

Gas to Power: Energy Security and Sustainability Under the Petroleum Industry Act, 2021

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Keywords:

Climate change,
Natural gas,
PIA,
Security,
Sustainability.

Abstract. Nigeria generates 77% of its electricity from natural gas and has abundant reserves of natural gas estimated at 5,675 billion cubic meters. Despite these, 45% of Nigerians do not have access to electricity and supply is unreliable. Unavailability of electricity limits living standards and economic growth. The paper examined how the PIA is structured to deliver security of natural gas supply to the electricity industry sustainably given concerns over global warming and climate change precipitated by Greenhouse Gas emissions from burning fossil fuels. Data for this study was collected from statutes including the Petroleum Industry Act, 2021(PIA) and other sources, using the doctrinal method. The paper concluded that the PIA has a robust framework for achieving the security of natural gas supply but prioritised the availability of gas over sustainability. The paper recommended limitation of subsidy on electricity to fund gas supply and an immediate proscription of gas flaring.

1. INTRODUCTION

1.1. Background

Nigeria has the 9th largest proven reserves of natural gas in the world estimated at 5,675 billion cubic meters (200.41 trillion cubic feet) - as of 2018¹. Natural gas also comprises 77% of the electricity supplied to Nigeria's national grid.² Despite these, out of Nigeria's installed electricity generation capacity of 14,039 MW in 2024, it was only able to generate an average of 4,853.69 MW largely due to gas constraints.³ In March, 2025, while Nigeria was celebrating peak generation of 5,543 MW⁴, South Africa had an available capacity of 38,897 MW.⁵ 84.39% of the South African population has access to electricity⁶ while only 55% of the Nigerian population does.⁷ 94 million people in Nigeria (45% of Nigeria's population) do not have access to electricity.

In 2021, Nigeria enacted the Petroleum Industry Act (PIA) to establish a legal, governance, regulatory and fiscal framework for the Nigerian petroleum industry; and to provide for the development of host communities and related matters. One of the functions of the Nigerian Midstream and Downstream Petroleum Regulatory Authority (the Authority) established under the PIA is to ensure 'the supply and distribution of natural gas ...and the security of natural gas supply for the domestic gas market.'⁸

Given that 77% of Nigeria's electricity is produced from gas, natural gas supply for the generation of electricity is a risk to the environment because combustion of gas and other fossil fuels is a significant source of Greenhouse Gas (GHG) emissions which cause of global warming. Global warming triggers climate change. Weather events such as floods, storms and drought precipitated by climate change led to the deterioration in the quality of life. It is therefore important that energy security is not pursued independent of considerations for the sustainability of the environment. The paper will examine the extent to which the PIA is

¹ Olushola Joshua Olujobi and others, 'The Legal Framework for Combating Gas Flaring in Nigeria's Oil and Gas Industry: Can It Promote Sustainable Energy Security?' (2022)14(13) Sustainability 1,1; Most of the gas used for electricity generation in Nigeria is associated gas. As a result, the historical underinvestment which has hampered petroleum exploration will impact the availability of gas. See Nigerian Energy Support Programme (NESP), 'The Nigerian Energy Sector: An Overview with a Special Emphasis on Renewable Energy, Energy Efficiency and Rural Electrification' 24 <www.giz.de/en/downloads/giz2015-en-nigerian-energy-sector.pdf> accessed 9 November 2023; and PwC, 'Evaluating Nigeria's Gas Value Chain' 3 www.pwc.com/ng/en/assets/pdf/evaluating-nigeria-gas-value-chain.pdf accessed 9 November, 2023

² International Energy Agency (IEA), 'Where does Nigeria get its Electricity' <<https://www.iea.org/countries/nigeria/electricity>> accessed 13 November 2025); See also Olushola Joshua Olujobi and others, 'Fossil-Fuel Disruptions and Low Carbon Transition: Legal Responses to Energy Security and Sustainability in Nigeria's Power Sector' (2023) 26 *Journal of Legal, Ethical and Regulatory Issues* 1, 2

³ NERC, *2024 Annual Report and Accounts* (2025) 79 and 141 < <https://nerc.gov.ng/wp-content/uploads/2025/07/2024-Annual-Report.pdf>> accessed 4 November 2025; See also Damilola Aina, 'GenCos lose N2.3tn to stranded power as grid bottlenecks persist' *Punch* (Lagos, 3 November 2025) < <https://punchng.com/gencos-lose-n2-3tn-to-stranded-power-as-grid-bottlenecks-persist/>> accessed 4 November 2024

⁴ Damilola Aina and Dare Olawin, 'Power Generation Hits 5,543MW as Govt Reveals New Plans' *Punch* (Lagos, 20 February, 2025) <<https://punchng.com/power-generation-hits-5543mw-as-govt-reveals-new-plans/>> accessed 20 February, 2025

⁵ South African Power Pool (SAPP), 'Demand and Supply' <www.sapp.co.zw/demand-and-supply> accessed 20 March, 2025

⁶ SADC Centre for Renewable Energy Efficiency (SACREEE), 'South Africa', < www.sacreee.org/index.php/member-state/south-africa> accessed 20 March, 2025

⁷ Federal Ministry of Power (FMP), 'National Integrated Power Policy (NIEP), 2024, para 2.1.1 <<https://intdev.tetracheurope.com/wp-content/uploads/2025/03/UKNIAF-National-Integrated-Electricity-Policy-2025.pdf>> accessed 1 July, 2025> See also World Bank, 'Access to Electricity (% of the Population)' <<https://data.worldbank.org/indicator/EG.ELC.ACCS.ZS?locations=NG>> accessed 11 September 2024 which assesses the percentage of population without access to electricity at 39.5%.

⁸ PIA, section 31(e)

structured to deliver on its promise of security of natural gas supply to the electricity industry in Nigeria sustainably.

Data for this study was collected using the doctrinal method. The primary sources of data were the constitution, statutes and regulations of the Federal Republic of Nigeria including the PIA. The secondary sources considered includes publications of international organisations, journal articles, textbooks and blogs on Nigeria's petroleum industry.

The paper is divided into sections. Section one is the introduction. Section 2 contains the clarification of concepts used and theoretical framework of the study while section 3 introduced the PIA. The PIA and Energy Security; and the PIA and Sustainability were respectively discussed in sections 4 and 5. The conclusion and recommendations were set out in section 6 of the study.

1.2. Statement of the Problem

Electricity is necessary to achieve efficiency in most human activities. Unreliable electricity disrupts households and businesses thereby limiting living standards and economic growth. In agriculture, for instance, lack of electricity upsets irrigation plans and aggravates post-harvest losses due poor storage conditions. Households without electricity are excluded from modern living. Power generators in Nigeria suffer gross gas supply constraints due to under-investment in gas infrastructure.

Global temperature has increased significantly since the Industrial Revolution due to human activities which have been changing the composition of the atmosphere as result of GHG emissions from the burning of fossil fuels such as gas from which most of Nigeria's electricity is produced. Global warming result in climate change and concomitant weather events such as floods, storms and drought. The Nigerian environment is suffused with such environmental challenges which have led to the deterioration in the quality of life.

Nigeria depends on export of fossil fuel including gas for most of its foreign exchange and require gas to meet its domestic electricity demand. Nigeria also set the goal of achieving net zero GHG emissions between 2050 and 2070 in the Climate Change Act, 2021. Despite this commitment, Nigeria satisfies its domestic electricity demand from gas which is almost entirely produced in association with crude oil, another significant source of GHG.

Key legislations targeted at the achievement of energy security and sustainability including the PIA and the Climate Change Act, 2021 are recent. The ramifications of their impact are still unfolding. As such there are risks of misinterpretation and misapplication of their provisions leading to conflicts among stakeholders as to what constitutes compliance. Interrogation of their provisions will help mitigate such risks.

1.3. Objective of the Study and the Research Question

The objective of this study is to examine the PIA to determine how it enhance energy security and sustainability in Nigeria through the supply of natural gas to the electricity industry. The sole research question is 'to what extent does the PIA enhance the achievement of energy security and sustainability in Nigeria through the supply of natural gas to the electricity industry?'

2. LITERATURE REVIEW

2.1. Clarification of Concepts

2.1.1. The Concept of Energy Security

Omorogbe⁹ defined energy security as the delivery of adequate, efficient, affordable and reliable energy services with negligible negative impact on the environment. Energy security has also been defined as the availability of energy without interruption at an affordable price.¹⁰ Yet, for another author, energy security is adequate access and availability of affordable energy services without a significant risk of major disruption for the foreseeable future.¹¹ Roth noted that the concept of energy security is evolving in response to developments such as rise of renewables, mitigation of climate change and de-prioritization of fossil fuels.¹² Omorogbe explained, with respect to African countries that the definition of energy security includes preference for domestic supply over imports.¹³ The author advocated that any petroleum importing African country, in order to enhance its energy security should diversify its energy mix to include local energy sources, especially solar.¹⁴ It has also been canvassed that for a country to have energy security, it must not be importing any of its energy requirements.¹⁵

The preference for exclusive domestic supply is not generally accepted. Zigah argued with respect to improving natural gas security in Nigeria, Ghana, Cote d'Ivoire and Cameroon that sources of gas supply should be expanded to include supply from 'high political stability countries.'¹⁶ Zigah's view was echoed by Elkind.¹⁷ Contrary to Omorogbe's view, Elkind¹⁸ argued that foreign supplies could rescue the domestic energy industry in emergencies or disruptions of the value chain and so should not be discounted in the quest for energy security. The author noted that access to fuel imports was critical to restoring energy supply in the United States (U.S) after hurricanes Katrina and Rita which damaged 100 (one hundred) oil and gas production platforms and reduced the output of the country's refineries by close to 20% (twenty percent).¹⁹ This study agrees that importation of energy could enhance rather than harm energy security. Given the long lead time required to deliver energy supplies it would be difficult to procure energy to mitigate unforeseen supply disruption unless a contract was already in place before the emergency. The impact

⁹ Yinka Omorogbe, 'Universal Access to Modern Energy Services: The Centrality of the Law', Yinka Omorogbe and Ada Ordo(eds) *Ending Africa's Energy Deficit and the Law: Achieving Sustainable Energy for All in Africa* (OUP, 2018) 1, 20

¹⁰ Tayo Douglas and Ayoyemi Lawal-Arowolo, 'Renewable Energy and Its Instrumentality to Sustainable Development in Nigeria' (2022) 3 *Carnelian JL & Pol* 15, 20

¹¹ Victoria Roth, 'Incorporating Unconventional and Renewable Energy into the International Energy Framework: The Diminution of OPEC in a New World Order' (2020) 13 *J World Energy L & Bus* 68

¹² *ibid*

¹³ Omorogbe (n 9) 20

¹⁴ *ibid*

¹⁵ Douglas and Lawal-Arowolo (n 10) 21

¹⁶ Elias Zigah, 'Energy Security in West Africa: The Case of Natural Gas' (2019) *YARS* 91, 105

¹⁷ Jonathan Elkind, 'Energy Security: Call for a Broader Agenda', in Carlos Pascual and Jonathan Elkind (eds.), *Energy Security: Economics, Politics, Strategies and Implication* (Brooking Institution Press, 2010) 119, 123

¹⁸ *ibid* 126

¹⁹ *ibid*

of imported energy depends on what proportion of a country's energy supply it constitutes and the resilience of the domestic supply.

