



ENVIRONMENTAL LAW AND ENVIRONMENTAL ETHICS: A SHIELD AGAINST CLIMATE CHANGE IN NIGERIA

Desmond O.N. Agwor, Ph.D*, Prosperity N. Omezuruike & Anne E Nmom*****

Abstract

In the face of climate change, and with global warming on an alarming increase, a burden is placed on countries around the world to take measures against this development. Nigeria is no different, and it is even more important to consider the country, as it is a developing one. With numerous issues plaguing the nation, including poor planning and infrastructure, and a lack of focus on environmental sustainability, it appears that taking measures against climate change will be fraught with complexities. This is in addition to the underutilisation of various energy sources available in the country. As a result, this article considers already existing laws in Nigeria relating to climate change, in order to determine whether these laws are sufficient, and whether they require amendments or complete overhauling. It reviews international law, and statutes enacted with regards to climate change in Nigeria, identifying provisions which may be enforced towards mitigating it. In order to propose measures against climate change, the article considers alternatives which can be incorporated into the existing laws, alternatives focused on renewable energy and energy efficiency. These alternatives are captured in recommendations, as strategies which should not only become part of our legislation, but enforceable and enforced by established agencies.

Keywords: Environmental Law, Environmental Ethics, Climate Change and Nigeria.

1.0 Introduction

Agriculture, human populations, and environmental systems are all negatively impacted by the various physical and biological changes brought about by climate change globally.¹ Additionally, countries in Africa are particularly susceptible to many of the issues caused by climate change, but their ability to increase resilience is still quite limited.² Having about 6% of its land area exposed to extreme weather occurrences, Nigeria is among the top ten nations most affected by climate change.³ Among the different

* Ph.D, LL.M, LL.B (RSU, Port Harcourt), BL (Abuja), DIP (RIVCAS, Port Harcourt), MCIArb; Lecturer at Law, Department of Jurisprudence and International Law, Faculty of Law, Rivers State University, Nkpolu-Oroworukwo, P.M.B. 5080, Port Harcourt, Nigeria. Tel: +2348035425341, E-mail: desmond.agwor3@ust.edu.ng; desmondnoa@gmail.com

** LL. B (Madonna University), B.L (Abuja); State Counsel, Rivers State Ministry of Justice, Port Harcourt, Nigeria. Tel: +2348060597067, Email: perryoms@gmail.com

*** LLB (RSU) BL (Abuja); LLM (RSU); Tel: +2348037417741, Email: annenmom@gmail.com

¹ Intergovernmental Panel on Climate Change, 'Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change' (2014) <<https://www.ipcc.ch/report/ar5/syr/>> accessed 6 June 2025.

² EM Okon, BM Falana, SO Solaja, SO Yakubu, OO Alabi, BT Okikiola, TE Awe, BT Adesina, BE Tokula, AK Kipchumba and AB Edeme, 'Systematic review of climate change impact research in Nigeria: implication for sustainable development' *Heliyon* (2021) e07941 <<https://doi.org/10.1016/j.heliyon.2021.e07941>> accessed 6 June 2025.

³ World Bank, 'Building Climate Resilience: Experience from Nigeria' (2019) <<https://www.worldbank.org/en/results/2019/04/18/building-climate-resilience-experience-from-nigeria>> accessed 6 June 2025.

problems engendered by climate change in Nigeria, there has also been evidence of a significant rise in decreased stream flow and rural-urban migration.⁴

Due to the unpredictability of their seasonal rain patterns, the Southern Nigerian regions that receive a lot of rainfall all year long face difficulties with vegetation.⁵ This is because extreme heat waves are the main environmental problem facing the savannah vegetation zone.⁶ The Sahel region is projected to lose 30 hectares of cropland yearly owing to desertification.⁷ Reduced rainfall and increased evapo-transpiration causes significant drops in flow rate and network length in Nigeria's water bodies.⁸ Reduced crop and animal productivity has resulted from these changes' direct and indirect effects in the impacted areas.⁹ Because there are now no suitable adaptation plans in place, the country confronts serious environmental issues comparable to those of other highly vulnerable nations, such as Sudan and India.¹⁰

2.0 Environment

The term “Environment” has evolved over time, in the primitive age, environment meant only the physical aspects of plant earth i.e. land, air and water without emphasis on the biological communities. The Federal Environmental Protection Agency (FEPA) Act,¹¹ now repealed and replaced by the National environmental Standard Regulation Enforcement Agency (NESREA) Act of 2007 defined environment as: Water, Air, Land and all plants and human beings or animals living therein amid the inter-relationship which exist among those or any of them.

The Stockholm Conference¹² of 1972 was the first International Conference which gave a “Human face” to the environment. The conference extended the realms of the environment to include biological, social, economic and political dimensions of human development. “Today, ‘Environment’ simply means the sum total of the surroundings, which includes the physical, chemical and biological components external to organisms.”

⁴ AM Akinwumi, JR Adewumi and OA Obiora-Okeke, ‘Impact of climate change on the stream-flow of ala river, Akure’ *Sustainable Water Resources Management* (2020) 7 (1) 1–11 <<https://doi.org/10.1007/s40899-020-00484-7>> accessed 6 June 2025.

⁵ Dakéga Saberma Ragatoa, Kehinde Olufunso Ogunjobi, Browne Klutse, Nana Ama Browne and Julia Echie, ‘A change comparison of heat wave aspects in climatic zones of Nigeria’ *Environmental Earth Sciences* (2019) 78 (4) 111 <<https://doi.org/10.1007/s12665-019-8112-8>> accessed 6 June 2025.

⁶ *Ibid.*

⁷ *Ibid.*

⁸ Emeka E Obioha, ‘Climate Change, Population Drift and Violent Conflict over Land Resources in North Eastern Nigeria’ *Journal of Human Ecology* (2008) 23(4) 311–324 <<http://dx.doi.org/10.1080/09709274.2008.11906084>> accessed 6 June 2025.

⁹ Nuala Fitton, Peter Alexander, N Arnell and P Smith, ‘The vulnerabilities of agricultural land and food production to future water scarcity’ *Global Environmental Change* (2019) 58(12) <<http://dx.doi.org/10.1016/j.gloenvcha.2019.101944>> accessed 6 June 2025.

¹⁰ Giri, M., Bista, G., Singh, P.K., Pandey, R., 2021. Climate change vulnerability assessment of urban informal settlers in Nepal, a least developed country. *J. Clean. Prod.* 307, 127213.

¹¹ Section 38 FEPA Act, Cap F10 LEN 2004

¹² The United Nations Conference on Human Environment, an International Conference convened under United Nations auspices held in Stockholm, Sweden from June 5–16, 1973



The environment in an alternate view has been defined as: “The physical and cultural spaces in which the human species live, reproduce and die. It consists of the water, the atmosphere, land and all living and non-living things that inhabit these spaces.”¹³ In this context, the ecological system can be said to be the largest and most complex arena where we live and interact within the biosphere. The biosphere is the thin covering of the planet which contains and sustains living organisms. It consists of plants, trees, aquatic life, insects, micro-organisms and most of all people or humans; the hydrosphere (water), atmosphere (air) and lithosphere (rocks, and the crust of the earth).

In the case of Attorney General of Lagos State v. Attorney General of Federation of Nigeria & 35 Others,¹⁴ the Supreme Court of Nigeria cited with approval a Black’s Law dictionary¹⁵ definition of the environment as “the totality of physical, economic, cultural, aesthetic and social circumstances and factors which surround and affect the desirability and value of property, and which also affect the quality of people’s lives.

In further consideration, environment can be viewed as all physical, non-physical, living and non-living situation surrounding an organism or groups of organisms that determine their existence, development and survival. In other words, the environment includes:

- a. Air, land, water and weather condition;
- b. plants, animals, including people; and
- c. the social, economic and cultural conditions that include the life of people or a community;
- d. any building, structure, machine or other devices or things made by people;
- e. any solid, liquid, gaseous, odour, heat, sound, vibration or radiation resulting directly or indirectly from human activities¹⁶.

In summary, the environment is the sum total of all surroundings of a living organism, including natural forces and other living things, which provide conditions for survival, development, growth and death or extinction.

