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Protecting National Energy: The Legal Framework on Domestic Gas in Nigeria and Lessons from Indonesia

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Abstract

Nigeria is endowed with vast natural resources and significant gas reserves, and is often called a "province of gas". In spite of the huge gas reserves available, the country prioritises crude oil over gas, leading to inefficiencies and waste in the gas sector. Although gas flaring and venting are globally recognised as harmful and wasteful practices, they have persisted in the country for over six decades due to various challenges. This unhealthy situation has resulted in unreliable gas supply to the power sector and raised questions about the adequacy and efficacy of the legal and regulatory framework for domestic gas protection and utilisation in the country. With the enactment of the Petroleum Industry Act in 2021, the legal and regulatory landscape has been transformed to provide for an efficient, effective, and commercially viable petroleum industry that enhances gas protection and utilisation. Relying on the doctrinal legal research methodology, the paper sought to analyse extant laws, regulations, and institutions responsible for domestic gas protection and utilisation in Nigeria, with a view to ascertaining their adequacy and efficacy. The analysis provided core insights and revealed that although the current framework is laudable and quite adequate, certain inherent flaws could undermine its objectives and hinder effective gas protection and utilisation. With

comparative insights from Indonesia, the paper recommended statutory reforms and effective implementation of laws and regulations. By reforming the legal framework and implementing laws effectively, Nigeria can fully unlock its gas potential and promote a more efficient and sustainable gas sector.

Introduction

Nigeria has considerable natural resources that contribute significantly to national income, growth, and development. Of the numerous natural resources Nigeria is endowed with, two have received premium attention by the Federal Government of Nigeria and have thus been subjected to profound and uninterrupted exploration and production since their discovery in the country. They are crude oil and natural gas, often described jointly as 'oil and gas' or 'petroleum', and which are currently estimated to be 37.1 billion barrels and 206.5 trillion cubic feet respectively.[1] Crude oil is regarded as a major source of foreign exchange and the dominant source of revenue for the Nigerian economy, accounting (jointly with gas exports) for "90 percent of export income and 85 percent of government revenue, and making Nigeria a mono-product economy."[2] This attribute, notwithstanding the volatility of the price of oil, foreign exchange rates, and current de-emphasis on crude oil production, accounts for government's profound focus on the protection, exploration, exploitation, investment, utilisation, and export of crude oil. This is in spite of the huge national reserves, value, and potentials of gas economically, environmentally, and in terms of energy generation and security.

1 "Table 1. Nigeria's Energy Overview, 2021," U.S. Energy Information Administration, accessed May 10, 2023, https://www.eia.gov/international/content/analysis/countries_long/Nigeria/.

2 Kabiru S. Musa, Rabiu Maijama'a, Hassan U. Shaibu and Abdurrahman Muhammad, "Crude Oil Price and Exchange Rate on Economic Growth: ARDL Approach," *Open Access Library Journal* 6, no. 12, (2019): 1, https://doi.org/10.4236/oalib.1105930; Nume Ekeghe, "Replacing Oil as Mainstay of Nigerian Economy," *This Day Live,* August 31, 2022, https://www.thisdaylive.com/index.php/2022/08/31/replacing-oil-as-mainstay-of-nigerian-economy.

Although a premium non-renewable fossil fuel, natural gas is regarded as a cleaner and environmentally-friendly source of energy that promotes sustainability and aids climate change mitigation and adaptation. As a valuable source of energy generation, especially with regard to contemporary discourses on energy security and transition, natural gas contributes significantly to the energy mix of countries around the world, thus promoting overall economic growth and social development. It plays a crucial role in reducing greenhouse gas (GHG) emissions from energy production and use, due to its lower carbon content and potential for use in high-efficiency combined cycle power plants.[3] Natural gas is the least pollutant when compared to other fossil fuels, and it has a significantly high calorific value (1 tonne of natural gas is equivalent to 1.1 tonne oil equivalent (TOE) and generates 12,795-kilowatt hour (kWh) of electric power).[4]

Nigeria produces high-quality gas that contains little sulphur, a low volume of carbon dioxide (CO_2), and a high level of liquids or condensate content.[5] In view of the abundance and quality of its gas deposits, Nigeria has often been described by petroleum industry scholars and practitioners as a 'province of gas with some oil in it,' reflecting the profound quantity of gas reserves over crude oil in the country. Despite these sterling qualities and huge deposits, Nigeria's petroleum operations have largely focused on oil exploration to the detriment of gas which is usually discarded through flaring and venting. Gas flaring and venting are globally recognised as major sources of pollution that adversely impact human health, the climate, and the environment. Gas flaring in Nigeria dates back to 1958, with the onset of oil production by Shell during the British colonial era, and as oil production rose, there was corresponding increase in gas flaring.[6] Gas flared in Nigeria amounts to about "23 billion cubic

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3 C. A. Miller, "Energy Resources and Policy: Vulnerability of Energy Resources and Resource Availability – Fossil Fuels (Oil, Coal, Natural Gas, Oil Shale)" in *Climate Vulnerability*, ed. R. A. Pielke (Academic Press, 2013), 37.

4 Salah M. El-Haggar, "Sustainability of Industrial Waste Management" in *Sustainable Industrial Design and Waste Management*, ed. S. M. El-Haggar (Academic Press, 2007), 308.

5 Charles A. Odumugbo, "Natural Gas Utilisation in Nigeria: Challenges and Opportunities," *Journal of Natural Gas Science and Engineering* 2, no. 6, (2010): 310, https://doi.org/10.1016/j.jngse.2010.08.004.

6 Ernest T. Aniche, "An Assessment of the Role of Nigerian State in Enforcing Zero-Gas Flare Regime, 1979-2012: The Imperatives of Environmental Diplomacy," *Civil and Environmental Research* 7, no. 12, (2015): 29, https://www.iiste.org/Journals/index.php/CER/article/view/27433/28146.

metres per annum of the gas generated in association with crude oil production in over 100 flare sites, constituting over 13 percent of global gas flaring out of the over 150 billion cubic metres of natural gas flared and vented annually, and translating to GHG emissions of 45 million tonnes of CO_2 out of the global total of 400 million tonnes annually."[7] In December 2022, Nigeria flared 10.027 billion standard cubic feet (scf) of gas, and in the first quarter of 2023, 76.2 billion scf was flared, leading to CO_2 emissions of 4.0 million tonnes, loss of $266.7 million in potential revenue, and loss of power generation potential of 7,600 gigawatts hour (GWh) of electricity.[8] The effects of gas flaring in Nigeria are profound and multifarious, so much so that gas flaring in the country has been described as a "human rights, environmental, and economic monstrosity".[9] Previous attempts by government to curb gas flaring through laws and regulations (such as by prohibiting flaring and setting flaring deadlines) failed mainly because such laws and regulations either contained weak provisions and penalties, or were not enforced as intended.

The importance of gas in Nigeria reflects beyond economics, to power generation and domestic use. Nigeria primarily depends on Liquefied Natural Gas (LNG) to operate most of its power plants, and as such, gas flaring stands as an albatross to their seamless operation and ability to meet domestic electric power demands. Insufficient and unreliable supply of gas to the power sector has largely accounted for the epileptic power supply that Nigeria has experienced over the years, and which has generally led to economic hardship, an annual loss of $29 billion by businesses, and the stultification of national growth and development.[10] Although Nigeria exports gas to countries around the

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7 Aniche, "Role of Nigerian State," 29.

8 Emmanuel Addeh, "10 Billion SCF of Gas Flared in December Despite Nigeria's NetZero Commitments," *This Day Live,* February 7, 2023, https://www.thisdaylive.com/index.php/2023/02/07/10-billion-scf-of-gas-flared-in-december-despite-nigerias-netzero-commitments/; Adedapo Adesanya, "Nigeria Loses N122.9bn to Gas Flaring in Q1 2023," *Business Post,* May 3, 2023, https://businesspost.ng/economy/nigeria-loses-n122-9bn-to-gas-flaring-in-q1-2023/.

9 Asume Osuoka and Peter Roderick, *Gas Flaring in Nigeria: A Human Rights, Environmental and Economic Monstrosity* (Environmental Rights Action/Friends of the Earth Nigeria and The Climate Justice Programme, 2005), 5, https://www.amisdelaterre.org/wp-content/uploads/2019/10/gas-flaring-nigeria.pdf.