Roth²⁰ identified diversification as a means of achieving energy security and reported that Japan diversified into coal, nuclear power and Liquefied Natural Gas (LNG) in the 1970s to reduce its dependence on unstable oil supplies from the Middle East. For the same reason, Brazil also ramped up domestic ethanol production which eventually accounted for 22.4 per cent of global production while France transitioned its primary source of electricity to nuclear power by building 58 reactors between 1971 and 2001 from which it generates 75% of its electricity.²¹ A different example of diversification is the USA which imports 9.94 mb/d crude oil requirement from 90 countries thereby ensuring that no country can hold it hostage.²² Using importation as a tool for the achievement of energy security is endorsed by Elkind.²³ Roth lists improving energy efficiency as another mechanism for improving energy security.²⁴

For the purposes of this study, energy security is defined as the short term and long-term availability of affordable energy. This study adopts the definitions of availability and affordability provided by Elkind²⁵ which are summarised below.

2.1.1.1. Availability

Availability refers to the ability of the consumers to access the energy goods and services that they need. Availability requires the existence of commercial energy markets. Other elements of availability include the availability of sources of energy within the country; ability of producers, consumers and transit countries, where the energy goods or services is imported, to agree on terms of trade; technical solutions for generation, transmission and distribution of energy, capital investment, enabling legal and regulatory frameworks and institution and societal acceptance of the energy service. Availability also connotes reliability, that is consistent availability without interruptions. Elkind listed strategies for ensuring reliability as diversification of sources of supply; diversification of the supply chain; enhancing the capacity of energy networks such as electricity generation and transmission systems; reducing energy demand; building redundant infrastructure and emergency stock; and spreading market information. As such, the regulator must factor in the cost of building extra capacity, redundant infrastructure and emergency stock into tariffs and the customers be willing and able to pay the tariffs. Otherwise, private capital may not fund the excess capacity.

2.1.1.2. Affordability

Affordability relates to price. The two key elements of affordability are prices relative to disposable incomes and stability of prices. Price spikes can make consumers drastically reduce their consumption or live without the energy they need. The price of energy is important because it influences investment decisions and consumer choices. Low energy prices especially below the cost of production, encourages consumption but discourages investment. Such low prices therefore do not promote energy security. To achieve energy security, particularly in the long term, prices must convey the full cost of energy consumption in order to encourage investment and incentivise suitable consumer choices.

Subsidy also enhance affordability of energy services.²⁶ However, this study notes that subsidies distort market conditions, discourage investment and undermine energy efficiency. In addition, the Nigerian government can scarcely afford subsidies. Where they must be given, they should be structured to benefit only those who cannot afford the energy service and only for limited services to prevent abuse. This study also agrees with Oniemola and Ezirigwe²⁷ that subsidies must not be discriminatory.

2.1.2. Sustainability

Sustain is defined by The Chambers Dictionary as 'to keep going', 'to withstand, tolerate or endure', 'to bolster, strengthen or encourage', 'to maintain or provide for something', 'to maintain or prolong' and 'to bear the weight of or support something especially from below'.²⁸ The dictionary further defined sustainable as 'capable of being sustained' and 'said of economic development, population growth, renewable resources, etc.: capable of being maintained at a set level'.²⁹ Sustainability is the act of sustaining. Sustainability therefore means continuity or long-term viability - of life, health, business or the economy in substantially the same condition.³⁰ Sustainability as long term viability in the context of energy security could refer to long-term availability of energy or to the maintenance of the social and physical environment in its current form despite energy use. It is in the latter sense that it was used in this study. In that latter sense, sustainability has been referred to as an approach to achieving long-term sustenance of human life in the face of existential challenges such as climate change and population explosion given the current technology and resources.³¹ It implies consideration of interrelated dimensions of the society-nature relations or the Socio-Ecological Systems (SES) that make up the biosphere in decision making.³² Ben-li defines sustainability as follows:³³

²⁰ Roth (n 11) 71; See also Daniel Yergin, 'Ensuring Energy Security' (2006) 85(2) Foreign Affairs 69, 69-82

²¹ Roth (n 11) 78

²² *ibid* 73

²³ Elkind (n 17) 125

²⁴ *ibid* 73

²⁵ Elkind (n 17) 124 -125

²⁶ Omorogbe (n 9) 19; Peter Kayode Oniemola and Jane Ezirigwe, 'Financing Energy Access in Africa', in Yinka Omorogbe and Ada Ordor(eds) (n 9) 87, 104

²⁷ Oniemola and Ezirigwe (n 26) 102

²⁸ *The Chambers Dictionary* (Chambers Harrap Publishers, 1998)

²⁹ *The Chambers Dictionary* (Chambers Harrap Publishers, 1998)

³⁰ Nkemdilim Iheanachor, 'The Sustainability Challenge: Developing Strategic Advantage' in Rose Ogbechie and Marvel Ogah (eds.) *Sustainable and Responsible Business in Africa* (Palmgrave Macmillan, 2024) 64

³¹ Samuel K Joseph and others, 'Sustainability Theory: Synopsis, Concepts, Interpretations and Discourses' (2022) 2 (1) Journal of the Kenya National Commission for UNESCO 1, 4

³² Carlos Alberto Ruggerio, 'Sustainability and Sustainable development: A review of principles and definitions' (2021) 786 Science of the Total Environment 1, 10

³³ Michael Uri Ben-Eli, Sustainability: Definition and Five Core Principles, A Systems Perspective (2018) 13 Sustain. Sci.1337, 1340

A dynamic equilibrium in the process of interaction between a population and the carrying capacity of its environment such that the population develops to express its full potential without producing irreversible adverse effects on the carrying capacity of the environment upon which it depends.

The above definition was provided in the context of the entire planet, the integrity and health of the Earth's biosphere, and the future welfare of human beings and was presented as a type of stability characterized by a quantity that remains invariant.³⁴

Ruggerio³⁵ identified two parallel approaches to sustainability. One is the weak sustainability approach or the neoclassical approach and the second is the strong sustainability approach (ecology approach). The focus of the weak sustainability approach is on continuity of economic development and is aligned with the concept of sustainable development. This approach demotes nature to the supplier of ecosystem services, natural resources and the receptacle of the residues generated by human beings. The neoclassical approach has been criticized for ignoring ecological issues such as the Earth's limited capacity to assimilate waste, the degree at which natural resources can be exploited to prevent their irreversible depletion, the impossibility of restoring an ecosystem altered beyond a critical point, and the deleterious results of unrestrained use of some substances and processes.³⁶

Proponents of the strong sustainability approach argue that nature is the subject of sustainability and so sustainability initiatives should prioritize the conservation of nature's attributes, even to the point of neglecting human communities. The ecology approach advocates that the precautionary principle³⁷ must trump economic logic in decision making. The ecology approach is consistent with the concept of degrowth which advocates the need to reverse the inclination towards deterioration of the Earth through moderating consumption of materials and energy.³⁸

Notwithstanding the differences in approach, at the core of sustainability is the requirement that every business or entity takes into consideration the protection of the environment in its decisions as that will contribute to the achievement long-term sustenance of human life in the light of the mutual relationships in the earth's ecosystem.³⁹ Sustainability is key to energy security because energy infrastructure is long-lived so today's choice will have long-term impact. Achieving energy security without environmental consideration will compound climate change and have significant adverse impact on energy system.⁴⁰

2.2. Theoretical Framework

2.2.1. Sustainable Development Theory

The sustainable development theory evolved from UN conferences on the environment starting with the UN Conference on the Human Environment held in Stockholm, Sweden in 1972.⁴¹ It became widely accepted following the report of the World Commission on Environment and Development (WCED or Brundtland Commission) led by Graham Harlem Brundtland in its 1987 report.⁴² The 1992 Earth Summit established Agenda 21 an international consensus to support and reinforce national programmes for sustainable development that charged countries to adopt measures to improve the quality of their ecosystems and to assume shared responsibility for the future.⁴³ Agenda 21 reinforced the themes of the Stockholm Conference and the Brundtland Commission report.

The Brundtland Commission interpreted sustainable development as meaning development 'which meets the needs of the present generation without compromising the ability of future generations to meet their own needs.'⁴⁴ In essence, sustainable development advocates the restraint of current consumption so that future generations would have resources that are comparable to that of the present generation.⁴⁵ From the earliest times, it has been recognised that every society must aim to achieve a balance in the relationship between development and nature. The central idea of Chinese classical philosophy '天人合一' (Heaven and People One) is related to this harmony.⁴⁶ The main philosophy of the sustainable development theory is that in order to maintain a healthy natural eco-system capable of supporting present and future generations, every development must take into consideration the environment and aim to preserve it in its current state.

Embedded in the sustainable development theory are the concepts of intra-generational equity and inter-generational equity. The former is concerned with fairness across different social groups in the use of resources and the latter refers to equity in the right to development between the current and the succeeding generations.⁴⁷ Boyle also posited that sustainable development would mean utilizing sources of energy that are not significantly depleted by sustained use; the use of which does not lead to significant social injustice or health risks; and the utilization of which does not result in significant emission of pollutants or other

³⁴ *ibid*

³⁵ Ruggerio (n 32) 7- 8

³⁶ Ruggerio (n 32) 8

³⁷ The precautionary principle requires precautionary regulation in the absence of complete evidence of the crystallization of a risk. Please see, Daniel Bodansky, Jutta Brunnee and Ellen Hey, *The Oxford Handbook of International Environmental Law* (Oxford University Press Inc, 2007) 599

³⁸ Ruggerio (n 32) 8

³⁹ Samuel K Joseph and others, 'Sustainability Theory: Synopsis, Concepts, Interpretations and Discourses' (2022) 2 (1) *Journal of the Kenya National Commission for UNESCO* 14

⁴⁰ Elkind (n 17) 128 -129

⁴¹ UN Conference on the Human Environment held in Stockholm, Sweden. At the conference, the UN established UNEP to monitor the environment, advise on science-based policy making with respect to the environment and co-ordinate global responses to environmental challenges. Please see United Nations Environmental Programme, 'UNEP: 50 years of Environmental Milestones' < www.unep.org/environmental-moments-unep50-timeline#: > accessed 20th September, 2023; See also Yemi Oke, *Nigerian Energy and Petroleum Industry Law: Oil and Gas -Cases, Practice and Theories* (2nd edn. Princeton and Associates, 2023) 955

⁴² World Commission on Environment and Development (Brundtland Commission) *Our Common Future* (Report, 1987) paragraph 27 < <https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf> >

⁴³ UN Conference on Environment and Development 1992 (Rio), *A/CONF 151/26 Vol.1*, 8.31, I.L.M 872 (1992); See also Oke (n 86) 956

⁴⁴ Brundtland Commission (n 42) paragraph 27

⁴⁵ Peterson Ozili, 'Theories of Sustainable Development' in Kittisak Wongmahesak, Ismail Suardi Wekke and Pannee Suanpang (eds) *Sustainable Development Humanities and Social Sciences 5.0* (IGI Global 2025) 1

⁴⁶ Longyu Shi and others, 'The Evolution of Sustainable Development Theory: Types, Goals, and Research Prospects' (2019) 11(24) *Sustainability* 1,3

⁴⁷ *ibid* 1

substantial harm to the environment.⁴⁸

The sustainable development theory has been criticized for its ambiguity.⁴⁹ Another author has claimed that owing to the flexibility of the theory, almost any development will pass the sustainability test.⁵⁰ Other criticism of the theory is that it was created for the benefit of developed countries and susceptible to green washing; that it can exacerbate current inequalities and that the needs of future generations which it refers to is not known.⁵¹ Notwithstanding these criticisms, the sustainable development theory was used in assessing the PIA to determine how concerns for long-term stability, natural eco-systems and human life are integrated into the law.