3.0 Environmental Law

Environmental law is a body of rules both from the national and international perspectives, for the sustainable utilization of resources for the social and economic development of the society. This definition encompasses national laws, policies and regulations and international laws¹⁷ which are primarily created to protect and conserve the environment, and to regulate the sustainable use of these resources.

Environmental laws are also described as a network of regulations and customary laws that address the effects of human activity on the natural environment. They are also referred to as environmental and

¹³ K Fayemi, *et al* (2005) “Towards an Integrated Development of the Niger Delta”, Centre for Democracy and Development, Abuja

¹⁴ (2003) FWLR Pt. 168 at 949

¹⁵ B A Garner, *Black’s Law Dictionary* (8 edn, Thompson West Publishing, 1990) 534.

¹⁶ DON Agwor, “A Concise X-ray of the Legal and Regulatory Frameworks for Environmental Ethics in Nigeria”, *African Journal of International Energy and Environmental Law*, Vol. 3, Issues 3, 121-141, December, 2019.

¹⁷ Statute of the International Court of Justice, Article 38(1)



natural resources laws and centre on the idea of pollution. They also work to manage specific natural resources and environmental impact assessment. These laws essentially have to be created via legal processes, binding and enforceable through institutions such as regulatory agencies and the court systems to ensure their effectiveness.

4.0 Environmental Ethics

Environmental ethics is a concept in environmental jurisprudence that regulates the moral relationship of humanity, and also the applicable value and moral status of the natural environment and the non-human components of the environment. In other words, environmental ethics is an applied ethics, which examines the moral basis of environmental responsibility.¹⁸ Moral obligation on its own usually represents knowledge, capacity and choice, and value significance.

Environmental ethics deals with the issue of personal moral conduct with respect to the natural environment, including landscapes, resources, species and non-human organisms. Environmental ethics is different from the anthropogenic concern for animals and the rights of animals, it suggests the generation, redefinition and the development of a durable or sustainable, objective opinion about how mankind ought to relate with our non-human environment to secure the wellbeing of humanity and the general common good of life web or vicious circle, through the preservation of ecosystem and conservation of biological diversity. Environmental ethics questions the acclaimed moral superiority of man over the members of other species on earth life circle. It further evaluates the probability of logical reasoning and rational argument for attaching intrinsic value to the entire environment and its non-human components. The implication of this is to the effect that the moral duties we owe the environment are derived from our direct duties to the earth human inhabitants.¹⁹ The concept of environmental ethics is directly opposed to both anthropocentrism and enlightened anthropocentrism in that it advocates for moral respect towards ecosystem and biodiversity. It sees the natural environment as a person with moral rights that deserves fair treatments from the human inhabitants of the earth planet.

The Earth Charter²⁰ specifically and expressly made provision for the direct respect and dignified care for the community of life and ecological integrity thus;

Principle One: To respect, regard earth and life in all its diversity

- a. *To recognize the fact that all creatures are interrelated, interdependent and fused together, and that every form of life is valuable regardless of its worth to human being.*
- b. *To affirm a true and just faith regarding the inherent dignity of all mankind, and in the artistic, ethical, intellectual, and the spiritual potential of humanity.*

¹⁸ W Grey, 'Anthropocentrism and Deep Ecology' (1993), *Australasian Journal of Philosophy* 71:463-75

¹⁹ Aquinas, *Summa Contra Gentiles*, in Trans, Bourke V.J, (University of Notre Dame Press, 1975)

²⁰ The Earth Charter Initiative <http://www.earthcharter.org/files/charter/charter.pdf> 29 March 2005

Principle Four: To secure the aesthetic and resourceful bounty of the earth planet for today generation and generations ahead.

- a. *To both realize and recognize the obvious fact that the actionable liberty of each generation is to be qualified by the wants of the generations ahead.*
- b. *To endlessly remember the sacred obligation of transmitting to the generations ahead, the values, cultures and institutions that is supportive of a lasting and durable flourishing of human and ecological communities of the earth planet.*

Principle Five: To respect and protect the ecological and natural integrity of earth, with utmost concern for biodiversity and all other natural components and procedures in support of the life-web. Accordingly, environmental ethics includes but not limited to such question as:

- Why do we are about nature when only humanity matter?
- When our ecosystems and biological diversities are damaged, what value is appropriated to mankind?
- Do human beings have any obligation to pressure nature for human needs and benefits?
- Whether or not generations ahead will miss what we have inconsiderably denied them amongst several other things not specified for the purpose of this study?

Environmental sustainability is ethically driven by a positive chain of precepts, principles and proposals to redirect specific personal collective behavior as well as public and private fusion towards sustainability of the ecosystem and biological diversity. Thus, the need to realize the interaction complexity between nature and society, the indissoluble links and interconnectivity of biodiversity, ecosystem and mankind in a life web, otherwise known as the vicious circle presents environmental ethics as a necessity for earth survival and sustainability. Basically, three different theories of moral responsibility to the environment exist. Although each of the distinct theories support environmental responsibility, their respective approaches are however radically different and are as follows:

- (i) **Anthropocentrism:** The anthropocentric theory is centred on human selfish interest and treats same as supreme, and only cares about the welfare of mankind at the detriment of other species and the natural environment. Environmental anthropocentrism believe that environmental responsibility is derived from human interests alone²¹. The implication under this consideration is that only human beings are deemed significant persons and qualify to enjoy a direct moral standing. Since the environment is critical to the common good of humanity and also serve as human means of survival, we then owe an indirect duty to the environment, a duty which is deduced from human interests.
- (ii) **Prudent Anthropocentrism:** This second approach to environmental responsibility is also called enlightened anthropocentrism and it holds the view that mankind possess ethical obligations towards the environment, but to the extent that such obligations can be justified in

²¹ Aristotle, *Politics* in Trans E. Barker, (Oxford University Press 1948).

terms of a reciprocal obligations and benefits towards humanity. The implication is that if in the circumstance, some animals gain qualification as morally significant being, our obligation towards the environment will then hinge on the environmental interests of such animals, provided that such animals are of service and value to humanity.

(iii) **Ecocentrism:** This third approach is the most critical, most crucial and a very radical one to environmental obligation, otherwise called and also known as bio-centrism. This view personifies the environment and postulates that it deserves a direct ethical consideration, and not to be only considered because of the interest and benefits derivable from it by humans and animals. The terminology used in the literature to express this direct responsibility is varied. The postulation of ecocentrism or biocentrism suggests that environment has direct right, that nature deserve respect, that it qualifies for ethical consideration as a moral personhood, deserving a direct duty, and that retains inherent worth. In other words, the summary of this postulation is a claim to the effect that the environment by itself is at moral equilibrium with mankind.²²

5.0 Climate Change

The term “Climate Change” is referred to a change in climate patterns, widely attributed to the increased rates of atmospheric carbon dioxide released via the use of fossil fuels, which in turn precipitate uncertainties across the globe or around a given region. It is responsible for the regular shift in the whole world weather phenomena associated with the rise in global average temperatures. Whereas the temperature rises is more specifically referred to as global warming.

The international climate change regime consists of the United Nations Framework Convention on Climate Change of 1992,²³ its Kyoto Protocol of 1997²⁴ and the Paris Agreement of 2015.²⁵ The ultimate objective of the Convention is the stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.²⁶ The Convention is a framework instrument establishing general principles, basic obligations and institutional arrangements. It does not contain binding, individual quantified emission reduction targets and timetables, but developed country parties and other parties is listed in annex 1 of the Convention are enjoined to adopt national policies and take corresponding measures.²⁷

²² A Leopold, *The Land Ethics, A Sand County Almanac*, (City of Publication 1949).

²³ Adopted in New York on 9 May 1992, entry into force on 21 March 1994.

²⁴ Adopted in Kyoto on 11 December 1997, entry into force on 16 February, 2005

²⁵ Adopted in Paris on 12 December 2015, entry into force on 4 November 2016.

²⁶ UNFCCC, art 2.

²⁷ D Bodansky, “The United Nations Framework Convention on climate Change: a commentary”, *Yale Journal of International Law*, vol. 8, Issue 2 (993).