10 O. Adekomaya, T. Jamiru, R. Sadiku, Z. Huan and M. Sulaiman, "Gas Flaring and its Impact on Electricity Generation in Nigeria," *Journal of Natural Gas Science and*

world, it has been unable to meet its domestic gas requirements due to insufficient utilisation of gas, as well as lack of the necessary infrastructure, adequate security, and the enabling environment to boost supply.[11] In 2022, the Nigeria Liquefied Natural Gas Limited (NLNG) was only able to deliver 40% of Nigeria's liquefied petroleum gas (LPG) demand, while the 60% shortfall was imported by marketers.[12] Data from the Nigerian Midstream and Downstream Petroleum Regulatory Authority (NMDPRA) indicate that Nigeria imported a total of 61,884.291 metric tonnes (MT) of LPG in March 2022, a 107.61 percent increase in under a month.[13] The importation of gas in the midst of abundance reveals the fundamental disconnect between gas reserves, production, and utilisation, and reinforces to a large extent, such theories as 'resource curse', 'Dutch disease', and 'rentier State' which point to the paradox of poverty and poor performance in the midst of abundance of highly valuable and profitable resources. This ignominious situation has been largely attributed by scholars to lack of or inadequate gas infrastructure, weak statutory provisions and unenforced sanctions, and fragile legal, regulatory, fiscal and penal frameworks, all of which can be moderated or fixed by effective governance frameworks.

The appalling state of the Nigerian gas sector fundamentally challenges the existence, adequacy, and efficacy of the legal and regulatory framework for the protection and utilisation of gas in Nigeria. Prior to the enactment of the Petroleum Industry Act (PIA) in 2021, the Nigerian gas industry was regulated in a manner that practically allowed for gas flaring and minute commercialisation of

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Engineering 29, (2016): 1, https://doi.org/10.1016/j.jngse.2015.12.042; Emmanuel Ojukwu, "Poor Electricity Supply In Nigeria – Impact On Businesses," *Tekedia,* April 22, 2022, https://www.tekedia.com/poor-electricity-supply-in-nigeria-impact-on-businesses/#:~:text=According%20to%20the%20world%20bank,of%20consumers%20to%20pay%20bills.

11 Gbemi Faminu, "Nigeria unable to meet local, international gas demands," *Business Day,* April 20, 2023, https://businessday.ng/news/article/nigeria-unable-to-meet-local-international-gas-demands/.

12 Omono Okonkwo, "NLNG delivered only 40% of Nigeria's LPG demand in 2022," *Nairametrics,* January 1, 2023, https://nairametrics.com/2023/01/01/nlng-delivered-only-40-of-nigerias-lpg-demand-in-2022/.

13 Ripples Nigeria, "Nigeria's LPG gas import from US, Argentina rises by 107.61% to 61.8 million MT," *Ripples Nigeria,* May 30, 2022, https://www.ripplesnigeria.com/nigerias-lpg-gas-import-from-us-argentina-rises-by-107-61-to-61-8-million-mt/.

gas.[14] While the pre-PIA framework prohibited gas flaring in one breath, in another, it provided certain exceptions that countered initial prohibitions. Additionally, the framework provided weak penalties that made it easier and cheaper for international oil companies operating in Nigeria to flare gas and pay the stipulated penalties, than re-inject or utilise it.

With the enactment of the PIA, the legal, governance, regulatory, and fiscal frameworks of the Nigerian petroleum industry have been significantly restructured to provide for an efficient and effective industry that is commercially viable and competitive, with the aim of enhancing investments in the sector. With the restructuring of the industry, the declaration of 2021 to 2030 as Nigeria's Decade of Gas (a programme through which the Federal Government plans to ramp up the use of gas), and in view of such considerations as climate change, energy security, and energy transition, the legal and regulatory framework that provide for and superintend the domestic protection and utilisation of gas in Nigeria must be imperatively reviewed. This paper is therefore designed to analyse the extant legal and regulatory framework for domestic gas protection and utilisation in Nigeria.

Method

The paper utilised the doctrinal legal research methodology, an approach that provides a "systematic exposition of the rules governing a particular legal category, analyses the relationship between rules, explains areas of difficulty, and in some cases, predicts future developments."[15] It is library-based research that is premised on the exposition of legal doctrines through the examination and interpretation of statutes, case law, legal documents, or facts in a bid to make for better understanding of the law and the provision of practical solutions. The doctrinal legal research methodology was deemed fit to be adopted as the methodological construct for the paper

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[14] Temilade O. Jolaosho, "Adherence to the Rule of Law: From Associated Gas Re-Injection Act 2004 to Flare Gas (Prevention of Waste and Pollution) Regulations 2018," *Elizade University Law Journal* 3, (2020): 5, https://www.researchgate.net/publication/350383030_Adherence_to_the_Rule_of_Law_From_Associated_Gas_Re-Injection_Act_2004_to_Flare_Gas_Prevention_of_Waste_and_Pollution_Regulations_2018.

[15] Terry Hutchinson and Nigel Duncan, "Defining and Describing What We Do: Doctrinal Legal Research," *Deakin Law Review* 17, no. 1, (2012): 101, https://doi.org/10.21153/dlr2012vol17no1art70.

in view of the fact that it was the most suitable approach that would enable the authors to properly research on applicable laws and literature relevant to the paper. Being expository in nature, the paper makes use of primary and secondary sources of information which in this context include Constitutions, Acts, Regulations, law journals, textbooks, reports, law reports, legal treatises, and so forth.

Result and Discussion

A. Gas

Gas is generally defined as "any fluid, combustible or non-combustible, which is produced in a natural state from the Earth and which maintains a gaseous or rarefied state at ordinary temperature and pressure conditions."[16] Similarly, it is also defined as "any fluid, either combustible or non-combustible, hydrocarbon or non-hydrocarbon, which is extracted from a reservoir and which has neither independent shape nor volume, but tends to expand indefinitely."[17] While these definitions explain to a large extent what gas generally is, the term may also be defined contextually or based on jurisdictions. Collectively, the above definitions perceive gas as a naturally occurring substance or element, and thus align with the biogenic theory on the origin of petroleum. As opposed to the abiogenic theory, the biogenic theory proposes that petroleum and natural gas deposits originated from the decomposition of ancient plant and animal remains, which were preserved in sedimentary basins near the Earth's surface.[18] This theory which has been profoundly confirmed by scientific evidence presents gas as a natural product from organic matter. Further reflecting the alignment with the biogenic theory, gas (especially in oil and gas parlance) is usually referred to as 'natural gas'. Natural gas (also known as methane gas or natural methane gas) is a colourless, highly flammable gas consisting mainly of methane and ethane, with possible traces of other hydrocarbons and

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16 Alireza Bahadori, Chikezie Nwaoha, and Malcolm W. Clark, *Dictionary of Oil, Gas, and Petrochemical Processing* (CRC Press, 2014), 192.

17 Howard R. Williams and Charles J. Meyers, *Manual of Oil and Gas Terms.* 14th edn, rev. by Patrick H. Martin and Bruce M. Kramer (LexisNexis, 2009), 391.

18 Irina Volkova, Dmitry Gura and Ilia Aksenov, "Abiogenic and Biogenic Petroleum Origin: A Common Theory for Geological Surveys," *Asian Journal of Water, Environment and Pollution* 18, no. 1, (2021): 60, https://doi.org/10.3233/AJW210008.

gases like propane, butane, and carbon dioxide.[19] In Nigeria, the PIA defines natural gas as "all gaseous hydrocarbons, and all substances contained in it and as exist in natural state in strata, associated or not with crude oil, and are in a gaseous state upon production from a reservoir and excludes condensates."[20] Gas may be 'associated' (found in oil fields), or 'non-associated' (isolated in natural gas fields), and may also be found in coal beds. It is usually measured in standard cubic metres or standard cubic feet.