2.2.2. The Resource Curse Theory

Natural resources are material with economic value found in nature such as coal and gas. Classical economists postulated that the abundance of natural resources is a boost to a country's economic growth and that such abundance gave the resource-rich countries an advantage over less endowed countries.⁵² The Resource Curse Theory (RCT), on the other hand, posits that resource rich nations tend to have sluggish economic growth. The origin of the RCT is credited to M.L Ross who in a 1999 article justified RCT on the factors he largely classified as political and economic.⁵³

The political reasons he listed are that resource booms tend to lead to short-sightedness among political leaders and weaken state institutions. The economic explanations identified by Ross for resource curse are decline in the terms of trade of primary commodities, fluctuations in the prices of raw materials, weak economic links between the resource sectors and the rest of the economy and the Dutch disease. Ross also cited the use of State-Owned Enterprises (SOEs) for natural resource extraction and the inability to enforce property rights as triggers of resource curse. These factors have been endorsed in current literature.⁵⁴ Corruption is considered one of the key causes of resource curse because it erodes the quality of institutions and undermines the regulatory framework for the governance of natural resources.⁵⁵

The Dutch disease phenomenon emerged from the experience of Netherlands which export of natural gas during a boom led to the appreciation of its currency.⁵⁶ The stronger currency reduced Netherland's export competitiveness, the value of its aggregate exports and the size its economy.⁵⁷ So the Dutch disease is said to occur when the currency appreciation from increase in the price of raw materials exported by a country makes the economy less competitive. Other manifestations of the Dutch disease are decline of interest in manufacturing and services due to availability of income from natural resources which lulls industrialization and urbanization and makes the primary sector, the major source of foreign exchange.⁵⁸ In countries like Nigeria, where the export commodity is the major foreign exchange earner, unfavourable terms of trade results in capital flight and stagnation of the economy.⁵⁹ Natural resources has also been linked to civil wars.⁶⁰

Nigeria features prominently in RCT literature. Corruption has been blamed for Nigeria's poor economic performance despite its significant natural resources.⁶¹ An affirmation of this view is Nigeria's ranking as the 140th of 180 countries in the Transparency International Corruption Index.⁶² Nigeria's Gross Domestic Product (GDP) per capita in 2024 was \$806.9 compared to another oil exporter, Norway's \$86,809.7.⁶³ RCT would therefore be relevant in examining why despite Nigeria's humongous gas sources, 45% of its population does not have access to electricity. The RCT was used in identifying wider issues beyond the legal framework which affect the achievement of energy security and sustainability.

RCT does not hold true for all countries with an abundance of natural resources especially those which are less dependent on natural resources.⁶⁴ The fact that United States of America, Norway, Australia and Canada are among the richest countries in the world even though they have an abundance of natural resources while Nigeria, Chad and Libya which are equally well endowed are among the poorest countries is explained by their level of dependence on income from their primary commodities.⁶⁵ Erum and Hussain, with time-series panel data covering 1984–2016 found that natural resources have a significant positive impact

⁴⁸ Godfrey Boyle, 'Introductory Overview', in Godfrey Boyle, Bob Everett and Janet Ramage (eds), *Energy Systems and Sustainability: Power for a Sustainable Future* (Oxford University Press, 2003) 6.6; Olushola Joshua Olujobi and others, 'Fossil-Fuel Disruptions and Low Carbon Transition: Legal Responses to Energy Security and Sustainability in Nigeria's Power Sector' (2023) 26 *Journal of Legal, Ethical and Regulatory Issues* 1,9

⁴⁹ Ruggerio (n 32) 1, 2; Malcolm N. Shaw, *International Law* (9th edn, Cambridge University Press 2021) 760; See also James Crawford, *Brownlie's Principles of Public International Law* (9th edn, Oxford University Press 2019) 342

⁵⁰ D. Ukwandu, 'A Critical Review of the Concept of Sustainable Development and its Relevance to Sub-Saharan Africa' (2018) 26(4) *Administratio Publica*, 58, 59

⁵¹ *ibid* 61-68

⁵² Syed Rahim and others, 'Do natural resources abundance and human capital development promote economic growth? A study on the resource curse hypothesis in Next Eleven countries' (2021) 4 *Resources, Environment and Sustainability* 1, 1; See also Mladen Anđelković, Zoran Stefanović and Dragan Petrović, 'Institutional Aspects of the Curse of Natural Resources' (2024) 62(4) *Economic Themes*, 429, 431

⁵³ Michael L Ross, 'The Political Economy of Resource Curse' (1999) 51(2) *World Politics* 297, 298

⁵⁴ Sanjeev Yadav and others, 'Nexus between Fintech, Green Finance and Natural Resources Management: Transition of BRICS Nation Industries from Resource Curse to Resource Blessed Sustainable Economies' (2024) 91 *Resource Policy* 1, 2

⁵⁵ Muhammad Atif Khana and others, 'A Cultural Perspective of Natural Resource Curse in Finance', (2025) 32(5) *Applied Economic Letters* 603,603; See also ⁵⁵ Zhiqiao Xiong and others, 'Breaking the resource curse: can the development of digital economy in resource-based cities improve corporate ESG performance?' (2025) *Applied Economic Letters* 11

⁵⁶ Rahim and others (n 52) 3.

⁵⁷ *ibid*

⁵⁸ Anđelković and Others (n 52) 433

⁵⁹ *ibid*

⁶⁰ *ibid* 439

⁶¹ Ali Elwerefli, James Benhin, 'Oil a Blessing or Curse: A Comparative Assessment of Nigeria, Norway and the United Arab Emirates' (2018) 8 *Theoretical Economics Letters* 1136, 1155

⁶² Transparency International, 'Corruption Perception Index – Nigeria', < www.transparency.org/en/countries/nigeria > accessed 11 July, 2025

⁶³ World Bank, 'GDP Per Capita (Current US\$) – Nigeria' <<https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=NG> > accessed 11 July, 2025

⁶⁴ Anđelković and Others (n 52) 432

⁶⁵ Naila Erum and Shahzad Hussein, 'Corruption, natural resources and economic growth: Evidence from OIC countries' (2019) 63 *Resources Policy*, 18-9

on economic growth, but that corruption undermines growth prospects.⁶⁶

The sustainable development theory is the more relevant to this study because it includes the two legs of the study, energy development and sustainability. Also, the resource curse theory may be interpreted as tools for explaining sustainable development or the lack of it.

3. PETROLEUM INDUSTRY ACT, (PIA), 2021

Section 1 of the PIA as did section 44(3) of CFRN, 1999 vests the 'property and ownership of petroleum within Nigeria and its territorial waters, continental shelf' and EEZ in the Federal Government of Nigeria (FGN). The Act established the Nigerian Upstream Regulatory Commission (NUPRC or the Commission),⁶⁷ and the Nigerian Midstream and Downstream Regulatory Authority (NMDPRA or the Authority).⁶⁸ NUPRC is authorised under the PIA to regulate upstream petroleum operations⁶⁹ while NMDPRA regulates the midstream and downstream segments of the petroleum industry.⁷⁰ The NUPRC and NMDPRA are empowered to issue standards and guidelines⁷¹ and may make regulations within their respective spheres of authority⁷². Such subsidiary legislation forms part of the legal framework of the industry.

Prior to the PIA, the Department of Petroleum Resources (DPR) regulated the entire value chain of the petroleum industry including upstream, midstream and downstream. DPR, a department under the Ministry of Petroleum Resources, did not have direct statutory authority to regulate the petroleum industry but exercised those powers on behalf of the Minister of Petroleum Resources (MPR) who was empowered under the Petroleum Act to regulate the petroleum industry.⁷³ DPR did not therefore have an independent statutory mandate to regulate the industry. Before the PIA, the government-owned operator, the now defunct Nigerian National Petroleum Corporation (NNPC)⁷⁴ also exercised regulatory functions and was considered a quasi-regulator.⁷⁵ The absence of a statutory mandate for DPR and NNPC's quasi regulatory role led to uncertainties as to who is the appropriate regulator and the ambit of their powers.

The PIA required the Minister of Petroleum to incorporate Nigerian National Petroleum Corporation Limited (NNPC Limited)⁷⁶ to which interests, assets and liabilities of NNPC shall be transferred.⁷⁷ NNPC is to cease to exist after any interests not transferred to NNPC Limited or its subsidiaries are transferred to the government or extinguished.⁷⁸ The PIA repealed the Nigerian National Petroleum Corporation Act (NNPC Act)⁷⁹ with effect from when NNPC ceases to exist.⁸⁰ The repeal for the NNPC Act is significant because it removed the cover under which NNPC exercised quasi-regulatory functions. Although the NNPC Act was repealed and NNPC corporatized, NNPC Limited was constituted as an SOE. The non-privatisation of NNPC Limited exposes Nigeria to the one of the causes of resource curse, that is, the involvement of SOEs in the management in the management of a country's resources. The PIA grants certain rights classified as licences and leases to participants in the petroleum industry.

3.1. Rights Granted to Investors Under the PIA in the Upstream Segment of the Petroleum Industry

The PIA creates the Petroleum Exploration Licence (PEL), the Petroleum Prospecting Licence (PPL) and the Petroleum Mining Lease (PML).⁸¹ These licences used to be the Oil Exploration Licence (OEL), Oil Prospecting Licence (OPL) and Oil Mining Lease (OML) under the Petroleum Act, 1969.⁸² The change in nomenclature has been identified as a symbolic acknowledgment of the relevance of natural gas in the energy mix and change of policy in upstream petroleum legislation which has hitherto been designed for crude oil. A PEL confers a non-exclusive right to carry out petroleum exploration operations within the area stipulated in the licence for a period of 3 (three) years which may be renewed for another 3 (three) years.⁸³ The right to win, extract, work, store, evacuate, transport, export or treat petroleum discovered in the exploration area is not included in PELs.

