the long run, save costs.
- g. Finally and not in the least important, it is important to thoroughly control corruption. Corruption plagues Nigeria and has occasioned the unfortunate end of many great

initiatives. Not only should individuals particularly workers be enlightened, there should be penalties and committees to enforce the rules as well as the penalties in order to curb the occurrences of corruption.

8.0 Conclusion

This paper has been able to carry out an analysis on the possibility of consumers right to self generate electricity. The paper further sets out to analyse the shortfalls of the Nigerian power sector, identified the need for renewable energy sources as well as energy mix, identify the lack of legal and institutional framework as well as some other problems plaguing the power sector and finally made recommendations.

All of these have been done to ensure that in no long time, there is stable and constant electricity supply such that even rural areas will have access to electricity. Notably, electricity availability will have a better impact on the environment thus making it a win-win situation. This is very important also in order to take the burden off the government such that individuals and corporate organisations can self generate electricity within the required guidelines.