B. Gas Protection and Utilisation

Gas protection is generally defined as "the prevention or control of the penetration of hazardous gases into buildings or other types of real property, which usually involves either blocking entry pathways or removing the source of gas."[21] In this paper however, the phrase "gas protection" means the deployment of legal and institutional mechanisms for the preservation and sustainable use of natural gas (whether associated or non-associated). On the other hand, gas utilisation encompasses various projects that market and distribute natural gas for commercial use, including power generation, LNG production, and industrial applications like fertiliser plants and pipelines.[22] The natural gas value chain generally comprises (but is not limited to) production, transportation, storage, distribution, and end-user consumption.[23] In clear terms, gas utilisation is the intentional deployment of several processes or strategies to make or aid use of natural gas for productive activities, as opposed to gas flaring and venting which entail wastage of natural gas.

Several technologies and processes have been developed to enable the optimum and productive use of natural gas, thereby

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19 John E. Carruthers, Lee H. Solomon, Gordon I. Atwater, Joseph P. Riva and A. L. Waddams, "Natural Gas," *Encyclopaedia Britannica,* June 16, 2023, https://www.britannica.com/science/natural-gas.

20 Section 318 of the Petroleum Industry Act 2021 refers.

21 H. Mallett, L. Cox, S. Wilson and M. Corban, *Good Practice on the Testing and Verification of Protection Systems for Buildings against Hazardous Gases (C735)* (CIRIA, 2014).

22 Deloitte, "Is Gas Utilization Incentive still necessary?" *Deloitte,* 2015, https://www2.deloitte.com/za/en/nigeria/pages/tax/articles/inside-tax-articles/is-gas-utilization-incentive-still-necessary.html.

23 Adebayo A. Oshingbesan, "Domestic Gas Utilization in Nigeria: Exploring the Potential of Compressed Natural Gas (CNG) Using A Machine Learning Based Approach" (Society of Petroleum Engineers, University of Ibadan Senior Paper Contest 2018), 1, https://doi.org/10.13140/RG.2.2.17130.64969.

reducing gas flaring in particular. They include: (a) LNG which is achieved after natural gas has been cooled to the temperature of approximately –162 °C and at atmospheric pressure; (b) gas to liquid (GTL) which involves the conversion of natural gas or other forms of gaseous hydrocarbons into longer-chain hydrocarbons like diesel fuel or gasoline; (c) pipeline to transport natural gas (which accounts for 75% of globally transported gas); (d) re-injection or recycling of natural gas; (e) electricity generation from natural gas (through turbines);[24] and (e) compressed natural gas (CNG). Nwaoha and Wood assert that in Nigeria, the following technologies are deployed for gas utilisation: (a) gas to power using gas fed by transmission and distribution pipeline networks to supply combined cycle gas turbines (CCGT); (b) CNG; (c) GTL to supply transportation fuels; (d) gas to fertiliser (GTF) and petrochemicals to support domestic industries, and export options involving LNG; (e) the West African Gas Pipeline (WAGP), and, in the future, other potentially large-scale export routes (e.g. to Europe through a Trans-Saharan Gas Pipeline (TSGP)).[25]

Collectively, conscientious gas protection and utilisation serve a number of purposes, to wit: (a) protecting, preserving, and conserving a natural resource that is highly valuable but non-renewable (thus avoiding wastage); (b) protecting the environment and maintaining its ecological balance; (c) protecting humans as well as the natural flora and fauna; (d) ensuring the proper, beneficial and sustainable use of natural gas; (e) contributing significantly to national revenue generation and social development; and (f) reduction of GHG emissions, thereby reducing global warming and the spate of climate change.

C. The Legal Framework for Domestic Gas Protection and Utilisation in Nigeria

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[24] Emeka Ojijiagwo, Chike F. Oduoza and Nwabueze Emekwuru, "Economics of gas to wire technology applied in gas flare management," *Engineering Science and Technology, an International Journal* 19, no. 4, (2016): 2112-2113, https://doi.org/10.1016/j.jestch.2016.09.012.

[25] Chikezie Nwaoha and David A. Wood, "A Review of the Utilization and Monetization of Nigeria's Natural Gas Resources: Current Realities," *Journal of Natural Gas Science and Engineering* 18, (2014): 412, https://doi.org/10.1016/j.jngse.2014.03.019.

The Constitution of the Federal Republic of Nigeria 1999

Apart from being the supreme and fundamental law which validates all other laws, the Constitution of the Federal Republic of Nigeria 1999 (the 'Nigerian Constitution') vests absolute ownership and control of natural gas in the Federal Government of Nigeria. By section 44(3) of the Nigerian Constitution, "the entire property in and control of all minerals, mineral oils and natural gas in, under or upon any land in Nigeria or in, under or upon the territorial waters and the Exclusive Economic Zone of Nigeria is vested in the Federal Government and is to be managed in a manner prescribed by the National Assembly." This position which aligns with the domain theory of petroleum,[26] and which enables the Federal Government to utilise, dispose of, alienate or otherwise deal with natural gas within the territory of Nigeria, is strengthened by the Exclusive Legislative List in the Constitution which specifically lists natural gas as one of the items or subject matters for federal legislation.[27] Accordingly, it is on the combined authority of the National Assembly's lawmaking powers,[28] section 44(3) of the Nigerian Constitution, and item 39 of the Exclusive Legislative List that the National Assembly made laws that prescribe in one way or the other, how natural gas is to be protected, managed, and utilised.

Collectively, the above provisions determine the protection and utilisation of gas in view of the fact that it is on their authority or basis that the National Assembly makes prescriptions in other laws as to how natural gas is to be administered. By the provisions of laws made pursuant to the said constitutional provisions (which are subsequently

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[26] The theory states that land and everything in it belongs to the state; thus, ownership of petroleum is vested in the state.

[27] Item 39, Exclusive Legislative List, Part I of the Second Schedule to the Nigerian Constitution, https://placng.org/i/wp-content/uploads/2020/05/Constitution-of-the-Federal-Republic-of-Nigeria.pdf. See: *Attorney-General of the Federation* v *Attorney-General of Abia State (No. 2)* [2002] 6 NWLR (Pt. 764) 542; *Federal Government of Nigeria* v *Zebra Energy Limited* [2002] 18 NWLR (Pt. 798) 162; *Attorney-General of Adamawa State* v *Attorney-General of the Federation* [2006] All FWLR (Pt. 299) 1450; *Attorney-General of the Federation* v *Attorney-General of Abia State & 35 Ors* [2001] 11 NWLR (Pt. 725) 689.

[28] Section 4(2) of the Nigerian Constitution, https://placng.org/i/wp-content/uploads/2020/05/Constitution-of-the-Federal-Republic-of-Nigeria.pdf. See: *Nigeria Employers Consultative Association & Anor* v *A.G. Federation & Ors* (2021) LPELR-54042(CA); *Agbakoba* v *A.G. Federation & Anor* (2021) LPELR-55906(CA); *FRSC* v *Ehikaam* (2023) LPELR-60749(CA); *Airtel Networks Ltd* v *A.G. of Kwara State & Anor* (2014) LPELR-23790(CA); *Government of Plateau State & Ors* v *Nwaokorie* (2014) LPELR-23368(CA); and *INEC* v *Musa* (2003) LPELR-24927(SC).

analysed), the Federal Government as owner of natural gas is empowered to grant licenses and permits for the exploration, exploitation, production, transportation, distribution, and sale of gas. As the supervening statutory authority that vests ownership and control of natural gas in the Federal Government, the Nigerian Constitution plays a central role in the protection and utilisation of gas. This is more so as it remains the source for the existence, authority, and validity of all other laws.