A PPL confers on the holders the right to evacuate and dispose crude oil or natural gas won during drilling operations.⁸⁴ The duration of a PPL on onshore and shallow water acreages is a period of not more than 6 (six) years comprising an initial exploration period of 3 (three) years and optional extension period of 3 (three) years.⁸⁵ For deep offshore and frontier acreages, the duration of the PPL is a period of not more than 10 (ten) years comprising an initial exploration period of 5 (five) years and an optional extension period of 5 (years).⁸⁶ The holder of a PPL is given an exclusive right to drill exploration and appraisal wells.⁸⁷ The PPL holder's right to explore for petroleum within the licensed area is not exclusive.

A PML is granted for each commercial discovery of crude oil or natural gas or both, to the licensee of a PPL.⁸⁸ It may also be

⁶⁶ *ibid*; See also Oumarou Zallé, 'Natural resources and economic growth in Africa: The role of institutional quality and human capital' (2019) 62 *Resources Policy*, 616, 622

⁶⁷ *ibid* section 4

⁶⁸ *ibid* section 29

⁶⁹ *ibid* section 4(3)

⁷⁰ PIA, section 29(3)

⁷¹ *ibid* sections 10

⁷² *ibid* sections 33

⁷³ Petroleum Act, Chapter P10, LFN, 2004, sections 9 & 12

⁷⁴ The PIA (sections 54 and 310) provided for the transfer of NNPC's assets to NNPC Limited (NNPCL), a limited liability company registered under the Company and Allied Matters Act and its subsidiaries

⁷⁵ NNPC Act, section 5 (g)(h)(i); Lilian Chiwendu Adat and Izuchukwu Gideon Okpara, 'Transitioning From Regulator to Operator: Challenges of Enforcing NNPC'S JV Obligations' *Alliance Law Firm* (2 November, 2023) < www.lexology.com/library/detail.aspx?g=dd4f5ed5-5727-404a-91da-ca5f00787199 > accessed 17 March, 2025

⁷⁶ PIA, section 53(1)

⁷⁷ PIA, Section 54(1)

⁷⁸ PIA, section 54 (3)

⁷⁹ Chapter N123, LFN, 2004

⁸⁰ PIA, section 310 (1) (e)

⁸¹ PIA, sections 71, 72 and 81

⁸² Chapter P16, LFN, 2004, section 2 and paras 1 -13 of the First Schedule

⁸³ PIA, sections 71(2) and 71(3)

⁸⁴ *ibid* section 72(2)

⁸⁵ *ibid* section 77 (1)

⁸⁶ *ibid*, section 77(2)

⁸⁷ PIA, section 72(1)

⁸⁸ *ibid* section 81

granted over an area which contains a petroleum field with suspended wells or continuing commercial production, where the relevant PML has been revoked or has expired.⁸⁹ The maximum term of a PML is 20 (twenty) years, which may be renewed.⁹⁰ The PML confers on the holder the exclusive right to carry out the development and production of petroleum with respect to formations under the lease area; the exclusive right to drill exploration and appraisal wells in the lease area; and the non-exclusive right to carry out petroleum exploration operations.

3.2. Rights Granted in Respect of Natural Gas Under the PIA in the Midstream and Downstream Segments of the Industry

The PIA creates the licences for midstream and downstream segments of the petroleum industry in respect of natural gas. The eponymous licences are gas processing licence;⁹¹ bulk gas storage licence;⁹² gas transportation pipeline licence;⁹³ gas transportation network operator licence;⁹⁴ wholesale gas supplier licence;⁹⁵ retail gas supply licence;⁹⁶ and gas distribution licence.⁹⁷ The licences are granted by NMDPRA.

4. PIA AND ENERGY SECURITY

The PIA regulates upstream, midstream and downstream gas operations. The PIA defines upstream operations as:⁹⁸

The exploration for, appraisal of, development of and winning or obtaining of petroleum in Nigeria by or on behalf of a company on its own account for commercial purposes, petroleum exploration operations, the drilling of exploration, appraisal and development wells, all activities upstream of the measurement points, related to winning of petroleum...

The PIA defines midstream and downstream gas operations as:⁹⁹

Activities downstream of the measurement points of petroleum mining leases, whether or not related to the petroleum lease, with respect to the construction and operation of natural gas transport or transmission pipelines, including the related compressor stations...

4.1. PIA and the Availability for Electricity

Para. 3.1 of this study has discussed the various rights granted over petroleum in its natural state.¹⁰⁰ There are several provisions of the PIA which were designed to enhance the production of gas and therefore energy availability. Such provisions give incentives to holders of rights over acreages to invest and produce the field rather than leave it fallow. Section 81 of the PIA provides that a PML shall be granted for each commercial discovery rather than over the entire PPL following a commercial discovery. Under the Petroleum Act, an OML was granted for the entire area covered by the OPL to the effect that the Government would not be able to re-award parts of the OML which were not being produced or explored. The PIA provision would incentivise the PML holders to explore and make commercial discoveries. Also, exploration rights of PML and PPL holders are no longer exclusive as was obtainable under the Petroleum Act. This provision makes discoveries and production within a PML, or a PPL more likely by making the oil field available for exploration by persons other than the PPL or PML holder.

The reduction of PPL's tenure over onshore and shallow water areas to 3 (three) years renewable for another 3 (three) years, rather than a single term of 5 (five) years is designed to incentivise PPL holders to make early investment to achieve commercial production before the expiry of the initial term so as not to put their interest at the risk. Moreover, section 77(3) of the PIA provides that an area of PPL shall not be more than 350 square kilometres (km²) for onshore or shallow water acreages; 1,000 km² for deep offshore acreages and 1,500 km² for frontier acreages. Before the PIA, the maximum size of an OPL, the predecessor to PPL was 1,000 square miles (2,589.99 km²) irrespective of the type of acreage.¹⁰¹ The limitation in acreage sizes is expected to increase the availability of areas to be licensed or leased for exploration and production.

The PIA provides for licensees and lesses to surrender or relinquish parts of their acreages in certain circumstances. Also, the Act gives the MPR the power to revoke licences and section 98(1) provides a framework for revoked PML to be put to immediate production. Sections 88 and 93 of the PIA require interest holders to relinquish to the FGN every area that is not an appraisal area, retention area or lease area,¹⁰² before the expiration of the first three (3) years of a PEL (onshore/shallow waters) or the expiration of the first five (5) years of a PPL (onshore/shallow waters).¹⁰³ Also required to be relinquished are marginal

⁸⁹ *ibid* section 81(2)

⁹⁰ *ibid* section 86(1)

⁹¹ PIA, section 129

⁹² *Ibid* section 132

⁹³ *ibid* section 135

⁹⁴ *ibid* section 138

⁹⁵ PIA, section 142

⁹⁶ *ibid* section 144

⁹⁷ *ibid* section 148

⁹⁸ PIA, section 318

⁹⁹ PIA, section 318

¹⁰⁰ Para 3.1.4 above

¹⁰¹ Petroleum (Drilling and Production) Regulation, LN 69 of 1969, Regulation 2(2)

¹⁰² PIA, sections 88(1), 78(4), 78(9), 78(10) and 314 of the PIA. An appraisal area is an area not larger than the outer boundary of a discovery of petroleum deposits which the holder of the PPL is investigating to determine the size, distribution, characteristics and commerciality of a petroleum discovery. A retention area is an area where significant gas discovery or significant crude oil discovery has been made, and the Commission has approved that the holder of a PPL may retain it for a period not exceeding 10 (ten) years for the purpose of development. A lease is an area over which a PML has been granted.

¹⁰³ PIA, section 88(2)

fields that are not producing, do not have a Field Development Plan (FDP) and have not been farmed out¹⁰⁴ and after 10 years of a PML, every area that is not within a producing field and any formation deeper than the deepest producing formation.¹⁰⁵ Interest holders must also relinquish, after a significant gas discovery retention period under a PPL, every area relating to the significant gas discovery unless a commercial discovery has been made¹⁰⁶ and at the renewal of an OML, parts of the OML that are not subject to appraisal, commercial discovery, significant discovery, development or production.¹⁰⁷

The effect of these provisions is to make it possible to re-award redundant upstream petroleum acreages to entities able and ready to put them in production thereby improving the availability of gas. There are also provisions for the revocation of non-producing fields, voluntary relinquishment and surrender designed to achieve a similar objective.¹⁰⁸ Section 86 provides that where the holder of a PML does not commence regular commercial production within the stipulated development period, the MPR on the recommendation of the Commission may revoke the lease.

Section 110 of the PIA codifies arrangements for the supply of gas to the Nigerian domestic market. Wholesale gas contracts in Nigeria are either bilateral between the buyers and the sellers¹⁰⁹ or based on a Gas Purchase Orders (GPOs) issued by the gas aggregator.¹¹⁰ The Commission may only approve an FDP, if it 'does not relate to upstream petroleum operations which conflict with the domestic gas delivery obligation.'¹¹¹ Section 110(1) requires the Commission to prescribe and allocate the domestic gas delivery obligation among all lessees before March 1 each year based on the domestic gas demand. The domestic gas demand, also called the domestic gas requirement, is determined under section 173 of the PIA. Section 173 (2) defines the domestic gas requirement as the total amount of marketable natural gas required for all wholesale gas customers of the strategic sectors. The strategic sectors are the power sector, commercial sector and gas-based industries.¹¹² The domestic gas delivery obligation is 'the obligations of a lessee producing natural gas to dedicate and deliver to a transfer point a specific volume of natural gas towards meeting the domestic gas demand requirement.' Section 110(8) of the PIA prescribes a sanction of \$3.50 for every MMBtu not delivered by the holder of PML in accordance with a GPO. Where the defaulter has signed a Gas Sale Agreement (GSA) with a buyer, the penalty shall be as prescribed in the GSA.¹¹³

The role of the aggregator is being performed by Gas Aggregation Company of Nigeria Limited (GACN). Section 154 of the PIA provides that the functions of the aggregator in the domestic gas market are supporting the implementation of the domestic gas delivery obligation; implementing a natural gas management model and operating a nomination and balancing mechanism for equitable curtailment of natural gas deliveries when necessary. The role of the aggregator also includes establishing an escrow account into which gas purchasers make their payments for natural gas and from which the aggregator pays the gas producers the same price for their supplies of natural gas.¹¹⁴ GACN is a party to all gas sale agreements based on a GPO. Such agreements are named Gas Sale and Aggregation Agreements (GSAAs). Domestic gas supply obligations ensure that the risk of short to medium term gas shortages in the domestic market is mitigated.

Paragraph 3 of this study has highlighted the regulatory uncertainty that prevailed in the petroleum industry prior to the passage of the PIA and the clarity in regulatory functions and powers introduced by the PIA.¹¹⁵ The PIA also provides that except in limited circumstances (conversion of PPL to PML, conversion of an OML to PML, implementation of treaty obligations and relinquishment of parcels upon conversion or renewal of a PML or conversion of an OML), PPLs and PMLs 'shall only be awarded based on a fair, transparent and competitive bidding process'.¹¹⁶ Further towards transparency and accountability, the PIA provides that the text of any existing contract, licence, lease and any amendment or side letter with NNPC shall not be confidential and requires their publication on the Commission's website.¹¹⁷ These provisions for clarity in regulations and transparency of implementation will attract investors which should result in increased production and long-term availability of gas, the source of most of Nigeria's electricity.