Climate change is more scientifically suitable because it is more explicit, not only restricted to the earth's global average temperature, but also includes the resultant climate effects of such increase which includes but not restricted to;²⁸

- i. Frequent and severe drought;
- ii. regular snowstorms; and
- iii. extreme winter in temperature regions as a result of warming arctic weather fronts.

The United Nations Framework Convention on Climate Change (UNFCCC) is an international treaty for global cooperation to combat climate change and its associated problems by limiting the emission of greenhouse gases. The UNFCCC came into force on March 21, 1994, followed by the first conference of the parties (COP 1) in Berlin, Germany which brought the international community into a congregation of negotiations to enhance global commitment towards mitigating climate change across the globe. This gave birth to the declaration of the Berlin mandate which gave marching order to industrialized nations via legally binding instruments to reduce greenhouse gas emissions, whereas developing states were exempted. The mandate precipitated the adoption of the Kyoto Protocol at COP 3 held at Japan in 1997. The protocol is binding on developed states who are parties to the protocol, to stabilize greenhouse gases (GI 10) emission standards and the bodies of rules for the implementation of the instrument were adopted at COP 7 in 2001 at Marrakash, known as the Marrakash Accord. The Kyoto instrument provided three specific mechanisms to address GHG emissions to a level that would prevent or reduce to the barest minimum dangerous anthropocentric interference with the climate system:

- i. Emission Trading known as the carbon market;
- ii. clean development mechanism (CDM) which includes investment in sustainable development agendas; and
- iii. joint implementation (JI), a mechanism enabling the industrialized countries to implement joint projects with developing countries.

Under the said protocol, twenty-five conventions (COP 1 – COP 25) have been progressively held between 1995 and 2015 by the UNFCCC to globally dialogue and negotiate the reduction of emissions, with increased concerns for developing countries. In the said protocol, the industrialized states undertook to minimize their GHG emissions by 5.2% below the 1990 levels (22.7 billion tones) in the first phase commitment from 2008-2012 which the second phase undertakings covering 2013-2020, known as the Doha Amendment to the Kyoto Protocol, adopted in 2012, directing parties to decrease their GHG emissions by at least 1.8% below the 1990 levels.

²⁸ B Lomborg, 'The Skeptical Environmentalist; Measuring the Real State of the World', *Cambridge University Press* [2001] 164; Article 1 of the Vienna Convention for the Protection of Ozone Layer 1985; K M Strezepek and J B Smith, *As Climate Change, International Impacts and Implications*: PCSD: [1999]10.



6.0 Role of Environmental Law and Policies

Both federal and state laws play a role in combating climate change. In addition to these, court cases and judicial decisions can substantially affect climate change through legal frameworks that go beyond regulatory requirements. This is reflected by the fact that the lawsuits which have been brought against fossil fuel companies are determined in courts, showing that the legal system has an obligation to hold entities accountable for their impacts to climate change, and the judiciary is a powerful and influential force that promotes environmental preservation through court cases.²⁹ Unfortunately, Nigeria is yet to make certain social obligations justiciable in courts, as section 6(6)(c) of the 1999 Constitution makes these obligations non-justiciable, which affects these judicial powers.³⁰ According to Gayer and others, there are novel legal solutions that encourage sustainable activities while lowering climate risks, such as property rights and market-based tools.³¹ Thus, legal solutions should not stand alone in combatting climate change, as in order to remain effective in meeting the evolving needs of climate change, environmental laws must be continuously evaluated and modified in response to the evolving society and legal framework.

Quite a number of studies have revealed that environmental restrictions are essential to managing global climate change, and developed Western nations have drafted and implemented sophisticated environmental policy frameworks that significantly reduce climate change.³² From the reports provided by the European Environment Agency, the European Union's Emission Trading System has been essential in causing a reduction of greenhouse gas emissions by fixing carbon dioxide emission caps and promoting the development of greener technology.³³ Additionally, the Scottish government uses wind energy through on-shore wind farms,³⁴ enabling clean energy and energy efficiency. These roles played by these countries and organisations reflect what the Nigerian government should adopt, and reveal how environmental laws and policies can help in eliminating climate change effects.

Focusing on Africa, environmental law has grown in importance in relation to mitigating and adapting to climate change. Agenda 2063 of the African Union places a strong emphasis on environmental preservation and sustainable development, which is in accordance with international initiatives to tackle climate change.³⁵ These international organisations are not the only entities playing a role, as in order to address climate-related issues, countries like Kenya have passed extensive environmental laws like

²⁹ Emily Robinson, 'The Growing Influence of Climate Litigation' *University of Exeter* (20 September 2023) <<https://sites.exeter.ac.uk/gsi/the-growing-influence-of-climate-litigation/>> accessed 6 June 2025.

³⁰ Section 6(6)(c) of the Constitution of the Federal Republic of Nigeria, 1999, as Amended.

³¹ Celine Herweijer, Nicola Ranger, Robert Edward and Thomas Ward, 'Adaptation to Climate Change: Threats and Opportunities for the Insurance Industry' *Geneva Papers on Risk and Insurance - Issues and Practice* (2019) 34(3) 360-380 <<http://dx.doi.org/10.1057/gpp.2009.13>> accessed 6 June 2025.

³² Ibid.

³³ European Environment Agency, 'Trends and projections in Europe 2020: Tracking progress towards Europe's climate and energy targets' (2020) <<https://www.eea.europa.eu/en/analysis/publications/trends-and-projections-in-europe-2020>> accessed 6 June 2025.

³⁴ Anita Shepherd, Samuel Roberts, Gilla Sünnenberg, Andrew Lovett and AFS Hastings, 'Scotland's onshore wind energy generation, impact on natural capital & satisfying no-nuclear energy policy' *Energy Reports* (2021) <<https://doi.org/10.1016/j.egyr.2021.10.063>> accessed 6 June 2025.

³⁵ African Union Commission, 'Agenda 2063: The Africa We Want' (2021) <<https://au.int/en/agenda2063/overview>> accessed 6 June 2025.



the Environmental Management and Coordination Act.³⁶ These legislative frameworks seek to stimulate the utilisation of renewable energy sources, control land usage, and stop deforestation.

In addition to the above, environmental law has revealed its ability to mitigate climate change in other African countries through various means. An instance is the advancement of renewable energy sources, with the decrease of carbon emissions facilitated by South Africa's Climate Change Response Policy and related legislative measures.³⁷ In addition, the Nigeria's National Environmental Standards and Regulations Enforcement Agency (NESREA) Act has been enacted in Nigeria to regulate environmental operations and encourage sustainable practices.³⁸ These case studies demonstrate how carefully planned and administered environmental regulations can have a beneficial impact on tackling the problems caused by climate change, and reveal the possibility of Nigeria to improve its position in climate change matters through more effective environmental laws and policies.

7.0 Laws Guiding the Nigerian Environmental Landscape

i) Constitution of the Federal Republic of Nigeria, 1999, as Amended

A number of the provisions of the Constitution show an alignment with the climate change goals for Nigeria. Pursuant to Section 12(1), no agreement made between the Federation and another nation will be enforceable unless it has been approved by the National Assembly. This clause permits foreign agreements to be enacted by the National Assembly and become law, and Nigeria thus recognises international climate change agreements. Section 19(d), which requires adherence to treaty obligations and international law in addition to the need for international conflict resolution through alternative dispute resolution measures, lends credence to this.

Environmental sustainability is the subject of Section 16(1), which affirms that the State shall, in accordance with the principles and goals for which the Constitution contains provisions, (a) utilise the resources of the country and advance the prosperity of the nation, and an effective, dynamic, and self-sufficient economy. This is consistent with Section 17(2)(d), which prohibits the misuse of natural or human resources in any way for purposes which are not for the benefit of the community, and Section 20, which gives the State the power to preserve and enhance the environment and protect Nigeria's land, water, air, forests, and wildlife.

These provisions reflect the spirit of the Constitution in supporting environmentally sustainability and climate change measures. However, the non-justiciability provision of Section 6(6)(c), which provides that the Judiciary shall not entertain questions on the provisions listed, all contained in Chapter II, significantly affects their achievement.