The Petroleum Industry Act 2021

The PIA was signed into law on 16th August 2021 by the President of Nigeria. The Act seeks to provide legal, governance, regulatory, and fiscal framework for the Nigerian petroleum industry, the development of host communities, and for related matters. It contains 5 chapters, 319 sections and 8 Schedules. Section 1 of the Act which aligns with section 44(3) of the Nigerian Constitution provides that the property and ownership of petroleum within Nigeria and its territorial waters, continental shelf and exclusive economic zone is vested in the Government of the Federation of Nigeria. The Act establishes the Nigerian Upstream Petroleum Regulatory Commission (NUPRC), the Nigerian Midstream and Downstream Petroleum Regulatory Authority (NMDPRA), the Midstream and Downstream Gas Infrastructure Fund (MDGIF), and the Nigerian National Petroleum Company Limited (NNPCL). It also provides for the general administration of upstream, midstream, and downstream petroleum operations, and the administration of midstream and downstream gas operations amongst others. The Act generally repeals the following Acts: (a) Associated Gas Re-Injection Act; (b) Hydrocarbon Oil Refineries Act; (c) Motor Spirits (Returns) Act; (d) Nigerian National Petroleum Corporation (Projects) Act; (e) Nigerian National Petroleum Corporation Act; (f) Petroleum Products Pricing Regulatory Agency (Establishment) Act; (g) Petroleum Profit Tax Act; and (h) Deep Offshore and Inland Basin Production Sharing Contracts Act.[29]

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[29] Section 310 of the Petroleum Industry Act 2021, Federal Republic of Nigeria Official Gazette No. 142, vol. 108, https://pia.gov.ng/wp-content/uploads/2022/08/PIA-2021_compressed-1.pdf.

As opposed to the pre-PIA licensing regime,[30] the Act establishes new licensing and leasing regimes in respect of upstream petroleum operations, to wit: (a) Petroleum Exploration License (PEL), which entitles the holder to carry out petroleum exploration operations on a non-exclusive basis;[31] (b) Petroleum Prospecting License (PPL), which entitles the holder to- (i) drill exploration and appraisal wells and do corresponding test production on an exclusive basis, and (ii) carry out petroleum exploration operations on a non-exclusive basis;[32] and (c) Petroleum Mining Lease (PML) which entitles the holder to-

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30 Under the pre-PIA licensing regime, three forms of licenses/leases were capable of being granted by the Minister of Petroleum Resources: (a) Oil Exploration License (OEL), (b) Oil Prospecting License (OPL), and (c) Oil Mining Lease (OML). The OEL was granted for a period of one year (renewable for another one year) over an area not exceeding 12,950sqkm, and conferred on the licensee the right to carry out aerial and surface geophysical surveys, excluding drilling below 91.44 metres. An OPL was granted for a period not exceeding five years (including periods of renewals) over an area not exceeding 2,590sqkm, and conferred on the licensee the exclusive right to explore and prospect for petroleum within the area of the grant, including the right to carry away and dispose of petroleum won during prospecting operations. An OML was granted for a term not exceeding 20 years over an area not exceeding 1,295sqkm, and conferred on the holder all the rights of an OPL, including the exclusive right to search for, win, work, carry away and dispose of all the petroleum discovered and won in the area covered by the lease. See section 2 of the repealed Petroleum Act.

31 The NUPRC is responsible for granting Petroleum Exploration Licenses. A holder of the license has a non-exclusive right to carry out petroleum exploration operations within the area provided for in the license. The license (which does not include any right to win, extract, work, store, carry away, transport, export or otherwise treat petroleum discovered in or under the license area) is valid for three years and may be renewed for an additional period of three years subject to the fulfilment of prescribed conditions. See section 71 of the PIA.

32 A holder of the license has: (a) exclusive right to drill exploration wells and non-exclusive right to carry out petroleum exploration operations within the area provided for in the licence, and (b) right to carry away and dispose of crude oil or natural gas won or extracted during the drilling of exploration appraisal wells as a result of production tests, subject to the fulfilment of obligations imposed by the PIA. PPLs are generally to be granted by the Minister of Petroleum Resources (on the recommendation of the NUPRC) based on a fair, transparent and competitive bidding process, and in compliance with the PIA, Regulations and licensing round guidelines issued by the NUPRC. PPLs for onshore and shallow water acreages are for a duration of not more than six years (three years initial exploration period and three years optional extension period), while PPLs for deep offshore and Frontier acreages are for a duration of not more than 10 years (five years initial exploration period and five years optional extension period). The area provided for in a PPL has a limit of: (a) 350sqkm for offshore or shallow water acreages; (b) 1,000sqkm for deep offshore acreages; and (c) 1,500sqkm for frontier acreages. See sections 72, 73 and 77 of the PIA.

(i) win, work, carry away and dispose of crude oil, condensates and natural gas on an exclusive basis, (ii) drill exploration and appraisal wells and carry out the related test production on an exclusive basis, and (iii) carry out petroleum exploration operations on a non-exclusive basis.[33] Gas flaring and venting are generally prohibited, but this is however subject to three exceptions: (a) in the case of an emergency; (b) pursuant to an exemption granted by the NUPRC (for facility start-up or strategic operational reasons); or (c) as an acceptable safety practice under established Regulations.[34] While the prohibition of gas flaring and venting is laudable, the exceptions provided by the Act have the effect of whittling down the prohibition as they appear to be quite loose in nature and thus liable to abuse by operators in the industry. For instance, nowhere in the section or the Act is the word "emergency" (as it relates to gas flaring and venting) clarified or defined. Also, there is currently no Regulation stipulating what consists of "acceptable safety practice." The effect therefore is that operators may flare or vent gas with reckless abandon and claim that they did so pursuant to the exceptions provided by law.

Notwithstanding the exceptions and exemptions provided for gas flaring and venting, licensees and lessees producing natural gas are required to submit a natural gas flare elimination and monetisation plan to the NUPRC, prepared in accordance with Regulations made by the NUPRC under the PIA.[35] While the intention of this provision may be to reduce gas flaring and encourage gas utilisation, it actually bespeaks ineffective regulation as the requirement shows that the regulator has failed in its duty to draw up such plans and programmes, and set standards for the industry. Additionally, with the absence of

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33 Section 70 of the PIA. A PML is granted for each commercial discovery of crude oil or natural gas or both, to a licensee of PPL who has: (a) satisfied the conditions imposed on the licence or licensee under the PIA; and (b) received approval for the applicable field development plan from the NUPRC. PMLs are generally to be granted by the Minister of Petroleum Resources (on the recommendation of the NUPRC) based on a fair, transparent and competitive bidding process, and in compliance with the PIA, Regulations and licensing round guidelines issued by the NUPRC. Generally, a PML is for a maximum period of 20 years and shall not consist of an area that is less than one parcel. See sections 70, 73, 81, 82 and 86 of the PIA.

34 Sections 104 and 107 of the PIA. Monies received from gas flaring penalties by the NUPRC are for the purpose of environmental remediation and relief of host communities of the settlors on which the penalties are levied. See section 104(4) of the Act.

35 Section 108 of the PIA.

statutory deadlines for gas flaring and venting, the requirement might be for the purpose of appearance of seriousness on the part of the regulator. To ensure that some form of system exists for the measurement of the volume of gas flared or vented, licensees are required to install metering equipment on their facilities.[36] There is however the question of the integrity of the equipment, and the possibility of manipulation by operators. In the absence of proper frameworks and measures for ensuring that the equipment and data produced therefrom are not tampered with, the intended regulation might transform into self-regulation by the operators.

Domestic gas delivery obligations (which are obligations placed on lessees producing gas to dedicate and deliver a specific volume of natural gas towards meeting the domestic gas demand requirement) are provided for, and the NUPRC has the authority to prescribe and allocate, by Regulation or guidelines, domestic gas delivery obligations (DGDO) among all lessees before 1st March of each year based on the domestic gas demand requirement (DGDR) determined or updated under section 173 of the Act.[37] The statutory provision for DGDO marks an elevation of the obligation from a policy or regulation-based obligation (as it was formerly under the pre-PIA framework) to a statutory one, thus making for additional enforcement authority. On a voluntary basis, lessees may conclude contracts with wholesale customers or suppliers of the strategic sectors[38] for delivery of marketable natural gas on a free market basis, and where the volume of the contract is equal to or higher than the DGDO for the lessee, the lessee shall be deemed to have fulfilled its DGDO.[39] The NUPRC may require a lessee producing natural gas to carry out works and operations which may be required to increase production, and to

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36 Section 106 of the PIA.

37 Section 110(1) of the PIA. Section 173 of the PIA empowers the NMDPRA to determine the DGDR prior to the 1st day of March of each calendar year, and inform the NUPRC of this requirement accordingly.