Section 74 (3) of the PIA detracts from the transparency objective by giving the FGN the power to direct NUPRC to award a PPL or PML to a qualified investor identified in a treaty to which Nigeria is a party pursuant to a strategic purpose and in exchange for substantive benefits to the nation. Section 74(3) is, however, a significant improvement on the Petroleum Act regime under which there was no requirement for a bid to be conducted before the grant of OELs, OPLs and OMLs. Under the Petroleum Act, the MPR could grant any of such interests at his or her discretion.¹¹⁸ The PIA has limited discretionary grants to the FGN which in the opinion of these authors may only be exercised by the Federal Executive Council or the President of the Federal Republic of Nigeria.

The PIA established the Midstream and Downstream Gas Infrastructure Fund (MDGIF) under the Authority partly to make equity investments in infrastructure related to the midstream and downstream gas operations.¹¹⁹ Such investments must be aimed at increasing domestic gas consumption through Public Private Partnership (PPP) projects; encouraging private investment in high risk projects for the provision of gas infrastructure; and reducing gas flaring.¹²⁰ The PIA provides for income accruing from equity investment made by MDGIF to be re-invested in low risk investment approved by MDGIF's governing council.¹²¹

¹⁰⁴ PIA, section 94(7)

¹⁰⁵ PIA, section 88(5); The Petroleum Act provided for the relinquishment of 50% of the lease area irrespective of the size or number of producing fields. The provision of the PIA would be more efficient in ensuring prospective parts of the PML are not left fallow.

¹⁰⁶ PIA, section 88(6)

¹⁰⁷ PIA, section 93(4) & (5)

¹⁰⁸ PIA, sections 86, 88(4) and 89

¹⁰⁹ PIA, section 110(2)

¹¹⁰ PIA, section 110(1)

¹¹¹ PIA, section 79 (1) (k)

¹¹² PIA, section 167(1).

¹¹³ PIA, section 110(8)

¹¹⁴ PIA, section 154

¹¹⁵ Please see section 3.1.4 above

¹¹⁶ PIA, sections 71(5); 73(1); 74(1), 74(3), 81(1) and 93(2)

¹¹⁷ PIA, sections 83 (3) and (5)

¹¹⁸ Petroleum Act, section 2(1)

¹¹⁹ PIA, section 52 (1)

¹²⁰ PIA, section 52(10); The MDGIF is already being disbursed. First instance, on September 30, 2024, the FGN disbursed ₦122 billion naira to six companies for the development of gas infrastructure. See, Cynthia Egboboh, 'FG Disburse ₦122bn to Six Companies Under Gas Infrastructure Fund' *Business Day* (Lagos, 2 October, 2024) <<https://businessday.ng/bd-weekender/energy-bd-weekender/article/fg-disburse-n122bn-to-six-companies-under-gas-infrastructure-fund/>> accessed 4 October 2025

¹²¹ PIA, section 52 (16)

The sources of the MDGIF are 0.5% levy on the wholesale price of petroleum products and natural gas sold in Nigeria to be paid by wholesale customers; funds and grants dedicated to the development of gas infrastructure in Nigeria; interests earned on the fund; gas flaring penalties and any other fund donated or accruing to the MDGIF.¹²² Gas flaring penalties are to be exclusively applied towards the remediation of the environment and relief of the host communities affected by the flare.¹²³ Wholesale customers are defined as a class of customers with respect to¹²⁴

- (a) natural gas, with the right to contract for and purchase a supply of wholesale gas, with capability to connect individually and economically to a transportation pipeline or transportation network and shall include gas distributors, and
- (b) crude oil or petroleum products, a purchaser with annual capacity of 500 litres or its equivalent and above.

The court has held that the 0.5% levy on the wholesale price of petroleum products is not punitive but rather contributions prescribed by statute to enhance gas infrastructure development.¹²⁵

The PIA also provides for the management of short-term disruptions in the supply of gas. Section 165 of the PIA provides that the Authority may appoint a distributor or supplier of last resort to customers where a gas distributor or supplier becomes insolvent, is unable to provide the services or has had its licence suspended or revoked; fails or refuses to fulfil the terms of its licence; or where the Authority deems appropriate.

4.2. Affordability

Although it is a given that affordability for consumers is relative to disposable income and stability of energy prices, affordability must be considered in the context of long-term availability of energy which requires that energy prices must be sufficient to incentivise suppliers of energy to produce and encourage consumers to conserve energy.¹²⁶ The pricing principles for gas promulgated in the PIA is consistent with this approach. Section 170 of the PIA charges the Authority to exercise its power to regulate prices to ensure that prices reflect the costs incurred in the efficient provision of the service or product and to permit a reasonable return for licensees on their investment. In a free market economy, as Nigeria practices, economic decisions including the prices of goods and services are the result of interactions between consumers and producers with ideally no intervention by the government.¹²⁷ Where government interventions exist, they are expected to be minimal and mostly limited to the guarantee of the transaction environment.¹²⁸ The forces of demand and supply reign supreme in free markets and are expected to lead to optimal allocation of resources.

For the consumer to effectively choose in the marketplace, she must have choices and the unhindered capacity to choose among them.¹²⁹ This is not always the case, as in energy markets, where suppliers tend to be monopolies with dominant market positions and the buyer's bargaining position is weak. Given this imbalance, the PIA contains provisions designed to modulate energy prices. The PIA gives the Authority the power to determine the appropriate tariff methodology for processing and transportation of natural gas;¹³⁰ set cost benchmarks for midstream and downstream petroleum operations;¹³¹ provide pricing and tariff frameworks for natural gas based on the fair market value; and¹³² ensure development of markets and competition in respect of natural gas.¹³³

Other functions of the Authority include preventing abuse of dominant positions and restrictive business practices;¹³⁴ ensuring the accuracy of meters and other measuring equipment; monitoring the financial viability of operators;¹³⁵ and regulating the domestic base price.¹³⁶ The Authority was also given powers to make regulations concerning natural gas trading and export; competition and anti-competitive behaviour¹³⁷ and prices for licensed activities in uncompetitive markets (Section, 169 (1)).

Although, the Authority has the power to undertake periodic pricing methodology reviews, the exercise of such power must not affect arrangements entered into or approvals given for the development of gas infrastructure or gas utilisation projects before the effective date of the review.¹³⁸ Powers are also granted to the Authority to set tariff methodology for the use of any facility or infrastructure licensed by the authority for use in midstream and downstream petroleum operations¹³⁹ in accordance with the tariff principles set out in Section 122 of the PIA. This would be particularly useful in implementing third party access and open access to certain infrastructure such as pipelines.¹⁴⁰

The role of the Authority under the PIA does not include fixing prices but setting pricing frameworks within which market

¹²² PIA, section 52(7)

¹²³ PIA, section 52(7) (d) and 104(4)

¹²⁴ Midstream and Downstream Petroleum Operations Regulations, 2023, Regulation 48.

¹²⁵ *IHS Nigeria Ltd. & Anor. v The Nigerian Midstream & Downstream Petroleum Regulatory Authority (Unreported) Suit No: FHC/ABJ/CS/1029/2023*

¹²⁶ Please see paragraph 2.1.6(b) of this study for the conceptual clarification of affordability

¹²⁷ Claudious Chikozho and Everisto Mapedza, 'Free-Market Economics and Developmental Statism as Political Paradigms: Implications for Water Governance Theory and Practice in Developing Countries' in E Karar (ed), *Freshwater Governance for the 21st Century, Global Issues in Water Policy 6*

<www.researchgate.net/publication/309441113_FreeMarket_Economics_and_Developmental_Statism_as_Political_Paradigms_Implications_for_Water_Governance_Theory_and_Practice_in_Developing_Countries > accessed 8th March, 2024

¹²⁸ *ibid.*

¹²⁹ Neil W Averitt and Robert H Lande, 'Consumer Sovereignty: A Unified Theory of Antitrust and Consumer Protection Law' (1997) 65(3) *Antitrust Law Journal*, 703 <www.jstor.org/stable/4-843382> accessed 8th March, 2024

¹³⁰ PIA, section 32 (c)

¹³¹ PIA, section 32 (d)

¹³² PIA, section 32 (e)

¹³³ PIA, section 32 (n); Detailed provisions on regulating competition in energy markets are contained in sections 2010 to 2015 of the PIA. The benefits of effective regulation of competition includes lower prices, increased supply and enhanced efficiency.

¹³⁴ PIA, section 32 (aa)

¹³⁵ PIA, section 32 (ll)

¹³⁶ PIA, section 32 (rr); section 167(1)

¹³⁷ PIA, section 33 (q)(s) and (w).

¹³⁸ PIA section 169(2)

¹³⁹ PIA, section 12

¹⁴⁰ PIA, sections 161, 162, 179 and 180.

participants may set prices. The roles of ensuring the financial viability of operators and preventing abuse of dominant positions, enhancing competition and adoption of fair market values are consistent with the affordability principles discussed in paras. 2.1.2 and 4.2 of this study as they appear aimed at balancing the producers' need for profit with the consumers' desire for reasonable prices and choices.

The PIA provides in its Third Schedule that the domestic gas base price as of January, 2021 shall be \$3.20 and shall increase by \$0.05 annually until 2037. The Authority has the power to change both the gas base price and the yearly adjustment.¹⁴¹ The PIA sets the prices of gas for the strategic sectors (power, commercial and gas-based industries) as set out in Table 1.

Table 1. Domestic Gas Price for the Strategic Sectors.

Sector	Price/Pricing Mechanism
1 Power	Domestic base price ¹⁴²
2 Commercial Sector	Domestic base price plus \$0.50 per MMBtu ¹⁴³
3 Gas-based Industries	To be determined in accordance with the Fourth Schedule of the PIA subject to a floor price of \$0.50 and a ceiling price equal to the domestic base price. ¹⁴⁴

Source: PIA, sections 167 (5) and (6); and 168

Gas distributors are not part of any strategic sector and are required to negotiate their gas supply contracts outside the aggregation framework.¹⁴⁵ However, the PIA requires that the price at which gas is supplied to gas distributors does not exceed the price of gas paid by the commercial sector.¹⁴⁶ Notwithstanding the different prices for supply to the strategic sectors, each supplier under the aggregation framework is expected to receive the same price designated as the aggregate gas price established under procedures made by the domestic gas aggregator.¹⁴⁷ The aggregate gas prices are expected to approximate to the average price of the gas supplied in a particular month under the aggregation framework less the aggregator's costs.

Prices are set for delivery at the 'marketable natural gas delivery point'¹⁴⁸ which is¹⁴⁹

A point where marketable natural gas is made available to customers, at the exit of a gas processing plant or gas conditioning plant or at a measurement point, or such other location immediately downstream of a facility in which natural gas has been produced, processed, conditioned or treated in order to produce marketable natural gas.