³⁶ Government of Kenya, 'Environmental Management and Coordination Act, 1999'
<<http://extwprlegs1.fao.org/docs/pdf/ken162698.pdf>> accessed 6 June 2025.

³⁷ Republic of South Africa, 'National Climate Change Response Policy'
<https://www.environment.gov.za/sites/default/files/docs/nccrp_brochure_2.pdf> accessed 6 June 2025.

³⁸ NESREA, 'National Environmental Standards and Regulations Enforcement Agency Act'
<<https://www.nesrea.gov.ng/legislation>> accessed 6 June 2025.



ii) Climate Change Act 2021

The Climate Change Act outlines its overarching objectives, which guide its implementation. It creates a framework for achieving a number of goals, such as lowering emissions while promoting social inclusion, economic growth, and sustainable development through the creation of national climate change policies.³⁹ In order to ensure the sector-wide incorporation and administration of climate change policies and initiatives, the Act creates a funding mechanism.⁴⁰ It additionally makes risk assessments of public and commercial institutions compulsory, so as to guarantee adherence to national climate change policies and targets, and sets net-zero emission targets for 2050–2070.⁴¹

The creation of the National Council on Climate Change (NCCC) as the highest decision-making body to provide guidance on the administration of the Act is provided for in Section 3. Under this section, the duties of the NCCC duties include developing and supervising the National Action Plan on Climate Change (Action Plan), managing the Climate Change Fund, directing and monitoring Secretariat activities, and performing other oversight duties.⁴² The Council is supported by the Vice President and chaired by the President of Nigeria, and includes representatives on behalf of the government and business organisations, women, civil society organisations, young people, and disabled persons.⁴³ In order to adhere to the Nationally Determined Contribution (NDC) under the Paris Agreement, the NCCC is tasked with coordinating means to finance climate action and working with the Nigerian Sovereign Green Bond.⁴⁴

Under the Act, the Federal Ministry of Environment is to ensure the creation of carbon budgets and budget cycles in accordance with the nation's obligations under the Paris Agreement after consulting with the ministry in control of national planning.⁴⁵ The establishment of emission limits and mitigation plans, carbon budgets and action plans are strategies that aim to suppress global warming beyond 1.5°C and maintain average rises below 2°C.⁴⁶ In order to inform the components of the Action Plan and act as the foundation for developing the annual review of carbon budgets, Section 19(5) requires the Federal Ministry of Environment to publish climate vulnerabilities and risk assessments as well as measurement, accountability and validation guidelines of national emissions. The Act further provides that every five years, the Action Plan must be authorised by the Federal Executive Council and the NCCC.⁴⁷

In addition to identifying pertinent adaptation and reduction strategies against climate change, the Action Plan will include methods to introduce climate change response into sector functions and

³⁹ Climate Change Act 2021, section 1.

⁴⁰ Ibid.

⁴¹ Ibid.

⁴² Ibid, section 4.

⁴³ Ibid.

⁴⁴ Ibid.

⁴⁵ Ibid, sections 17 and 18.

⁴⁶ Ibid.

⁴⁷ Ibid, section 20(1) and (3).



encourage the employment of renewable energy sources, energy efficiency, and conservation.⁴⁸ Section 21(1) requires the Director-General to furnish the NCCC and the National Legislative Committee on Climate Change with a comprehensive report on the country's climate change situation, and section 21(3), to stimulate the legislature's oversight duty, requires the Director-General to publicly release and submit evaluation reports on how public and private institutions are performing their climate change responsibilities to the National Legislature.

The Act creates a number of climate change responsibilities on Ministries, Departments and Agencies (MDAs), private entities, and governmental bodies. Public offices that represent the Nigerian government in serving the general public are required to abide by the rules that are periodically released by the NCCC.⁴⁹ Progressively, it stipulates that private organisations must set up processes to attain the annual aims of reducing carbon emission contained in the Action Plan.⁵⁰ The Act additionally provides that private organisations must designate an Environmental Sustainability Officer or a Climate Change Officer.⁵¹ During the review period, that officer is responsible for creating and submitting yearly reports that detail the measures taken by the company to meet its climate change commitments.⁵² Furthermore, MDAs must set up a desk focused on climate change, overseen by a director,⁵³ and this Desk shall perform all compliance and strategic efforts linked to the climate change commitments.⁵⁴

The Act mandates the Secretariat to work with women, youth, Civil Society Organisations (CSOs), and others in order to fully monitor climate programmes and activities and engage in climate advocacy.⁵⁵ Section 26(1) further includes clauses pertaining to information access and climate education, while Section 28(1) emphasises the REDD+ strategy, which aims at nature conservation and reducing deforestation. These measures help in establishing a framework for the achievement of climate change goals in Nigeria, although there are yet to be significant reflections of their enforcement.

iii) Environmental Impact Assessment Act 1992

The Environmental Impact Assessment Act takes a precautionary and preventative perspective to environmental protection through the compulsory Environmental Impact Study (EIS) of all submitted projects that disclose the potential to cause harm to the environment before the proposals can be authorised for completion. The aims of the Act are as follows: the environmental arguments for or against any activity that can significantly cause damage to the environment must be considered before any decision is made by any person in charge, whether as an individual entity or corporate body, including the government, seeking to undertake or allow the execution of any activity; to promote the application of suitable policies in states, local government areas, and federal lands (newly acquired) in accordance with all rules and the decision-making procedure that achieves the aim and objectives; and to encourage the creation of protocols for notification, consultation, and information sharing between

⁴⁸ Ibid, section 20(4)(a).

⁴⁹ Ibid, section 23.

⁵⁰ Ibid, section 24(1)(a).

⁵¹ Ibid, section 24(1)(b).

⁵² Ibid.

⁵³ Ibid, section 22.

⁵⁴ Ibid.

⁵⁵ Ibid, section 25(1).



the organs and individuals in cases where planned activities are anticipated to significantly cause harm to the environment of neighbouring towns and villages or on interstate borders.⁵⁶

The EIA Act stops the public and private sectors of the country from initiating any projects or approving any activities without first considering the environmental effects of those projects at an early stage.⁵⁷ Thus, an EIA must be completed before a project or activity is approved and eventually carried out if there is a possibility that it may have a major environmental impact due to its scope, nature, or location.⁵⁸ By making these prohibitions, activities which negatively affect the environment will be curbed, reducing degradation and its effects on climate change. Despite these prohibitions, there are insufficient records of sanctions and judgments against the violation of these prohibitions.

iv) National Environmental Standards and Regulations Enforcement Agency (NESREA) Act 2007

The NESREA Act is considered an extremely important environmental protection statute. As the primary government organisation in charge of environmental development and protection, the Act created the National Environmental Standards Regulations Enforcement Agency (NESREA).⁵⁹ Its duties include focusing on sustainable development for Nigeria and its resources, biodiversity conservation and environmental technology.⁶⁰ With concern to environmental standards, policies and guidelines, NESREA is also tasked with coordinating and negotiating with the key parties both within and without Nigeria.⁶¹

While Section 7 empowers the Agency with its functions, the Minister of Environment is empowered by Section 34 of the NESREA Act to establish regulations that guarantee the efficient execution of environmental laws, policies, standards, and norms. These measures are taken to efficiently utilise the nation's natural resources and safeguard the environment. A missing element, however, is enforcement, as there are a plethora of reports on oil spillage, bunkering and gas flaring, along with practices which violate the provisions of the Act.⁶² However, the few cases available do not tally with these reports, and this research proposes creating more specific departments in NESREA, with functions that allow for regular reports on the activities they are assigned.

v) Petroleum Industry Act, 2021

Although the Petroleum Industry Act is not centred on environmental sustainability, it has provisions which allow for the use of energy in ways which protect the environment. Section 102 allows the Nigerian Upstream Petroleum Regulatory Commission a regulatory responsibility to oversee and guarantee adherence to the Act concerning environmental sustainability and potential environmental harm brought on by licensees' and lessees' petroleum operations. Therefore, pursuant to Section 102, in

⁵⁶ Environmental Impact Assessment Act Cap E12, Laws of the Federation of Nigeria 2004, Section 1.

⁵⁷ Ibid, section 2.

⁵⁸ Ibid.