38 The strategic sectors are the power sector, the commercial sector, and gas-based industries.

39 Section 110(2) of the PIA. Lessees who fail to comply with the DGDO shall incur penalties and other sanctions. Exceptions are: (a) force majeure; (b) inability of a purchaser to accept allocated natural gas volumes; (c) inability to transport the allocated natural gas for reasons beyond the control of the lessee; or (d) failure of a purchaser to pay for allocated natural gas volumes. See Section 110(8)(9)(10)(14) of the PIA.

dedicate specific volumes of the natural gas produced towards the requirements of the domestic market. The imposition of DGDOs by the NUPRC is to be discontinued where the NMDPRA has determined that the natural gas market has attained full market status.[40] It is however unclear how that status will be determined as there is no statutory clarification on what it means, neither is there a standard for it.

In terms of general administration of midstream and downstream petroleum operations, the NMDPRA can only grant a license for midstream and downstream petroleum operations where the application and licensing process *inter alia*: (a) meets the technical standards required for petroleum operations based on good international petroleum industry practices; (b) meets health, safety and environmental standards as determined by the NMDPRA; and (c) provides for the efficient and economic use of facilities and pipelines.[41] The Act fails to provide clarification on what the first requirement "good international petroleum industry practices" means, and for the second requirement, it raises questions as to whether the role to be performed by the NMDPRA is simply a usurpation of the functions of the National Environmental Standards and Regulations Enforcement Agency (NESREA), or that of the Federal Ministry of Environment. Regarding the third requirement, there is also the question of whether the requirement is to be fulfilled only for the sake of obtaining a license, or whether the NMDPRA has the ability to ensure that that particular trait continues for the life of the license.

With respect to midstream and downstream gas operations, the following activities amongst others can only be undertaken pursuant to the issuance of appropriate licenses: (a) establishment, construction, or operation of a facility for the processing and storage of natural gas; (b) establishment, construction, or operation of a gas transportation pipeline or network, distribution network or a facility for the supply or trading of gas; and (c) engagement in wholesale gas supply or the construction or operation of petrochemical or fertiliser plants.[42] The licenses are to be issued by the NMDPRA, and it may also grant and issue gas processing licenses which permit licensees to install and operate the following facilities: (a) gas conditioning plants,

40 Section 110(5) (11) of the PIA.
41 Section 111(2) of the PIA.
42 Section 125 of the PIA.

to condition natural gas removing CO_2, Hydrogen sulfide (H_2S) and other impurities; (b) gas processing plants, to produce ethane, propane, butane, other natural gas liquids and marketable natural gas; (c) gas to liquid plants; (d) LNG plants; (e) ethane extraction plants; and (f) other plants which require a gas processing license.[43] It is also within the statutory powers of the NMDPRA to grant the following licenses: (a) bulk gas storage license (which authorises holders to undertake the bulk storage of natural gas, and requires them to *inter alia* construct, operate and maintain their facilities in a safe, economical, reliable, and environmentally sustainable manner); (b) gas transportation pipeline license (which vests holders with the exclusive right to own, construct, operate, and maintain gas transportation pipelines within defined routes; (c) gas transportation network operator license (which authorises the conduct of specified activities, including conveyance of natural gas through the gas transportation network on an open access basis); (d) wholesale gas supply license (which authorises the supplier to purchase natural gas directly from any lessee or third party and sell and deliver wholesale gas to wholesale customers and gas distributors); (e) retail gas supply license (which generally authorises holders to sell or retail marketable natural gas, and establish, construct, and operate facilities to deliver CNG and small scale facilities for LNG; (f) gas distribution license (which entitles holders to establish, construct, and operate gas distribution systems and distribute and sell natural gas without discrimination to customers); (g) domestic gas aggregation license; and (h) crude oil refining licenses.[44] The statutory provision of these licenses is to ensure that the different aspects of the gas chain are adequately regulated by law, and that gas operations are subject to legal scrutiny. Especially for gas utilisation, this implies that the different methods of gas utilisation cannot be explored without a license, thus limiting the rate of arbitrary and unregulated operations by individuals and bodies. While the provisions appear adequate and legally forceful, their implementation remains a cause for concern especially given the vast territory of Nigeria and the usual laxity on the part of regulatory institutions to enforce statutory provisions.

The function of administration and collection of Government revenue in the petroleum industry is assigned to the Federal Inland

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43 Section 129(1) of the PIA.

44 Sections 132 to 162 of the PIA.

Revenue Service (FIRS) and the NUPRC, with the FIRS being responsible for the assessment and collection of: (a) hydrocarbon tax and enforcement of the provisions of the PIA as it relates to hydrocarbon tax assessment and revenue collection; and (b) companies income tax and tertiary education tax in accordance with the PIA as it relates to taxable petroleum operations.[45] The NUPRC on the other hand is responsible for the determination and collection of: (a) royalties, signature bonus, rents and related payments and their enforcement under the PIA; and (b) related payments or production shares, where the model contract includes provision related to production sharing, profit sharing, or risk service provisions.[46] The NMDPRA is responsible for the determination, collection, and enforcement of gas flare penalties arising from midstream operations.[47] As clear as the assigned functions appear, they raise some significant issues. First, the FIRS is ordinarily responsible for the collection of government revenue which includes those detailed for collection and enforcement by the NUPRC. The effect of the provision which assigns different categories of government revenue to the two institutions is that it creates unnecessary bureaucratic bottlenecks. Secondly, with respect to the function assigned to the NMDPRA, gas flaring penalties in Nigeria have always been palpably low, and their enforcement and collection have remained significant challenges for regulatory institutions, especially given the lax approach to enforcement in the industry. These have been further aided by the slow pace of the judicial system in dispensing with matters of the sort brought before it, as well as by evasion of payment of penalties by defaulting oil and gas companies. Without the requisite enforcement of these and other provisions, oil and gas companies will technically have the upper hand in the regulatory scheme by flaring gas at will and refusing to pay assessed penalties, all of which will further aid the

45 Section 259 of the PIA.

46 Section 259 of the PIA.

47 Section 259 of the PIA. In respect of taxation, the Act also provides that companies, concessionaires, licensees, lessees, contractors and subcontractors involved in the upstream, midstream or downstream petroleum operations shall be subject to the provisions of the Act as well as those of the Companies Income Tax Act. All companies engaged in domestic midstream petroleum operations, downstream gas operations, and large-scale gas utilisation industries are entitled to benefit from the incentives provided under section 39 of the Companies Income Tax Act, and investors in gas pipelines are to be granted an additional tax-free period of five years at the expiration of the tax-free period granted in section 39 of the Companies Income Tax Act. See Section 302 of the PIA.

wastage of gas rather than its regulatory protection and sustainable utilisation.

Nigerian Oil and Gas Industry Content Development Act, 2010

The primary objective of the Act is to promote self-sufficiency in the petroleum industry by minimising reliance on foreign expertise, fostering local employment, and driving the development of indigenous industries that can support the sector. It is designed to promote inter-institutional cooperation, optimise resource utilisation, and increase Nigerian participation in the oil and gas industry, by integrating the sector with other key areas of the economy.[48] The provisions of the Act apply to all matters pertaining to Nigerian content[49] in respect of all operations or transactions carried out in or connected with the Nigerian oil and gas industry[50] and as such, all regulatory authorities, operators, contractors, subcontractors, alliance partners and other entities involved in any project, operation, activity, or transaction in the Nigerian oil and gas industry are required to consider Nigerian content as an important element of their overall project development and management philosophy for project execution.[51] The implication of this statutory requirement for gas protection and utilisation is that especially for gas utilisation, Nigerian content (raw materials, labour, locally crafted/manufactured equipment, facilities, tools, and so forth) are to be used in the construction and maintenance of gas infrastructure. This contributes significantly to gas utilisation by reducing costs for operators in the gas industry (whether foreign or local) who would have otherwise imported most or all of the resources they require. Adequate capacity and availability are however issues of concern. Thus, while the

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48 Kingsley Jeremiah, "Oil firms, contractors may exploit loopholes in local content Act," *The Guardian*, February 19, 2020, https://guardian.ng/energy/oil-firms-contractors-may-explot-loopholes-in-local-content-act/.

49 By virtue of section 106 of the Act (NOGICDA) (Nigerian Oil and Gas Industry Content Development Act 2010, Act No. 2, https://ncdmb.gov.ng/nc-act.pdf), "Nigerian Content" means the quantum of composite value added to or created in the Nigerian economy by a systematic development of capacity and capabilities through the deliberate utilisation of Nigerian human, material resources and services in the Nigerian oil and gas industry.