In essence, gas is delivered at the gate of the gas seller's facility. The gas purchasers has the responsibility to transport gas to the point of use through existing pipelines or subject to obtaining a gas transportation licence, building a dedicated pipeline.¹⁵⁰ Notwithstanding the PIA regulating the price of gas to make it more affordable, gas producers are owed significant debt by power generators. In February, 2026 outstanding liabilities across the electricity value chain was up to ₦3 trillion (Three Trillion Naira).¹⁵¹ Some of these debts arose from non-payment of subsidies on electricity consumers to the distribution companies. The FGN paid only ₦371.34 million (or 0.019%) out of the ₦1.94 trillion subsidy debt it accumulated in 2024.¹⁵²

The Authority's power to determine the domestic gas base price is to continue until the Authority is satisfied that the control of prices for natural gas for the strategic sector is no longer required.¹⁵³ Section 167 (3) of the PIA provides that they shall no longer be required when the domestic gas demand requirement is met by contracts entered into on a willing buyer willing seller basis outside the aggregation framework or when the domestic market for gas is largely characterised by free market based contracting.¹⁵⁴ In case of the latter, the PIA gives the Authority the power in consultation with stakeholders to establish the criteria for the cessation of the price control function and the aggregation framework. Such criteria may include ending the price control function in phases. The elimination of price controls will not be automatic on the establishment of the criteria but will occur at the discretion of the Authority.

In addition to direct price modulation by the Authority, the PIA contains provisions to boost supply and therefore reduce prices through the interaction of market forces. Such provisions including those for domestic supply obligation of lessees has already been discussed. Another provision designed to increase the supply of gas to the domestic market is the fiscal regime because a company is likely to invest more if it makes more profit. Consistent with this view, one of the objectives of the fiscal framework, included in the PIA is to 'establish a progressive fiscal framework that encourages investment in the Nigerian Petroleum Industry...' Further to this objective, the PIA reduced the highest income tax payable by oil companies in Nigeria from 85% to 60%¹⁵⁵ and replaced the Petroleum Profits Tax (PPT) with hydrocarbon tax. The highest hydrocarbon tax is paid by converted, renewed onshore and shallow offshore leases which pay hydrocarbon tax at the rate of 30%.¹⁵⁶ Converted PPLs pay hydrocarbon tax at 15% rate.¹⁵⁷ Companies subject to hydrocarbon tax also pay Companies Income Tax (CIT) at the rate of 30%.¹⁵⁸ The hydrocarbon tax do not apply to deep offshore projects in order to incentivise investment in exploration.

¹⁴¹ PIA, section 167(1)

¹⁴² PIA, section 167(4)

¹⁴³ PIA, section 167(5)

¹⁴⁴ PIA, section 168(1) (2) &(3); The price of gas supplied to other gas-based industries does not affect electricity tariffs and therefore will not be considered further by this study

¹⁴⁵ PIA, section 167 (7)

¹⁴⁶ *ibid*

¹⁴⁷ PIA, section 167 (5)

¹⁴⁸ PIA, section 168 (4)

¹⁴⁹ PIA, section 318

¹⁵⁰ PIA, section 167 (8)

¹⁵¹ Henry Umoru, 'Senate Questions NBET over ₦3 trn Power Sector Debt, Funding Gaps', Vanguard (Lagos, 12 February, 2026) <

<https://www.vanguardngr.com/2026/02/senate-questions-nbet-over-%E2%82%A63trn-power-sector-debt-funding-gaps/>> accessed 13 February 2026

¹⁵² NERC, 2024 Annual Report and Accounts (2025) 13, 134 and 174 < <https://nerc.gov.ng/wp-content/uploads/2025/07/2024-Annual-Report.pdf>> accessed 4 November 2025;

¹⁵³ PIA, section 167(2)

¹⁵⁴ PIA, section 167(3)

¹⁵⁵ Petroleum Profits Tax Act, Chapter P17, Laws of the Federation, 2004, section 21 set the PPT rate 85%

¹⁵⁶ PIA, section 267(a) and 267 of the PIA

¹⁵⁷ PIA, section 267(b)

¹⁵⁸ PIA, section 302

The PIA does not provide for subsidies of gas consumption, provides for the expiration of price controls and contains measures to boost supply in order to reduce. However, the PIA's price control strategy is undermined by mandatory contributions by suppliers which would be transferred to the customers in the form of higher prices. Such levies and contributions include: contribution of 0.5% of the wholesale price of natural gas to the MDGIF;¹⁵⁹ public service levies;¹⁶⁰ Environmental Remediation Fund (ERF) contributions¹⁶¹ and the contribution of 3% of the annual operating expenditure of a supplier's upstream operations to the host community's development trust.¹⁶²

4.3. PIA and Sustainability

Sustainability has become identified with care for the environment. Sustainability practices avoid irreversible damage to the environment and aims to restore the environment to its state after the execution of a destabilising activity such as drilling petroleum, laying pipelines and construction activities. Consistent with sustainability objectives, section 79 (1) of the PIA provides that an FDP for upstream petroleum operations shall only be approved by the Commission if it meets the health, safety, and environmental standards established by the Commission;¹⁶³ and includes an Environmental Management Plan (EMP).¹⁶⁴ Other requirements of an FDP relevant to sustainability are a Decommissioning and Abandonment Plan (DAP) and a Decommissioning and Abandonment Fund (DAF);¹⁶⁵ plan for the elimination of routine gas flaring;¹⁶⁶ and compliance with obligations to host communities.¹⁶⁷ Similarly, the Authority is required not to grant a downstream or midstream licence unless the operations includes an acceptable EMP, a DAP, a DAF and a plan for the elimination of routine gas flaring. The licensing requirements are discussed below.

4.3.1. Environmental Management Plan

A licensee or lessee who engages in upstream or midstream petroleum operations is required to submit an EMP in respect of projects which require an Environmental Impact Assessment (EIA) to the Commission or Authority, as the case may be, for approval.¹⁶⁸ An EIA is required and so an EMP must be submitted for all upstream gas operations.¹⁶⁹ Following an EIA, if the Ministry of Environment determines that the project will have minimal impact on the environment or that the identified impact will be mitigated, it issues an EIA certificate to the promoters.¹⁷⁰ The incorporation of an EIA process into the PIA indicates the adoption of the precautionary principle in environmental legislation. However, the centralization of the EIA process at the FGN's Ministry of Environment is likely to result in bottlenecks, inefficiencies and an increase in costs.

NUPRC or NMDPRA may only approve an EMP where it complies with relevant environmental laws and the applicant has the capacity to rehabilitate the environment and manage the environmental impact.¹⁷¹ In considering whether or not to approve an EMP, NUPRC and NMDPRA are required to consider government policies on environmental protection and management.¹⁷² The PIA provides that except with the approval of NUPRC, chemicals shall not be used in upstream petroleum operations.¹⁷³

4.3.2. Environmental Remediation Fund

Section 103 requires every licensee or lessee to contribute to an Environmental Remediation Fund (ERF) in an amount determined by the Commission or the Authority¹⁷⁴ prior to the approval of the EMP. The contributions of a particular licensee or lessee to the ERF depend on the size of its operations and the magnitude of the environmental risk.¹⁷⁵ A licensee or lessee is also required to evaluate its environmental liability annually and increase its ERF to the satisfaction of NUPRC or NMDPRA as may be applicable.¹⁷⁶ Where NUPRC or NMDPRA is not satisfied with the assessment or the financial contribution made by a licensee or a lessee, it may appoint an independent third party to carry out the assessment and fix the financial contribution.¹⁷⁷

The Upstream Petroleum Environmental Remediation Fund (Upstream ERF) Regulations, 2024¹⁷⁸ sets out how the magnitude of the contribution is to be determined. According to Regulation 4 of the Upstream ERF Regulations, the size of the contribution would depend on the capital expenditure, the capacity of the licensed facilities and the nature of the terrain. Regulation 4(8) classified the terrain into onshore high-risk; shallow water high-risk; other onshore area; other shallow water area and deep-water area in descending order of risk magnitude and size of contribution such that the largest contribution is made in respect of the onshore high-risk area while the least is made in respect of deep-water areas.¹⁷⁹

The ERF is to be applied to restore the environment or mitigate environmental impacts where the licensee or lessee fails to do so;¹⁸⁰ where the cause or origin of the environmental damage is not known;¹⁸¹ and where the environmental damage is not

¹⁵⁹ PIA, section 51(7)(a)

¹⁶⁰ PIA, section 172

¹⁶¹ PIA, section 103

¹⁶² PIA, section 240 (2)

¹⁶³ PIA, section 79 (2) (d)

¹⁶⁴ PIA, section 79 (2) (h)

¹⁶⁵ PIA, section 79 (2) (i)

¹⁶⁶ PIA, section 79 (2) (j)

¹⁶⁷ PIA, section 79 (2) (m)

¹⁶⁸ PIA, section 102(1)

¹⁶⁹ See section 3.1.7 above

¹⁷⁰ EIA Act, section 42

¹⁷¹ PIA, section 102 (3)

¹⁷² PIA, section 102 (5)

¹⁷³ PIA, section 102 (7)

¹⁷⁴ PIA, section 103 (1)

¹⁷⁵ PIA, section 103 (2)

¹⁷⁶ PIA, section 103 (5)

¹⁷⁷ PIA, section 103 (6)

¹⁷⁸ S.I No.62 of 2024

¹⁷⁹ Upstream ERF Regulations, Schedule

¹⁸⁰ PIA, section 103 (4)

¹⁸¹ Upstream ERF Regulations, Regulation 3(3) (a)

attributable to an operator in Nigeria's upstream petroleum industry.¹⁸² A licensee or lessee who contributed to the ERF has the right to audit its contribution.¹⁸³

The ERF is a veritable structure for the management of environmental risk as it provides ready funds to remedy environmental damage, where the polluter defaults in providing a solution, rather than relying solely on government, which process can be slow and inefficient. It also relieves the government of the burden of funding environmental remediation. In addition, the ERF provides a platform for remedying environmental damage which is not attributable to any entity.