⁵⁹ National Environmental Standards and Regulations Enforcement Agency (NESREA) Act 2007, section 7.

⁶⁰ Ibid.

⁶¹ Ibid.

⁶² Abubakar Ibrahim, 'Energy-starved Nigeria flares most gas in four years' *Business Day* (29 January 2025) <<https://businessday.ng/energy/article/energy-starved-nigeria-flares-most-gas-in-four-years/>> accessed 6 June 2025.

not more than a year after the date at which the statute became effective, or six months after the issuance of the relevant licence or lease, the Commission mandates licensees or lessees involved in upstream petroleum operations to tender an environmental management plan which will be approved for projects requiring an Environmental Impact Assessment (EIA). The Commission approves the plan as long as it includes provisions for managing and rehabilitating environmental harm.

Subject to the issuance of a license or lease and before the approval of the Commission's environmental management strategy, lessees or licensees must pay a fixed sum to an Environmental Remediation Fund created by the Commission for the repair or address of adverse environmental effects with regard to the license or lease issued to them.⁶³ Thus, the Act aims to establish a culture of good environmental practices, which is mostly in question in the oil and gas sector.

Gas flaring is prohibited by the Act, and it is only permitted in a few particular circumstances when there is no other plausible option. Therefore, the Act may allow gas flaring in the following specific situations: in an emergency; if the Commission grants an exception; and as a recognised safety practice in accordance with established regulations.⁶⁴ The Commission further mandates that upstream natural gas producers produce a flare elimination and monetisation plan within a year from the date which the Act takes effect, in order to assist in managing gas flaring.⁶⁵ These provisions reveal the possibility of establishing measures for curbing climate change, with penalties for deviating from these measures. By doubling down and making a streamlined framework, statutes such as this can be implemented to improve the environment.

vi) United Nations Framework Convention on Climate Change (UNFCCC)

Agenda 21 (UN 1993), the document of the 1992 Rio de Janeiro United Nations Conference on Environment and Development (UNCED), sometimes cited as the "Earth" Summit, formally endorsed sustainable development to be considered an international policy guideline.⁶⁶ The conference resulted in the formulation of three international agreements, of which the UN Framework Convention on Climate Change 1994 was included.⁶⁷

Article 2 of the Convention stipulates that maintaining greenhouse gases in the atmosphere at an amount that would deter detrimental anthropogenic interference from affecting the climate, is the primary objective of the Convention and other legal agreements that the Conference of the Parties may ratify. The Article further provides that removing such a barrier should be done in a way that preserves food production, allows for sustainable economic growth, and allows ecosystems to acclimatise to climate change on their own.

⁶³ Petroleum Industry Act 2021, section 103.

⁶⁴ Ibid, section 104.

⁶⁵ Ibid, section 108.

⁶⁶ UN Department of Economic and Social Affairs, 'Agenda 21'

https://www.un.org/esa/dsd/agenda21/res_agenda21_01.shtml#:~:text=Agenda%202021%20addresses%20the%20pressing,g.on%20development%20and%20environment%20cooperation. accessed 6 June 2025.

⁶⁷ Ibid.



Under Article 3, the Convention considers the unique needs of developing countries, particularly those vulnerable to its effects. It provides for precautionary measures to be taken to prevent and mitigate climate change, considering socio-economic contexts and economic sectors. Hence, parties have the right to advocate for sustainable development, integrating policies with national development programmes, and cooperation is essential to promote a productive global economic system, enabling sustainable growth and development in all countries, particularly developing ones. It further stipulates that measures taken to fight climate change should not impede or stop international trade.

Article 4 provides commitments for all Parties, including creating and publishing regulations which curb climate change. In order to further uphold their commitments, Article 5 provides for the support of research on climate change, and Article 6 directs that education, training and public awareness be practised. Article 11 clarifies that an equitable and balanced representation of the nations will be reflected in the finance mechanism, while Article 12 provides for communication regarding the fulfilment of the obligation of each State Party.

There are further treaties relating to the United Nations Framework Convention on Climate Change (UNFCCC), such as the Kyoto Protocol and the Paris Agreement. The United Nations Framework Convention on Climate Change (UNFCCC) is extended by the Kyoto Protocol, which was adopted in 1997 and became effective in 2005.⁶⁸ Article 2 provides for the promotion of sustainable development through energy efficiency, reduction of methane and greenhouse gas emissions and operation of renewable sources of energy, and other Articles emphasise mechanisms for their achievement. The Paris Agreement was adopted by 195 Parties in 2015, and became enforceable in 2016.⁶⁹ Since it supports the UNFCCC with the Kyoto Protocol, they are essential treaties which must be considered in the creation of effective strategies against climate change.

Unfortunately, the principles in these instruments are not reflected in Nigerian practices regarding energy and sustainability. This research proposes that, in addition to the Climate Change Act, which adopts some of these principles, the Nigerian legislation should allow for justiciability of social objectives and international agreements on climate change.

8.0 Some Regulatory Agencies Mitigating Climate Change in Nigeria

i) Federal Ministry of Environment

The Ministry of Environment performs its role towards protecting the environment and mitigating climate change through environmental protection, sustainable development and natural resources conservation.⁷⁰ These roles are performed through the Environmental Assessments Department, tasked with ensuring that all infrastructural developments are completed in accordance with relevant environmental laws and regulations.

⁶⁸ United Nations Climate Change, ‘What is the Kyoto Protocol’ <https://unfccc.int/kyoto_protocol> accessed 6 June 2025.

⁶⁹ United Nations Climate Change, ‘The Paris Agreement’ <<https://unfccc.int/process-and-meetings/the-paris-agreement>> accessed 6 June 2025.

⁷⁰ Federal Ministry of Environment, ‘About’ <<https://environment.gov.ng/#>> accessed 6 June 2025.

In order to ensure transparency, accountability, and effectiveness, the Department of Climate Change under the Federal Ministry of Environment also prioritises climate change mitigation, youth empowerment and engagement in climate action, migration and displacement caused by climate change, policies and programmes that support the rights and needs of impacted communities, sustainable urban development and planning, urban climate change issues such as air pollution, heat waves, and flooding, and good governance practices in climate change decision-making, planning, and implementation.⁷¹

The Ministry further utilises the Hydrocarbon Pollution Remediation Project (HYPREP), with the goal to revitalise and repair communities which have been negatively impacted by hydrocarbon pollution, primarily in Nigeria's Ogoniland region.⁷² The common ecosystem's sustainable growth, the restoration of contaminated areas, and the welfare of impacted communities are all priorities of the Project. In considering the focus of the Ministry on communities in this essay, it seems to reflect a commitment to ensuring sustainability, which is key in mitigating climate change.

However, in considering how drastic climate change is in the context of this research, there is a flaw in the creation of agencies. There are further agencies which require creation in riverine states such as Port Harcourt and Delta, thus there should be branches of the Hydrocarbon Pollution Remediation Project (HYPREP) in different states, especially states that are vulnerable to oil pollution.

ii) National Environmental Standards and Regulations Enforcement Agency (NESREA)

NESREA's activities towards the protection of the environment are centred on ecosystem protection, pollution minimisation, sustainable waste management and environmental education.⁷³ Additional duties assigned to NESREA include biodiversity conservation, environmental technology, ensuring that natural resources are sustainably developed, and environmental protection. It further includes collaborating with stakeholders both in Nigeria and other countries regarding the administration of environmental standards, policies, regulations and guidelines.⁷⁴ These activities are targeted at environmental protection, and help curb climate change through the strategies utilised by NESREA, as outlined below.

The Agency has the following policy thrust and functional strategies: creating and sustaining plans for efficient enforcement and monitoring of environmental compliance; putting in place a strong database/databank for environmental information management; raising environmental consciousness considerably and forming alliances with pertinent national and international parties; implementing efficient environmental compliance monitoring and enforcement initiatives to safeguard the sustainable utilisation of Nigeria's natural resources, preserve public health, and reduce pollution of the air, land, and water; and coordinating and advancing research on a range of topics related to pollution and environmental degradation, including technology transfer, in cooperation with government and business

⁷¹ Department of Climate Change, 'Our Sustainable Engagements' (2024) <<https://climatechange.gov.ng/>> accessed 6 June 2025.