50 In the Act, "Nigerian Oil and Gas Industry" means all activities connected with the exploration, development, exploitation, transportation and sale of Nigerian oil and gas resources including upstream and downstream oil and gas operations. Section 106 of the NOGICDA refers.

51 Sections 1 and 2 of the NOGICDA.

intention is to promote Nigerian content, where they are lacking, operators would likely have recourse to external options.

By the provisions of the Act, Nigerian independent operators are to be given first consideration in the award of oil blocks, oil field licences, oil lifting licences, and in all projects requiring contract awards in the oil and gas industry, but this is to the extent that statutory requirements have been complied with.[52] As expressed, and as it pertains to the gas industry, indigenous gas companies are to be given first consideration, but this is subject to demonstrable capacity to perform, which Nigerian operators are required to have and exhibit. To ensure the seamless operation of its provisions and the achievement of its objectives, the Nigerian Content Development and Monitoring Board (the 'Board') is established under the Act and assigned the primary function of formulating procedures to guide, monitor, coordinate, and implement the provisions of the Act, with a view to ensuring measurable and continuous growth of Nigerian content in all oil and gas arrangements, projects, operations, activities, or transactions in the Nigerian oil and gas industry.[53]

The Act requires that in bidding for any licence, permit or interest, and before the commencement of any project in the Nigerian oil and gas industry, operators should submit a 'Nigerian Content Plan' to the Board for review and assessment for compliance with the Act.[54] The implication is that apart from direct industry requirements in the gas industry which are to be fulfilled by intending operators, there is also the requirement of Nigerian content which must be satisfied. It is however uncertain how the latter will be achievable in the gas industry without appropriate synergy between the concerned regulatory institutions.

Environmental Impact Assessment Act CAP E12, LFN 2004

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52 Section 3 of the NOGICDA.

53 Sections 4 and 5 of the NOGICDA.

54 Sections 7 and 8 of the NOGICDA. The plan is required to contain provisions which are intended to ensure that first consideration is given to services provided from within Nigeria and goods manufactured in Nigeria, and that Nigerians are given first consideration for training and employment in the work programme for which the plan was submitted. Section 10 of the NOGICDA refers. Additionally, the plan is required to contain details on how the operator or its alliance partner intend to ensure the use of locally manufactured goods that meet the specifications of the industry. Section 13 of the NOGICDA refers.

The Environmental Impact Assessment (EIA) Act is designed to ensure that environmental impact assessment is carried out with respect to projects that are likely to have significant effects on the Nigerian environment. It sets out the general principles, procedure, and methods to enable the prior consideration of environmental impact assessment on certain public and private projects, and is administered by the Environmental Impact Assessment Division of the Federal Ministry of Environment. The public and private sectors are prohibited from authorising or embarking on projects without prior consideration, at an early stage, of their environmental effects, and at a minimum, environmental impact assessments are required to include an assessment of the likely or potential impacts of proposed activities and alternatives, including the direct or indirect short-term and long-term effects.[55]

With respect to the Nigerian oil and gas/petroleum industry, the Act outlines in its Schedule, certain activities for which mandatory studies on environmental impact must be carried out. They are: (a) oil- and gas fields development; (b) construction of off-shore pipelines in excess of 50 kilometres in length; (c) construction of oil and gas separation, processing, handling, and storage facilities; (d) construction of oil refineries; and (e) construction of product depots for the storage of petrol, gas, or diesel (excluding service stations) which are located within 3 kilometres of any commercial, industrial, or residential areas and which have a combined storage capacity of 60,000 barrels or more.[56]

For the gas industry, and particularly for gas protection and utilisation, the implication of the EIA Act is that before gas utilisation processes are commenced or infrastructure are established, there must be an assessment of the short-term and long-term actual or potential impacts. In terms of gas protection, the implication is that gas may not be explored, produced, transported, or used without fulfilment of the prior requirement of carrying out and satisfying environmental impact assessments. The conduct of environmental impact assessment prior to the commencement or establishment of gas utilisation facilities helps in understanding and appreciating the short-term and long-term impacts or implications of the unsustainable use (or

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55 Sections 2, 4(d) and 5 of the Environmental Impact Assessment Act (EIA Act), CAP E12, Laws of the Federation of Nigeria, 2004, https://ead.gov.ng/wp-content/uploads/2017/04/EIA_Act.pdf.

56 Paragraph 12 of the Schedule to the EIA Act.

wastage) of gas for the environment, thereby leading to cautions about how gas is to be utilised. While the general intention is to ensure environmental protection, it is however uncertain the extent to which such requirements have been complied with by oil and gas companies operating in Nigeria, in view of the scale and impacts of their activities which are evidently carried out without due regard for environmental impacts. A fundamental question which the provisions also raise is whether environmental impact assessments are not to be carried out during and after the commencement of operations. This is particularly in view of gas flaring and venting activities carried out by oil and gas companies which have deleterious effects on human health and the environment, but which have not been adequately sanctioned. Some deficiencies of the Act in respect of the gas industry have however been slightly remedied by the Midstream and Downstream Petroleum Environmental Regulations, 2023 made by the NMDPRA, pursuant to the PIA. This has been supported by the establishment of an Environmental Remediation Fund pursuant to the Midstream and Downstream Environmental Remediation Fund Regulations, 2023. Although the purpose of setting up the Fund (which is contributory in nature) is environmental remediation for issues caused by petroleum operations in the sector, it is unclear whether the Fund is in actual existence and how it can actually function without contributions from oil and gas companies.

Petroleum Production and Distribution (Anti-Sabotage) Act

The Act enables the protection of gas by making sabotage of petroleum production and distribution an offence. The offence of sabotage is committed when a person wilfully and intentionally does anything to obstruct, prevent or interrupt the production, distribution, procurement, or transportation of petroleum products in Nigeria.[57] Similarly, the offence (which carries a death penalty or term of imprisonment of not more than 21 years) is committed when a person aids, incites, counsels, or procures another person to do any of the above prohibited things.[58] In the petroleum industry, sabotage

[57] By section 4 of the Act (Petroleum Production and Distribution (Anti-Sabotage) Act (PPDAS Act) 1975, Decree No. 35, A 161, https://archive.gazettes.africa/archive/ng/1975/ng-government-gazette-supplement-dated-1975-11-10-no-55-part-a.pdf), "petroleum products" includes motor spirits, gas oil, diesel oil, automotive gas oil, fuel oil, aviation fuel, kerosene, liquefied petroleum gases and any lubricating oil or greases or other lubricant.

[58] Sections 1(2) and 2 of the PPDAS Act.

has been an issue of concern especially given the rate at which vandals attack pipelines and installations. Although gas pipelines are rarely targeted, there have nonetheless been some incidents.[59]

Domestic Gas Delivery Obligation Regulations, 2022

The Regulations were made by the NUPRC pursuant to sections 10(f) and 110(1) of the PIA. The Regulations apply to licensees and lessees in relation to DGDOs,[60] and its objectives are to: (a) determine, regulate, and enforce DGDOs in accordance with the Act; (b) establish the criteria for allocation of DGDOs; and (c) determine the pricing mechanism for utilised gas delivery obligation to the domestic market.[61] The lofty objectives of these Regulations, if actualised, will go a long way in promoting domestic gas utilisation in Nigeria in view of the fact that DGDOs are generally targeted at increasing the volume of gas in circulation and use domestically, with the aim of adequately meeting domestic demand requirements.

The Regulations make provision for the determination and allocation of DGDOs, and in this wise, they require lessees to make available to the NUPRC, information relating to their natural gas reserves and resources. This is with a view to ensuring that there is achievement of a certain balance in the allocation of DGDOs, as the volumes of reserves may differ significantly among licensees. A query however is how accurate or reliable the supplied information would be given the evident fact that the higher the volume of reserves, the higher the allocation of DGDO. In the absence of a fool-proof method or system for ascertaining approximate values, the provision may be counterproductive as operators may under-report their reserves.