4.3.3. Management of Gas Flaring

Gas flaring is a key source of CO₂ emissions¹⁸⁴ and environmental degradation particularly in the Niger Delta, Nigeria where there is significant oil and gas exploration and production. Gas flaring produces toxic pollutants including sulphur dioxide and can lead to acid rain and the generation of GHGs which compound climate change.¹⁸⁵ The World Bank estimates that 5.3 billion cubic feet of gas was flared from 174 sites in Nigeria in 2022.¹⁸⁶ The PIA makes provisions for tackling gas flaring in sections 104 to 108. NUPRC has also made the Gas Flaring, Venting and Methane Emissions (Prevention of Waste and Pollution) Regulations, 2023 (Gas Flaring Regulations).¹⁸⁷ The Gas Flaring Regulations aim to mitigate the social and environmental impact of gas flaring; protect the environment; and enhance energy transition.¹⁸⁸

Section 104 of the PIA prescribes a fine for an operator that flares gas except in an emergency, as permitted by NUPRC or as an acceptable safety practice.¹⁸⁹ Under the Gas Flaring Regulations, flaring, venting or wasting gas without the approval of NUPRC attracts an administrative fine of USD\$3.50 for each 1,000 standard cubic feet (28.317 standard cubic metres) of gas flared, vented or wasted¹⁹⁰. Such an operator also commits an offence.¹⁹¹ NUPRC has the right to take, at no cost to it, gas earmarked for flaring at the flare stack.¹⁹² The Commission or the Authority may permit gas flaring for a specific period where it is required for facility start-up or for strategic operational reasons.¹⁹³

Gas flaring fines are not eligible for cost recovery and are not tax deductible.¹⁹⁴ The penalties are to be applied to environmental remediation and to provide relief to the host communities of the operator on which the penalties were levied.¹⁹⁵ All licensees and lessees were required by the PIA to submit a flare elimination plan to the Commission within 12 (twelve) months of the PIA coming into force.¹⁹⁶ Under the Gas Flaring Regulations, the deadline for the submission of the plan was adjusted to 6 months from the commencement of Gas Flaring Regulations and the plan redesignated as the Flare Elimination and Monetization Plan (FEMP).¹⁹⁷ If a FEMP is approved by NUPRC, the license is required to enter into a Milestone Development Agreement with NUPRC for its implementation.¹⁹⁸ The licensee's obligations under the Milestone Development Agreement must be guaranteed with a bond.¹⁹⁹

Neither the PIA nor the Gas Flaring Regulations sets the date on which gas flaring shall be prohibited (flare-out date) except in the event of emergency or provides for a funded plan by the government to provide the infrastructure that will result in the elimination of gas flaring at a particular date. After such a date or milestone, licences could be granted on the condition that any flare will result in automatic revocation. As it is, under the PIA, flare elimination planning is led by licensees and lessees on a case-by-case basis. It is therefore likely that licensees will prioritize profit over environmental protection. Gas flaring may therefore linger in Nigeria in the medium to long term with attendant deleterious environmental consequences.

4.3.4. Decommissioning and Decommissioning and Abandonment Fund

The Nigeria Upstream Petroleum Decommissioning and Abandonment (Upstream PDA) Regulations²⁰⁰ define abandonment as 'plugging and abandonment of a well' while the PIA defines decommissioning and abandonment as:

The approved process of cessation of operations of crude oil and natural gas wells, installations, plants and structures, including shutting down an installation's operations and production, total or partial removal of installations and structures where applicable, chemicals and all such other materials, handling, removal and disposal of debris and removed items, environmental restoration of the area after the removal of installation, plants and structures...

The PIA requires all decommissioning and abandonment to be conducted in accordance with good international oil field practices and guidelines issued by the relevant regulator.²⁰¹ Such guidelines must meet the standards of international maritime organisations.²⁰² Installations and structures on land are required to be removed and the environment rehabilitated to its state

¹⁸² Upstream ERF Regulations, Regulation 3(3) (b)

¹⁸³ PIA, section 103 (4)

¹⁸⁴ PwC, 'Assessing the Impact of Gas Flaring on the Nigerian Economy', < <https://www.pwc.com/ng/en/assets/pdf/gas-flaring-impact1.pdf> > accessed March 8, 2024.

¹⁸⁵ American Association For The Advancement of Science, 'Eyes on Nigeria: Gas Flaring' <<https://www.aaas.org/resources/eyes-nigeria-technical-report/gas-flaring> > accessed March 9, 2024

¹⁸⁶ World Bank, 'Nigeria: Background and the Role of Reductions in Meeting Environmental and Economic Objectives', < <https://flaringventingregulations.worldbank.org/nigeria> > accessed March 8, 2024

¹⁸⁷ S.I No.47 of 2023

¹⁸⁸ Gas Flaring Regulations, Regulation 1

¹⁸⁹ PIA, section104(1)(c); The penalties were to be paid in accordance with the Flare Gas (Prevention of Waste and Pollution Regulation, 2018 which has been replaced by the Gas Flaring, Venting and Methane Emissions (Prevention of Waste and Pollution) Regulations, 2023

¹⁹⁰ Gas Flaring Regulations, Regulation 1

¹⁹¹ PIA, section104(1)(c)

¹⁹² PIA, section 105 (2)

¹⁹³ PIA, section107

¹⁹⁴ PIA, section104(3)

¹⁹⁵ PIA, section104(4)

¹⁹⁶ PIA, section108

¹⁹⁷ Gas Flaring Regulations, Regulation 3 (2)

¹⁹⁸ Gas Flaring Regulations, Regulation 3 (5) and (6)

¹⁹⁹ Gas Flaring Regulations, Regulation 3 (6)

²⁰⁰ SI No. 50, 2023, Regulation 25

²⁰¹ PIA, section 232 (1)(a)

²⁰² PIA, section 232 (1)(b)

prior to the commencement of the relevant operations except for underground pipelines.²⁰³

Section 233(1) provides that each lessee or licensee shall establish a DAF which shall be exclusively applied to pay for decommissioning and abandonment.²⁰⁴ The DAF is to be domiciled at the Central Bank of Nigeria (CBN) in the form of an escrow account and shall be accessible to NUPRC or NMDPRA as the case may be.²⁰⁵ NUPRC is a necessary party to the escrow agreement entered into in respect of the DAF escrow account.²⁰⁶ The licensee or lessee is required to inform NUPRC of the setting up of the DAF not later than three months after the commencement of upstream petroleum production and to submit a statement of the DAF bank account annually.²⁰⁷

Where a licensee or lessee fails to comply with the DAP, the DAF is applied by the relevant regulator to fund the decommissioning and abandonment after the licensee or lessee has been notified of the non-compliance and given a reasonable time to cure the breach.²⁰⁸ Subject to the approval of NUPRC, a licensee or lessee may have access to the DAF solely to execute a DAP.²⁰⁹ The contributions to DAF must be consistent with the DAP which is required to set the annual contributions to DAF with the approval of the relevant regulatory authority.²¹⁰ The annual contribution proposed by the licensee or lessee is required to be approximate to the estimated decommissioning and abandonment costs divided by the estimated life of the field in respect of facilities used for upstream petroleum operations.²¹¹ The annual contribution is to be reviewed every decade.²¹² The DAF is eligible for tax recovery and is tax deductible.²¹³ DAF in excess of the actual cost of decommissioning and abandonment is returned to contributor and is considered income for tax purposes.²¹⁴ Where DAF is not sufficient to fund the DAP, the licensee or lessee is required to make it up.²¹⁵

The DAF is similar to the ERF in that both Funds are applied to the remediation of the environment and contributions to them are cost recoverable and tax deductible. Both funds are also utilised when the relevant licensee or lessee fails to implement a remediation plan following environmental damage. However, they differ in several respects. First, while the contribution to DAF is proposed by the licensee or lessee and approved by the NUPRC, that of ERF is set by the NUPRC based on criteria set in the PIA and the Upstream ERF Regulations. The DAF is also strictly applied to remedying the environmental impact caused by the contributor and any balance is returned to the contributor, while the ERF is applied to the remediation of the environment irrespective of the source of the damage. The ERF is again a pool of funds contributed by many licensees/lessees across several fields while each DAF is contributed by licensees of particular fields. Both funds are great sustainability initiatives as they are applied to the remediation of the environment. However, while DAF is applied at the end of the life of the field, the ERF may be deployed at any time.

4.3.5. Host Communities and Host Communities Development Fund

The PIA defines host communities as²¹⁶ 'communities situated in or appurtenant to the area of operation of a settlor, and any other community as a settlor²¹⁷ may determine.' Such communities have historically suffered environmental devastation as result of oil and gas operations leading to deaths, loss of livelihood, illness and poverty.²¹⁸ As a result host communities have been at loggerheads with energy companies and some of their indigenes have been known to sabotage oil and gas operations through vandalism, oil theft and violence.²¹⁹ Shell had to abandon its operations in Ogoniland due to conflict with the host community.²²⁰

Conflicts with host communities have the capacity to affect key elements of energy security including availability, affordability (if gas production is sabotaged, it would reduce supply and therefore may result in higher prices) and sustainability. Given this background, the PIA made provisions in respect of host communities with the aim of:²²¹ fostering their sustainable prosperity; providing benefits of petroleum operations directly to them; enhancing a peaceful relationship between them and the settlers; and creating a framework to support their development. Regulation 6 (2) of the Nigeria Upstream Petroleum Host Communities Development (Upstream HCD) Regulation, 2022²²² sets out the criteria for determining host communities.

Each settlor is required to conduct a host communities needs assessment which shall determine the needs of each host community, identify how the proposed petroleum operations will affect the host community and provide a strategy for addressing identified needs.²²³ The settlor is required to create the host communities development trust fund;²²⁴ develop a matrix for the

²⁰³ PIA, section 232 (7)

²⁰⁴ PIA, section 233 (1) & (2)

²⁰⁵ PIA, section 233 (1); See Upstream PDA Regulations, Regulation 19(4). International Oil Companies (IOCs) are allowed to hold up to 85% of their contributions in foreign financial institution that meets a minimum credit rating of A+ under certain conditions

²⁰⁶ Upstream PDA Regulations, Regulation 19(8)

²⁰⁷ PIA, section 233 (8)

²⁰⁸ PIA, section 233 (3)

²⁰⁹ Upstream PDA Regulations, Regulation 21 (2)

²¹⁰ PIA, section 233 (4)

²¹¹ PIA, section 233 (5) and (6)

²¹² PIA, section 233 (7)

²¹³ PIA, section 233 (11)

²¹⁴ PIA, section 233(12)

²¹⁵ Upstream PDA Regulations, Regulation 21(5)

²¹⁶ PIA, Section 318

²¹⁷ A settlor is a holder of an interest in PPL or PML whose area of operations is in or appurtenant to any community or communities. Please see PIA, section 318

²¹⁸ Ejirefe Influence, 'Community Relations and Development of Oil Producing Rural Communities of the Niger-Delta, Nigeria' (2017) 1(4) International Journal of Social Sciences, Humanities and Education 1, 3; The PIA defines host communities of shallow waters and deep offshore petroleum operations as: 'the littoral communities and any other community determined by the settlers.' Please see PIA, section

²¹⁹ United Nations Environmental Programme, 'Environmental Assessment of Ogoniland', <<https://www.unep.org/topics/disasters-and-conflicts/country-presence/nigeria/environmental-assessment-ogoniland-report>> 229 accessed March 9, 2024

²²⁰ *ibid*, 23

²²¹ PIA, section 234(1)

²²² S.I No. 45, 2022

²²³ PIA, section 251

²²⁴ PIA, section 240

distribution of the trust fund to the host communities;²²⁵ and a host communities development plan based on the matrix.²²⁶ The host communities development plan is required to identify the development programmes necessary to respond to the findings of the host communities needs assessment; specify projects to implement the programmes and timelines for their completion; and make a budget for the implementation of the host communities development plan.²²⁷

The PIA requires the relevant licensee or lessee (settlor) to incorporate a host communities development trust for the benefit of the host communities for which the settlor is responsible²²⁸ and gives NUPRC the power to make regulations in respect of host communities development.²²⁹ The settlor is required to contribute 3% of its actual annual operating expenditure of the preceding year in the upstream petroleum operations affecting the relevant host communities to the host communities trust fund per annum.²³⁰ The host communities development trust fund is to be exclusively applied to the execution of the relevant host communities development plan.²³¹

The PIA sets up structures to ensure wide participation and efficiency in the management of the relationship between host communities and oil companies operating in such communities. Organs created by the PIA for that purpose include the board of trustees of the trust,²³² a management committee,²³³ an advisory committee²³⁴ and a fund manager.²³⁵ The PIA grants the settlor the power to determine the members of the board of trustees of the host communities development trust and the criteria for their appointment but requires that the membership of the board of trustees is approved by NUPRC.²³⁶ The role of the board of trustees, the primary organ of the host communities trust, includes determining the criteria for the apportionment of funds among programmes; approving projects; providing general oversight of projects; appointment of fund managers; and setting up the management committee.²³⁷

The host communities are expected to reciprocate the funding of the development plan with providing a conducive environment for upstream operation. The PIA provides that where in any year, vandalism, sabotage or unrest causes damage to petroleum facilities or disrupts operations in a community, the community shall forfeit its entitlement to the extent of the cost of repairs of the damage that resulted from the activity with respect to the provisions of this Act within that financial year.²³⁸

It is expected that the host communities trust structures will minimize sabotage of oil and gas operations and therefore reduce damage to the environment; increase the interactions between host communities and upstream petroleum operations which may lead to the adoption of safer operations by the operators. However, the dominant role of the oil and gas companies in making the host communities development plan and the appointment of members of the board of trustees could alienate the host communities and defeat the objections of the PIA in that regard.