⁷² HYPREP, 'Ogoni Cleanup' (2025) <<https://hyprep.gov.ng/>> accessed 6 June 2025.

⁷³ NESREA, 'National Environmental Standards and Regulations Enforcement Agency (NESREA)' (2025) <<https://nesrea.gov.ng/>> accessed 6 June 2025.

⁷⁴ Ibid.



sectors, institutes, and organisations.⁷⁵ The focus on reducing pollution will help reduce global warming, which is a consequence of climate change, and further clarifying the roles of NESREA will be beneficial to the long-term roadmap for reducing climate change in Nigeria.

iii) Energy Commission of Nigeria (ECN) 1983 Cap E LFN 2004

The Energy Commission of Nigeria (ECN)⁷⁶ is the highest organ of Government that coordinates all energy sources and activities in Nigeria. It was created by the Energy Commission Act of 1979. It has published a number of documents in the field of energy and one of which is the National Energy Policy of Nigeria (NEP) 2003. The Policy sets out the objective of the government for all energy sources. It further provides strategies for achieving various energy objectives including security of supply of oil, gas and petroleum products. It thus qualifies as an environmental agency and regulator, as the Nigerian environment cannot be separated from its oil and gas sector which is the generator of the highest pollutants against the Nigerian environment. The ECN has also published Renewable Energy Master Plan (REMP)⁷⁷ in furtherance of its objective of linking renewable and non-renewable energy resources in Nigeria. The National Energy Policy of Nigeria promotes environmental security by specifically targeting, “to guarantees adequate, reliable and sustainable supply of energy at appropriate costs and in an environmentally friendly manner, to various sectors of the economy, for national development.”⁷⁸

Accordingly, the policy provides an integrated framework between the Commission and other sub-ministries like the NNPC (petroleum industry) and the Nigeria Coal Corporation etc., (for Coal).⁷⁹ The NEP also provides specific objectives for oil by ‘emphasising that it shall ensure internal self-sufficiency together with a reliable supply of products to meet domestic consumption.⁸⁰ In the case of gas, the NEP provides, ‘The nation shall put in place necessary infrastructure and incentives to ensure adequate geographical coverage of gas transmission and distribution.⁸¹ The Former Petroleum Act did not provide any effective legislative framework for gas utilization or the cessation of flaring in Nigeria. Hence, the rate of environmental pollution caused by gas flaring,⁸² however, it is important to note that the recent Petroleum Industry Act has taken care of gas utilization and cessation of flaring in favour of the Nigerian environment.⁸³

iv) The National Council on Climate Change, 2021

The Climate Change Act, 2021 provides for the establishment of the national council on climate change, to mitigate social, economic and environmental hardship attributable to climate change in Nigeria.⁸⁴

⁷⁵ Ibid.

⁷⁶ Energy Commission of Nigeria was established by Act No. 62 of 1979, as amended by Act No. 32 of 1988 and Act No. 19 of 1989.

⁷⁷ Energy Commission of Nigeria, Renewable Energy Master Plan (UNDP/ECN2005)2.

⁷⁸ G Etekerentse, Nigeria Petroleum Law (2nd edn, Dredew Publishers 2006)9, for some problem with the Act

⁷⁹ Ibid

⁸⁰ Ibid

⁸¹ Ibid

⁸² G S Akpan, ‘The Failure of Environmental Governance and Implication for Foreign Investors and the Host State: A Study of the Niger Delta Region of Nigeria’ (2005)3 (3) OGELI, 15-16.

⁸³ Petroleum Industry Act of 23rd August, 2021

⁸⁴ CCA, 2021 s. 3(1)



This legal instrument is to effectively deal with climate change and its associated threat to the Nigerian environment and its human and ecological co-existence.

Strong country ownership, shared vision and participatory decision-making are critical factors for successful implementation of the national response to climate change. Nigeria has 36 states plus the federal capital territory (FCT), with each layer of governance assigned constitutional responsibilities of managing the environment, and by extension climate change. It also has a well-defined management and coordination arrangement for management of climate change in the country which reflects the three-tier government structure comprising the federal, state and local government.

Functions and Powers of the National Council on Climate Change

The Climate Change Act provides that the council shall have power to: coordinate the implementation of sectoral targets and guidelines for the regulation of GHG emissions and other anthropogenic cause of climate change; approve and oversee the implementation of the action plan, administer the climate change fund established under this act; ensure the mainstreaming of climate change into the national development plans and programmes; formulate policies and programmes on climate change to serve as the basis for climate change planning research, monitoring and development; formulate guidelines for determining vulnerability to climate change impact and adaptation assessment; and facilitate the provision of technical assistance for their implementation, and monitoring; recommend legislative, policy, appropriation, and other measures for climate change adaptation, mitigation, and other related activities; mobilize financial resources to support climate change actions; collaborate with the federal inland revenue service to develop a mechanism for carbon tax in Nigeria; collaborate with the federal ministry responsible for environment and the federal ministry responsible for trade to develop and implement a mechanism for carbon emission trading; Review international agreements related to climate change and make the necessary recommendation for ratification and compliance by the government on matters pertaining thereto; disseminate information on climate change, local vulnerabilities and risk, relevant law and protocols, and adaptation and mitigation measures; advice and recommend on technical, scientific and legal matters relating to climate change, in accordance with the provisions of this Act; acquire held or dispose of any property, whether movable or immovable, for the purposes of performing its functions; supervise the activities of and recommendations by the secretaries of the national council on climate change with the aim of attaining the objectives of this act; collaborate with the Nigeria sovereign green bond in meeting Nigeria's nationally determined contributions (NDCs); and perform such other functions necessary for the fulfillment of the objectives of this Act⁸⁵.

9.0 Utilising Opportunities against Challenges Facing Climate Change Policies in Nigeria

i) Renewable Energy Opportunities

Nigeria has a wealth of traditional (fossil fuel) energy resources, including coal, petroleum, and these resources have made up to over 90% of the Gross Development Capital and are the primary source of

⁸⁵ *Ibid*, s. 4



fuel for power generation and other public energy requirements.⁸⁶ The main source of electricity is fossil fuels, which was first used on a large scale in Nigeria in 1896.⁸⁷ Nigerian demand for electricity is now much greater than supply, despite the fact that it has been produced for more than a century, and this is impeding the nation's socioeconomic and technological improvements.⁸⁸ Nigeria, despite being a populated country in Africa, has the majority of its citizens not living above the established poverty line of \$1.0 per day.⁸⁹ In addition to this, only 40% of Nigeria's population is served by the country's national power infrastructure, and the citizens who do have power only get it 60% of the time.⁹⁰

The industrial sector of the country has been significantly impacted by the energy crisis, as recorded by the Manufacturers Association of Nigeria (MAN), stating that it required 2000 MW to operate in 2009, and running and maintaining power generators required about N1.8 billion each week.⁹¹ Since energy costs 40% of Nigerian production costs, the deployment of these generators in the electricity sector has driven it to high prices for energy.⁹²

Thus, the prolonged energy crisis has significantly impeded the nation's economic development and progress. Furthermore, because of the reduction of traditional energy resources, the fluctuating price of oil on the global market, mounting need to curb carbon footprints and measures taken by both the developed and developing worlds to source for alternative energy sufficient for their energy needs, the nation's income from its petroleum resources is expected to decline significantly in the future.⁹³ Nigeria therefore needs to source for renewable energy options in these circumstances.

Diversification is required to attain a more diverse energy source mix, which will increase Nigeria's energy security. The investigation of renewable energy sources, which are plentiful in almost every region of the nation and include solar, wind, hydro, biomass and other sources, is the way forward,

⁸⁶ Abubakar Sadiq Aliyu, Joseph O Dada and Ibrahim Khalil Adam, 'Current status and future prospects of renewable energy in Nigeria' *Renewable and Sustainable Energy Reviews* (2015) 48 <<http://dx.doi.org/10.1016/j.rser.2015.03.098>> accessed 6 June 2025.

⁸⁷ Ibid.