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59 See: Alexis Akwagyiram, "Gas pipeline in Niger Delta operated by Nigeria's NNPC attacked – community group," *Reuters,* May 20, 2016, https://www.reuters.com/article/ozabs-uk-nigeria-gas-id-AFKCN0YB1YU/; Vanguard, "Suspected oil rebels attack Niger Delta pipeline," *Vanguard,* May 23, 2017, https://ww.vanguardngr.com/2017/05/suspected-oil-rebels-attack-niger-delta-pipeline/; Femi Adekoya, "Gas output: 'Pipeline sabotage, insecurity undermining Nigeria's output, export'," *The Guardian,* September 13, 2022, https://guardian.ng/business-services/gas-output-pipeline-sabotage-insecurity-undermining-nigerias-output-export/.

60 Regulation 2 of the Domestic Gas Delivery Obligation Regulations (DGDOR), 2022, Federal Republic of Nigeria Official Gazette No. 206, vol. 109, https://www.nuprc.gov.ng/wp-content/uploads/2022/11/Domestic-Gas-Delivery-Regulations-2022-pdf-1.pdf.

61 Regulation 1 of the DGDOR.

In addition to reporting reserves, lessees are required to provide estimates of the rates at which marketable natural gas will be produced, either at the measurement point or at any marketable delivery point.[62] Lessees are also required to inform the NUPRC of the marketable gas price level at which the resource is projected to be commercially viable, and include proved reserves of the low-Btu gas.[63] Lessees are required by the Regulations to report proved developed producing reserves under the domestic gas demand requirement for gas, and such report should include the production, delivery rates of the marketable natural gas, and the applicable gas purchase and sale or other contracts or arrangements under the existing DGDOs.[64] For the purpose of determining and allocating DGDOs, the Regulations provide that the national domestic gas demand requirement supply curve shall be the supply curve of natural gas to be supplied on a voluntary basis for specific price level by the lessees, which curve the NUPRC is to rely on, and which is to be determined by the price of the gas supply to the domestic market in accordance with paragraph 2(a)(iii) of the Third Schedule to the PIA.[65]

Where the NUPRC forms the opinion that a lessee under-estimated the volume of commercially supplied domestic gas at particular price levels, the NUPRC is empowered to require the lessee to provide detailed cost and production data to ascertain discrepancies, and it may also carry out verification studies.[66] This is clearly in a bid to ensure accountability amongst operators in the fulfilment of their gas obligations, but the provisions throw up certain questions. First, what leads to the formation of such an opinion by the NUPRC? Second, is there an independent approach or method for ascertaining the extent to which operators have fulfilled their obligations? If a lessee defaults in supplying the allocated volume pursuant to section 110(1)(b) of the PIA, the NUPRC is empowered to invoke penalties provided under section 110(8) of the PIA, and where a lessee fails to comply with the DGDOs provided under the

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62 Regulation 3(5)(6) of the DGDOR. Marketable natural gas is natural gas that meets specifications determined by the NMDPRA for distribution to wholesale customers and retail customers for use as a domestic, commercial and industrial fuel, and as feedstock or industrial raw material. Marketable delivery point is a point where marketable natural gas is made available to customers. See section 318 of the PIA.

63 Regulation 3(9)(10) of the DGDOR.

64 Regulation 3(13) of the DGDOR.

65 Regulation 4(1)(2)(3) of the DGDOR.

66 Regulation 4(11)(12) of the DGDOR.

Regulations and the PIA, a penalty of US$3.50 per million of British thermal units (MMBtu) of gas not delivered shall be imposed.[67]

Gas Flaring, Venting and Methane Emissions (Prevention of Waste and Pollution) Regulations, 2023

The Regulations were made by the NUPRC in exercise of powers conferred on it by sections 7(e), 10(f), and 104-108 of the PIA. Its objectives are to: (a) reduce the environmental and social impact associated with the flaring and venting of natural gas and fugitive methane emissions into the atmosphere; (b) preserve and protect the environment; (c) prevent waste of natural resources; (d) enhance energy transition in Nigeria; (e) create social and economic benefits from gas flaring and venting; and (f) set out the procedure for the NUPRC to exercise its rights to take gas at flare point in accordance with the PIA and other applicable laws.[68] The Regulations apply to regulate gas flaring, venting, and methane emission by a licensee, lessee, and producer of gas in upstream petroleum operations.[69] With these objectives in mind, the Regulations are poised to protect and conserve gas, and ensure its proper and sustainable utilisation.

The NUPRC is empowered to take gas free of charge at any flare point.[70] This implies that the wastage of gas through flaring will be curbed as the NUPRC will capture gas that would ordinarily have been wasted. As promising as this provision is, it however raises the question of practicability. This is so as it may be difficult, if not impossible, for the NUPRC to be present at all the different flare points during flaring periods. Related to this is the question of whether the NUPRC has adequate facilities for capturing such gas at multiple locations, and also whether in the exercise of its rights so stated, it would be acting independently or in conjunction with the operators. If the NUPRC has to depend on operators for capturing, this places the regulator virtually at the mercy of the operator. Given that the NUPRC is a new creation of law that is essentially still finding its regulatory feet, the provision may just be of cosmetic nature at the

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67 Regulations 4(13) and 6 of the DGDOR.

68 Regulation 1 of the Gas Flaring, Venting and Methane Emissions (Prevention of Waste and Pollution) Regulations, (GFVMEPWPR) 2023, Federal Republic of Nigeria Official Gazette No. 125, vol. 110, https://www.nuprc.gov.ng/wp-content/uploads/2023/07/GAS-FLARING-REGULATIONS.pdf.

69 Regulation 2 of the GFVMEPWPR.

70 Regulation 3(1) of the GFVMEPWPR.

moment until the NUPRC is imbued with the requisite facilities and significant presence in each flare location.

Licensees and producers of gas are required to submit to the NUPRC, a Flare Elimination and Monetisation Plan (FEMP) which shall however not include a flare site which the NUPRC has exercised its rights pursuant to any Federal Government gas commercialisation programme before the commencement of the Regulations.[71] The FEMP shall formulate a methodology for the elimination and monetisation of gas flaring from a licence or lease area, and include an implementation plan as well as timeline for execution. The implication of this provision is that operators are virtually at liberty to determine how and when they wish to monetise and eliminate gas flaring. There are certain issues here. First, there is the absence of an express provision in the PIA or Regulations for regulatory elimination of gas flaring. Second, the provision shows that there is no independent regulatory plan for monetisation or elimination of gas flaring, and so operators are to each determine how they will do both. This bespeaks regulatory capture as it shows that the regulator is depending on the operator, rather than setting industry standards for operators to comply with. The natural gas taken by the NUPRC and granted to a third party pursuant to a permit to access natural gas is to count as part of the licensee's or lessee's DGDO, and the NUPRC may request from a licensee or lessee, Gas Data.[72]

A licensee, lessee, and producer of gas may flare gas under the circumstances provided in sections 104 and 107 of the PIA, and except in the case of emergency, gas flaring will only be allowed under the following terms and conditions: (a) the gas flaring is within the threshold approved by the NUPRC, and (b) payment of a flaring fee.[73] This does not evince an intention to stop gas flaring, but rather one to monetise the dangerous activity that has deleterious effects on

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71 Regulation 3(1)(2)(3) of the GFVMEPWPR.

72 Regulations 3(13) and 4(4) of the GFVMEPWPR. By Regulation 25, "Gas Data" means the dynamic pressure, volume and temperature (PVT) data, and other logs and records generated in the course of day-to-day production activities, submitted to the NUPRC in accordance with Regulations 4, 14, and 15 of the Regulations, and which shall include *inter alia*: historical disposed gas data per field or facility, separated into routine flaring and non-routine flaring, and flare gas and vent gas; historical gas utilisation data per field or facility; gas reserve data per field; gas reserved data aggregated for each flaring facility; flare gas composition by stack; and vent gas composition.

73 Regulation 12(1)(2) of the GFVMEPWPR.

human health and the environment. The net effect is that the NUPRC has converted gas flaring into a business venture without regard for its impacts which are multiple and profound. There is also no evidence of an intention to address the environmental and other effects of gas flaring. Whatever the fines or penalties may be or however huge they may be, they cannot compensate for the far-reaching impacts of gas flaring which have adverse implications for immediate and remote communities, and the environment.