This study found that the sustainability provisions of the PIA are reactive as they are mostly designed to restore environment damaged by oil and gas operations while petroleum exploration and production continue unabated. It adopts the weak sustainability approach identified by Ruggerio.²³⁹ There is no overarching objective or change of strategy such as ceasing onshore petroleum explorations, transitioning to non-fossil fuels or limiting the number of oil wells that may be drilled within a particular geographical area.

4.4. PIA and Nigeria's Climate Goals

Nigeria is a party to the Paris Agreement²⁴⁰ and ratified it on 16th May, 2017.²⁴¹ The agreement is targeted at keeping the increase in the global average temperature to below 2°C above pre-industrial levels and to make concerted efforts to keep the temperature increase to 1.5°C above pre-industrial levels.²⁴² The Paris Agreement works in five-year cycles²⁴³ of progressively ambitious climate action implemented by members' states through mandatory national action plans known as Nationally Determined Contributions (NDCs).²⁴⁴ NDCs communicate actions which a country will take to reduce GHG emissions and to develop resilience to adapt to climate change impacts.²⁴⁵ The Paris Agreement also encourages countries to develop and submit Long-Term Low GHG Emission Development Strategies (LT-LEDS).²⁴⁶ Although, LT-LEDS are not mandatory they provide a framework for the implementation of the NDCs in the context of the relevant country's long term planning and development agenda.²⁴⁷

In its first NDC update in 2021, Nigeria reported its target of increasing its electricity generation capacity to 30GW by 2030, 30% of which will be renewable energy.²⁴⁸ Nigeria projected that almost half of renewable energy will come from medium and

²²⁵ PIA, section 243(1)

²²⁶ PIA, section 252

²²⁷ PIA, section 252.

²²⁸ PIA, section 235(1)

²²⁹ PIA, sections 234 (2)(3) &(4).

²³⁰ PIA, section 240 (2)

²³¹ PIA, section 241

²³² PIA, section 242 (1)

²³³ PIA, section 247 (1)

²³⁴ PIA, section 249 (1)

²³⁵ PIA, section 246 (1)

²³⁶ PIA, section 242(1)

²³⁷ PIA, section 243

²³⁸ PIA, section 257 (2)

²³⁹ Para.2.1.3 of this study

²⁴⁰ United Nations Framework Convention on Climate Change (UNFCCC) Secretariate, 'The Paris Agreement: What is the Paris Agreement?' <<https://unfccc.int/process-and-meetings/the-paris-agreement>> accessed 21 March, 2025. The Paris Agreement is a binding treaty adopted by 196 parties at the UN Climate Change Conference (COP 21) in Paris on 12th December, 2015 and which came into effect on 4th November, 2016

²⁴¹ United Nations Treaty Collection, 'Chapter XXVII: Environment – 7.d Paris Agreement', <https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-7-d&chapter=27&clang=_en> accessed 21 March, 2025

²⁴² Paris Agreement, Article 2(1) (a)

²⁴³ Paris Agreement, Article 4(9)

²⁴⁴ Paris Agreement, Article 2

²⁴⁵ Paris Agreement, Article 7

²⁴⁶ Paris Agreement, Article 4(19)

²⁴⁷ UNFCCC Secretariate (n 240)

²⁴⁸ FGN, 'Nigeria's Nationally Determined Contribution', paragraph 3.2

<https://climatechange.gov.ng/wp-content/uploads/2021/08/NDC_File-Amended_11222.pdf> accessed 21 July, 2025

large hydro.²⁴⁹ Nigeria also pledged in its 2021 NDC update that by 2030, it would have reduced electricity transmission and distribution losses to 8% of final consumption of electricity, eliminated the use of diesel and gasoline generators for electricity generation and ended gas flaring.²⁵⁰ Nigeria has submitted its 3rd Nationally Determined Commitment (NDC 3.0).²⁵¹ The baseline year of Nigeria's NDC 3.0 is 2018 when Nigeria's emission was 614 Mt CO₂ e.²⁵² The emission was projected in NDC 3.0 to reach 1,052 Mt CO₂ e in 2030 on a Business As Usual (BAU) scenario.²⁵³ In its NDC 3.0, Nigeria unconditionally committed to achieve absolute emission reduction of 168.2 Mt CO₂ e in 2030 and 184.9 Mt CO₂ eq in 2035.²⁵⁴ The reductions are equivalent to 29% and 32% of the 2018 emissions respectively.²⁵⁵ Nigeria also committed to conditional reduction of additional 80% of the 29% and 32% in 2030 and 2035 respectively.²⁵⁶ It is expected that the energy sector, including buildings and transport will contribute 22% of the emission reduction in 2030 and 26.3% in 2035.²⁵⁷

The Climate Change Act, 2021 (CCA) towards implementing the its commitments under the Paris Agreement established the National Council on Climate Change (NCCC)²⁵⁸ and Climate Change Fund (CCF).²⁵⁹ Key functions of the NCCC are to coordinate the implementation of sectoral targets and guidelines for the regulation of GHG emissions and other causes of climate change; administer the CCF; collaborate with the Ministries of Environment and Trade to develop and implement a mechanism for carbon emission trading and to formulate policies and programmes on climate change.²⁶⁰ The CCF which will comprise income from government appropriation, international grants, carbon tax and emissions trading, and fines for breaching climate change mitigation and adaptation obligation among others will be applied principally towards climate change advocacy and climate change mitigation and adaptation measures.²⁶¹ The CCA requires the NCCC to collaborate with Nigeria's Sovereign Green Bond in meeting Nigeria's NDCs²⁶² and with the Federal Ministry of Environment to regularly revise Nigeria's carbon budget to ensure consistency with Nigeria's NDCs and other Nigeria's international obligations.²⁶³ One of the goals of the Climate Change Act, 2021 contained in its section 1(f) is achieving net zero GHG emission between 2050 – 2070. The framework for carbon trading and the operationalisation of the CCF under the Climate Change Act, 2021 was approved in 2025.²⁶⁴

There was no reference to any of Nigeria's climate goals in the PIA. The PIA did not legislate any strategy to reduce the use of gas or any other fossil fuel in the generation of electricity. Rather, it contains strategies such as the domestic gas requirement and regulated pricing to accelerate the use of gas for power generation. The PIA also contains expansive provisions to expand the drilling of oil and gas. Notwithstanding, these provisions which promote policies that could accelerate GhG emissions, the PIA contains provisions which mitigate climate change. Such provisions include does prohibiting gas flaring except in limited circumstances.

5. CONCLUSION AND RECOMMENDATIONS

5.1. Conclusion

The PIA contains a robust framework for enhancing the availability of natural gas for the generation of power. The frameworks including mandating a domestic gas requirement which oil companies, creating an aggregation framework to match supply with demand through the issue of Gas Purchase Orders, creating the domestic gas aggregator and regulating the price of gas supplied to the power sector to make it more affordable and creating the Midstream and Downstream Infrastructure Fund (MDIF) . However, these statutory initiatives are limited by the inability of the power generating companies to pay for the gas supplied to them as result of the payment defaults of the distribution companies. The payment defaults of the distribution are mostly attributed to electricity consumers not paying for the electricity they consume and unfunded subsidies of electricity consumption.

The PIA prioritized the availability of gas over sustainability. This is evident in the PIA not outlawing gas flaring which is a significant environmental hazard. The Act also does not contain a schedule for Nigeria's transition to green energy, nor does it integrate the climate goals set in Nigeria's NDCs and the Climate Change Act, 2021. It also did not seek to moderate the intensity of petroleum drilling operations within particular geographical zones particularly in the Niger Delta where the exploration and production of petroleum have destroyed ecosystems and communities. Notwithstanding these limitations, the PIA was an improvement on the Petroleum Act by introducing EMP, DAP, DAF, ERF and the Host Communities Development Trust Fund.

5.2. Recommendation

This study recommends the removal of subsidy on electricity consumption to improve the funding available for development of gas resources and infrastructure which would in turn enhance availability of gas for energy production. It also advocates an immediate ban on gas flaring because of its deleterious impact on the environment and to incentivise the oil and gas companies to invest in gas infrastructure. In areas of intense oil and gas development, the study recommends the suspension of the development of new wells to reduce negative environmental consequences for the host communities. The study recommends that future amendments of the PIA should integrate Nigeria's climate goals and foster their implementation.

²⁴⁹ *ibid*

²⁵⁰ *ibid* paragraph 5.5.1

²⁵¹ Federal Republic of Nigeria (FRN), 'Nigeria's Third Nationally Determined Contribution, September 2020 <<https://unfccc.int/sites/default/files/2025-09/Nigeria%20NDC%203.0%20-%20Transmission%20Version%202.pdf>> accessed 29 November 2025

²⁵² *ibid*

²⁵³ *ibid*

²⁵⁴ *ibid* 14

²⁵⁵ *ibid*

²⁵⁶ *ibid*

²⁵⁷ *ibid* 15

²⁵⁸ Climate Change Act, section 21

²⁵⁹ *ibid* section 15

²⁶⁰ Climate Change Act, section 4

²⁶¹ Climate Change Act, section 15(1) and (2)

²⁶² Climate Change Act, 2021, section 4(p)

²⁶³ Climate Change Act, 2021, section 19(1)(b)(ii)

²⁶⁴ Bolaji Ogundele, 'Tinubu Approves National Carbon Market Framework Ahead COP30', *The Nation* (Lagos, 31 October, 2025) <https://thenationonline.net/tinubu-approves-national-carbon-market-framework-ahead-cop30/> accessed 31 October, 2025

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