⁸⁸ Abubakar Sambo, Babayo Garba, Ismaila Haliru Zarma and Muhammed Musa Gaji, 'Electricity Generation and the Present Challenges in the Nigerian Power Sector' *Journal of Energy and Power Engineering* (2012) 1050-1059 <http://luiscabareda.com/doc2011/JOURNAL_ENERGY_POWER_ENGINEERING_JULIO_2012.pdf> accessed 6 June 2025.

⁸⁹ Ephraim C Okafor and Chijioke Joe-Uzuegbu, 'Challenges to development of renewable energy for electric power sector in Nigeria' *International Journal of Academic Research* (2010) 2 <https://www.researchgate.net/publication/268058155_Challenges_to_development_of_renewable_energy_for_electric_power_sector_in_Nigeria> accessed 6 June 2025.

⁹⁰ Ibid.

⁹¹ Efosa Omoroghomwan, 'Electric Power Outage Cost to Electricity Distribution Companies in Nigeria' *International Journal of Scientific and Engineering Research* (2020) 11(8) 1795 - 1804 <https://www.researchgate.net/publication/348276564_Electric_Power_Outage_Cost_to_Electricity_Distribution_Companies_in_Nigeria> accessed 6 June 2025.

⁹² Ibid.

⁹³ Abubakar Sadiq Aliyu, Joseph O Dada and Ibrahim Khalil Adam, 'Current status and future prospects of renewable energy in Nigeria' *Renewable and Sustainable Energy Reviews* (2015) 48 <<http://dx.doi.org/10.1016/j.rser.2015.03.098>> accessed 6 June 2025.



because RESs are environmentally beneficial, unlimited, and sustainable.⁹⁴ In terms of energy, renewable energy sources in Nigeria have almost 1.5 times the potential of fossil fuels, thus has the ability to significantly enhance and impact Nigeria's low-level power access.⁹⁵

Hydropower is one of these renewable energy sources. More than 30% of Nigeria's current installed generating capacity is sourced from large hydro power (LHP).⁹⁶ As a result, it is among the nation's primary sources of electricity generation. The country's abundance of huge rivers, some of which have not yet been used, is the primary cause of this.⁹⁷ LHP will more than quadruple the nation's current electrical generation capacity if the planned LHP projects are carried out successfully and the already-commissioned LHP projects are maintained properly, demonstrating unequivocally how LHP can help ease the nation's current electrical shortage.⁹⁸ In addition, there will be less environmental pollution linked to fossil fuel-based power if LHP is widely integrated into the nation's generating capacity.

Small rivers, lakes or dams are used by SHP to produce electricity, in contrast to the LHP plan, which depends on the availability of huge rivers. In Nigeria, an SHP is a hydropower plant with a maximum capacity of 10 MW. Mini-hydropower plants are those with up to 1 MW, whilst micro-hydropower plants are those with up to 500 kW.⁹⁹ Nigeria has enormous SHP potential given the abundance of SHP generation sources spread throughout the nation. According to the UNIDO Regional Centre on SHP, the technical potential and the financially viable potential is 605 MW and 498.4 MW respectively, and the gross SHP potential is 720 MW.¹⁰⁰ Nigeria therefore has the potential to use hydropower as a renewable source of energy.

Another renewable source is solar power. Nigeria has a great chance to create an economy which is powered by solar energy because of its nearness to the equator. The country is located in an area with consistent sunshine throughout the year.¹⁰¹ According to estimates, the nation's average daily total solar radiation is 12.6 MJ/m² in the coastal region and 25.2 MJ/m² in the far north.¹⁰²

⁹⁴ Joseph O Dada, 'Towards understanding the benefits and challenges of Smart/Micro-Grid for electricity supply system in Nigeria' *Renewable and Sustainable Energy Reviews* (2014) 38 1003-1014 <<http://dx.doi.org/10.1016/j.rser.2014.07.077>> accessed 6 June 2025.

⁹⁵ Mohamed Shaaban and JO Petinrin, 'Renewable energy potentials in Nigeria: Meeting rural energy needs' *Renewable and Sustainable Energy Reviews* (2014) 72-84 <<https://doi.org/10.1016/j.rser.2013.08.078>> accessed 6 June 2025.

⁹⁶ Abubakar Sadiq Aliyu, Joseph O Dada and Ibrahim Khalil Adam, 'Current status and future prospects of renewable energy in Nigeria' *Renewable and Sustainable Energy Reviews* (2015) 48 <<http://dx.doi.org/10.1016/j.rser.2015.03.098>> accessed 6 June 2025.

⁹⁷ Ibid.

⁹⁸ Ibid.

⁹⁹ H Liu, D Masera and L Esser, 'World Small Hydropower Development Report' (*United Nations Industrial Development Organization; International Center on Small Hydro Power* 2013) <https://www.unido.org/sites/default/files/files/2020-08/WSHPDR_2013_Final_Report_1.pdf> accessed 6 June 2025.

¹⁰⁰ Ibid.

¹⁰¹ Olayinka S Ohunakin, Muyiwa S Adaramola, Olanrewaju M Oyewola and Richard O Fagbenle, 'Solar energy applications and development in Nigeria: Drivers and barriers' *Renewable and Sustainable Energy Reviews* (2014) 32 294-301 <<http://dx.doi.org/10.1016/j.rser.2014.01.014>> accessed 6 June 2025.

¹⁰² Ibid.

The dynamic nature of solar energy, which is currently more costly than the widely accessible conventional fuels by 2000%,¹⁰³ is one of the main problems that need to be resolved. Both the government and commercial sectors must play significant roles in ascertaining that there are functional policies and regulations in that regard before Nigeria's solar energy potential can be achieved.

Wind energy can also be made a functional source of energy in Nigeria. In order to ascertain the feasibility of wind energy for power generation, numerous researchers have considered its potential in various regions of Nigeria. Fagbenle and others used monthly mean wind data at a height of 10 meters over 21 years to determine the potential of wind energy in two locations in north eastern Nigeria, and concluded that both locations are appropriate for medium scale and standalone wind power production.¹⁰⁴

Despite extensive studies on wind power's potential in Nigeria, little attention has been paid to its development. The first wind farm in Nigeria, which is made up of 37 wind turbines, is sited in Katsina State and is the sole noteworthy wind power producing facility in Nigeria.¹⁰⁵ This is anticipated to be put into service shortly and has a 10 MW generation capacity in total.¹⁰⁶

The farm is a component of the FGN's plan to boost the nation's capability for producing power through the harnessing of renewable energy sources, but for years, it is yet to be made functional.¹⁰⁷ It is therefore necessary to create policies that ensure that such projects are prioritised and completed. This research proposes that the government focuses on the farm, given that it shows promise, and prioritise its development, instead of allowing its continuous lack of functioning.

ii) Energy Efficiency and Conservation

Nigeria utilises more than 50 million metric tonnes of fuel yearly, which significantly worsens the country's environmental problems.¹⁰⁸ It is evident that remote rural areas that are either off the grid or have limited power purchasing ability would not draw private power investors for logistical and financial reasons, even in the face of on-going reforms in the power sector and the privatisation of the energy business.¹⁰⁹ Due to the lack of a reliable electrical source, rural communities are lagging behind socially and their economic potential is mostly unrealised.¹¹⁰

¹⁰³ Abubakar Sadiq Aliyu, Joseph O Dada and Ibrahim Khalil Adam, 'Current status and future prospects of renewable energy in Nigeria' *Renewable and Sustainable Energy Reviews* (2015) 48 <<http://dx.doi.org/10.1016/j.rser.2015.03.098>> accessed 6 June 2025.

¹⁰⁴ Richard Layi Fagbenle, James Katende, Oluseyi Olanrewaju Ajayi and Joshua Olusegun Okeniyi, 'Assessment of wind energy potential of two sites in North-East, Nigeria, *Renewable and Sustainable Energy Reviews* (2011) 36(4)1277-1283 <<http://dx.doi.org/10.1016/j.rser.2010.10.003>> accessed 6 June 2025.

¹⁰⁵ Salisu Lawa and Garba Isa, 'Electricity generation using wind in Katsina State, Nigeria' *International Journal of Engineering and Research Technology* (2013) 2 <<https://www.ijert.org/electricity-generation-using-wind-in-katsina-state-nigeria>> accessed 6 June 2025.

¹⁰⁶ Ibid.

¹⁰⁷ Ibid.

¹⁰⁸ Joshua Riti and Yang Shu, 'Renewable energy, energy efficiency, and eco-friendly environment (R-E5) in Nigeria' *Energy, Sustainability and Society* (2016) 6(1) <<https://energsustainsoc.biomedcentral.com/articles/10.1186/s13705-016-0072-1>> accessed 6 June 2025.

¹⁰⁹ Ibid.

¹¹⁰ Ibid.



Sixty percent of all oil use comes from the transportation sector. Nigeria uses very little of its enormous oil and gas reserves.¹¹¹ Since none of the four refineries have operated effectively, the nation imports more than 70% of its domestic fuel needs. Nigeria's energy sector is susceptible to external energy price fluctuations due to the high cost of oil imports.¹¹² Furthermore, Nigeria's gas-dominated electrical grid still frequently fails due to low gas supply and obsolete infrastructure, despite the country having the ninth-largest natural gas resource in the world and exporting enormous amounts of liquefied natural gas (LNG) to different nations.¹¹³

Renewable energy and energy efficiency are key components of most sustainable development initiatives, such as Agenda 21.¹¹⁴ These initiatives and agreements state that a substantial increase in the utilisation of renewable energy is the only way to stabilise atmospheric greenhouse gas concentrations at limits that will avoid major disruptions to the climate system.¹¹⁵ Thus, energy efficiency still requires renewable energy, an alternative source of energy which Nigeria can harness to address climate change. Thus, the question still goes back to whether Nigeria truly harnesses its energy, and if its Agencies are up to par on climate change measures.

10. Recommendations and Conclusion

Nigeria faces a fight against climate change, a global issue that affects various nations. Its heavy reliance on fossil fuels aggravates environmental degradation, causing desertification, reduced stream flow, and greenhouse gas emissions. However, a solid basis for resolving these issues is established by international agreements, including the United Nations Framework Convention on Climate Change (UNFCCC) and Paris Agreement, and energy laws, including the Petroleum Industry Act 2021, the Climate Change Act 2021, and the National Environmental Standards and Regulations Enforcement Agency (NESREA) Act 2007.

Progressively, the Petroleum Industry Act governs gas flaring and environmental management plans for the oil and gas sector, while the Climate Change Act requires carbon budgets, support for renewable energy, and a net-zero emissions target. However, progress is hampered by Nigeria's power crisis, high industrial energy costs, and inefficiencies in the oil and gas sector, including the idle refineries and ongoing gas flaring. Thus, as a way of addressing climate change more effectively, the central agencies have to develop their roles through sectoral strategies, utilising these opportunities to facilitate national and international climate agendas. This can be done by focusing on the energy sector, and ensuring that renewable energy receives enough funding and planning for implementation.

The Federal Ministry of the Environment, whose mandate is environmental protection and sustainable development, has a responsibility to spearhead Nigeria's climate change mitigation agenda. In order to meet the Paris Agreement's goal, the Ministry needs to impose tight carbon budgets and emissions caps,

¹¹¹ Ibid.

¹¹² Ibid.

¹¹³ Ibid.

¹¹⁴ Felix Dayo, 'Clean Energy Investment in Nigeria: The domestic context' *International Institute for Sustainable Development* (21 August 2008) <<https://www.iisd.org/publications/report/clean-energy-investment-nigeria-domestic-context>> accessed 6 June 2025.

¹¹⁵ Ibid.



releasing biennial climate vulnerability and risk assessments to inform policy development. These assessments, as mandated by the Climate Change Act, will ensure evidence-based adaptation.

Furthermore, renewable energy use should be prioritised through provision of incentives, such as tax breaks and subsidies, to promote solar and hydropower schemes. The Hydrocarbon Pollution Remediation Project (HYPREP) has to reach beyond Ogoniland to restore other hydrocarbon-affected zones using community-led restoration and sustainable livelihoods. Including women, youth, and civil societies in climate action programmes will increase their inclusivity and mobilise the public. In addition to these programmes, the Ministry should support green urban development that incorporates green infrastructure into urban plans in order to address climate change-related urban problems, and should also make use of the Green Bonds which it has established, to help businesses who are environmentally sustainable but require aid. Additionally, the government can assist in ensuring that climate change policies are implemented in all sectors with increased accountability and transparency, so as to achieve Nigeria's Nationally Determined Contribution (NDC) to the Paris Agreement.

Subsequently, this paper notes that since enforcing environmental regulations and lowering pollution, a major contributor to climate change, are the goals of the National Environmental Standards and Regulations Enforcement Agency (NESREA), the Agency should be more diligent in their achievement. In the petroleum and gas industry, in which gas flaring causes the emissions resulting from environmental offenses, NESREA must have measures to enable it to prevent this happening. This can be in a way of opening up space for complaints from the communities about the offenses against the provisions of the NESREA Act. The Agency should also ensure that it prosecutes the offenders of the Act, and enforces the penalty for non-compliance. This will discourage individuals and businesses from carrying out gas flaring and other operations that are injurious to the environment.

They must also raise awareness of the existing laws, and public education campaigns on energy saving and renewable energy should be conducted. In order to develop affordable renewable energy technology that can further increase their marketability, NESREA should collaborate with research organizations, and allow private funding of research and undertakings which will be of benefit to the environment. The Agency can further sensitise Nigeria on sustainable action and establish a coalition for climate action by stepping up environmental education and engaging national and international stakeholders. The government can also highlight energy conservation and sustainable waste management since it will help in pollution reduction and its effects on climate change.

In effectiveness, the National Council on Climate Change has to invest in funding climate adaptation activities, primarily the Climate Change Fund, clean energy projects, as well as establishing institutional capacity for vulnerable groups. Since the NDC, whose proposition to spend big to reach emission reduction goals is heavily dependent on the fund, the Council has to place it as a priority. To enhance compliance with the National Action Plan on Climate Change, the Council will ensure there is coordination of climate change interventions in all Ministries, Departments, and Agencies into operations with operational timetables and accountability mechanisms. Therefore, it would not only be a case of amending laws or establishing guidelines, but each Ministry will be tasked with ensuring



compliance with the laws under their management. Further, regular public reporting by public and private stakeholders on progress in climate action should become mandatory to maximize transparency.

In order to align Nigeria's activities with the universal climate agenda as set in the UNFCCC, Kyoto Protocol, and Paris Agreement, the National Council on Climate Change would also seek to increase international cooperation in order to access funding and technical assistance. This can be through mainstreaming climate policy into national development plans, encouraging collaboration with other countries, and balancing the conservation of the environment with economic growth. For purposes of reducing the oil and gas sector's environmental expenses, the Nigerian Upstream Petroleum Regulatory Commission should, with the help of NESREA, implement stringent gas flaring prohibitions.

The Environmental Remediation Fund can be extended by the Commission to restore oil-contaminated sites, focusing on biodiversity and community health in areas where oil drilling normally occurs. Promotion of cleaner technologies and utilization of renewable energy resources in upstream operations will lower the carbon intensity of the industry. By encouraging environmental conservation measures, the Commission can minimize the oil and gas industry's contribution to climate change, while helping Nigeria onto a low-carbon energy journey.

Finally, Nigeria's renewable energy resources offer a revolutionary opportunity to help correct its energy crisis and reduce climate change. Hydropower has the potential to energize rural communities and reduce fossil fuel dependence, and like solar and wind energy, it is not adequately exploited. The Kaduna Wind Farm is still not operational, a poor indicator of the attitude of the country towards environmental sustainability. In order to end this, the price of renewable energy must be subsidised by the government, projects in progress must be completed, and public-private collaboration must be promoted to scale up infrastructure. Energy efficiency measures such as reducing fuel wood utilisation and curbing transportation energy consumption will also further mitigate the issues of climate change. These measures are nothing without enforceability, and as such, the judiciary should be empowered further to decide cases regarding numerous aspects of activities affecting climate change. With the implementation of these recommendations, Nigeria can reduce emissions, increase energy security, and enhance sustainable development, achieving its climate goals and building a strong future for the Nigerian environment.