The NUPRC is required, on a bi-annual basis, to establish gas flaring threshold (based on information submitted by licensees, lessees, and producers of gas) for licensees, lessees, and facilities for which gas is flared.[74] This is a reflection of regulatory capture in the gas industry. What the provision stipulates is that the regulator is to set thresholds based on information received from licensees, lessees, and operators. Thus, instead of the regulator setting independent thresholds that should make for extremely minimal flaring subject to very limited and stringent conditions, the regulator is depending on the operator for information (which in any case may be inaccurate or manipulated) with which it will regulate and set thresholds. Rather than encouraging the protection and utilisation of gas, this provision has the tendency to allow for profound wastage and unrestrained flaring and venting of gas. Producers of gas are required to maintain a daily log of flaring and venting of natural gas from their licence, lease, or facility area and submit the logs to the NUPRC; the log is to quantify and compute the total flare gas and vent volumes, which should be based on data received from metering equipment installed by the permit holder and the producer of gas, and which should indicate the date, time, duration, rates, volumes, and gas source or type for each flaring.[75] As well, licensees, lessees, and producers of gas are required to maintain a daily record of natural gas produced from a license or lease area, which record is to be submitted in the required format to the NUPRC (as monthly and annual reports), and should include the following details: (a) natural gas consumed by a licensee, lessee, and producer of gas for own use; (b) natural gas flared; and (c) natural gas wasted by deliberate venting, incomplete combustion, and fugitive emissions.[76] Licensees, lessees and producers of gas who flare,

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74 Regulation 12(3)(4) of the GFVMEPWPR.
75 Regulation 15 of the GFVMEPWPR.
76 Regulations 18 and 19 of the GFVMEPWPR.

vent, or waste gas without authorisation of the NUPRC are to pay an administrative fine of USD$3.50 per 1000 scf of gas to the NUPRC.[77]

Midstream Gas Flare Regulations, 2023

The Regulations were made by the NMDPRA in exercise of the powers conferred on it by section 33(y) of the PIA. Being applicable to flaring and venting of flare gas in midstream petroleum operations, the objectives of the Regulations are to: (a) reduce the environmental and social impact caused by excessive flaring and venting of flare gas; (b) protect the environment; (c) prevent wastage of natural resources; and (d) set criteria for gas flaring in midstream petroleum operations for safety purposes.[78] The Regulations provide for three categories of midstream petroleum operations under which flaring may occur, to wit: (a) safety flaring (initial start-up flaring during commissioning and start-up phases of a plant or process unit, pilot gas, and relief devices); (b) continuous flaring when the plant or process unit is in operation; and (c) non-continuous operational flaring on a planned or unplanned basis for scheduled maintenance, equipment shutdowns, and mechanical equipment failures.[79] While the first and third categories are quite acceptable as industry practices, the second category creates a significant problem for gas protection and utilisation. This is so because by establishing it as a ground on which flaring can occur or is allowed, routine flaring rather than re-injection or utilisation of gas is thus legally established as an acceptable practice.

The NMDPRA is at liberty to take free of charge, natural gas at the flare in midstream petroleum operations, and it may grant access to such flare gas to applicants (through the issuance of renewable permits) who wish to repurpose same.[80] The NMDPRA is empowered to grant permits for flaring or venting gas (upon submission of valid justification and payment of prescribed fees) for specific periods and on such grounds as facility start-up, or for strategic operational reasons (including testing).[81] Persons engaged in midstream petroleum operations are prohibited from flaring or venting gas beyond the limits set by the NMDPRA, and licensees or permit holders are

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77 Regulation 21(1) of the GFVMEPWPR.

78 Regulations 1 and 2 of the Midstream Gas Flare Regulations (MGFR), 2023, Federal Republic of Nigeria Official Gazette No. 51, vol. 110, https://faolex.fao.org/docs/pdf/nig219072.pdf.

79 Regulation 3 of the MGFR.

80 Regulation 4 of the MGFR.

81 Regulation 7 of the MGFR.

required, prior to the issuance of licence to operate, to engage with the NMDPRA to determine the maximum number of major flaring events and quantity of gas flared.[82] This gives the impression of inability or some form of laxity on the part of the regulator to properly regulate the utilisation of gas, and indeed the whole gas industry. On a proper regulatory front, the regulator should be able to determine and fix those indices as part of regulations for operators in the industry, especially in view of the fact that doing otherwise may create loopholes for or the impression of laxity in regulation.

Licensees or permit holders are required to maintain daily logs of flaring and venting of flare gas within their facilities (using installed metering equipment), which are to be submitted to the NMDPRA.[83] Licensees or permit holders are equally required to submit to the NMDPRA, quarterly and annual reports indicating the quantity of flare gas utilised or repurposed at their facilities, and the quantity of gas flared.[84] This however brings in the question of the ability of the NMDPRA to ensure that the data or information submitted to it by the operators is accurate and indeed representative of what the true position is. If the NMDPRA is unable to independently and objectively verify that information, it may well be basing its regulatory decisions on possibly manipulated information. This is plausible as operators in the industry have been known to engage in sharp practices that enable them on the one hand to evade proper regulation and penalties, and on the other, to make more profit.

Where gas flared or vented by a licensee exceeds the limit set by the NMDPRA: (a) by not more than one million standard cubic feet (1MMSCF), the licensee will be liable to pay a penalty of $0.50 per 28.317 standard cubic metres (1,000 scf); (b) by more than 1MMSCF but less than ten million scf (10MMSCF), the licensee will be liable to pay a penalty of $1.00 per 28.317 standard cubic metres (1,000 scf); and (c) by an amount greater than 10MMSCF, the licensee will be liable to pay a penalty of $1.50 per 28.317 standard cubic metres (1,000 scf).[85] The penalties are to be transmitted to the Midstream and

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82 Regulation 8(1)(2) of the MGFR. The NMDPRA may however exempt licensees or permit holders who vent flare gas during declared national emergencies, from paying penalties. See Regulation 8(4) of the MGFR.

83 Regulation 9 of the MGFR.

84 Regulation 10 of the MGFR. The metering equipment are to be manufactured, operated, calibrated and inspected in line with the Metering and Data Collection Standards issued by the NMDPRA. See Regulation 11 of the MGFR.

85 Regulation 13 of the MGFR.

Downstream Gas Infrastructure Fund for infrastructure investment within the host community of a designated facility. Indubitably, infrastructure investment will enhance gas utilisation as the lack of adequate and requisite gas infrastructure has been a major challenge for gas protection and utilisation in the country. This is so as the inability to meet domestic gas demands and even meet with the demand of the power sector for gas has been largely attributed to the lack of storage, processing, and other requisite facilities. The Regulations make provision for offences by stipulating that persons who fail to obtain licenses or permits, fail to provide required information or submit same within the stipulated period, make false declarations or furnish false or inaccurate information, or fail to comply with the Regulations or directives are liable to a penalty of not more than $100,000 in addition to possible revocation of licenses or permits granted.[86] This is quite laudable as it will evidently keep operators in check. An issue of concern however is that of enforcement. Enforcement of statutory provisions and penalties in the gas industry has been a major challenge for gas protection and utilisation. Lack of enforcement has led to regulatory failure, which in turn has accounted for unrestrained wastage of gas by operators in the industry.

D. The Regulatory Framework for Domestic Gas Protection and Utilisation in Nigeria

Federal Ministry of Petroleum Resources

The Ministry oversees the oil and gas sector, and is responsible for developing, implementing, and enforcing policies, as well as supervising operators and stakeholders to ensure compliance with relevant laws and regulations in the Nigerian petroleum industry.[87] The Ministry's mission is to create a favourable environment that optimises the oil and gas value chain, leveraging technology, best practices, stakeholder engagement, and alternative energy innovations, while fulfilling its mandate to formulate policies, supervise implementation, and regulate the Nigerian oil and gas

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[86] Regulation 14(1) of the MGFR. Penalties are to be paid within 14 days of the date of the penalty demand order issued by the NMDPRA, and failure to comply with the demand order attracts a 20% surcharge penalty per day of non-compliance. See Regulation 14(2) of the Regulations.

[87] Ministry of Petroleum Resources, "About," *Ministry of Petroleum Resources,* n.d., https://petroleumresources.gov.ng.

industry.[88] The Ministry is manned by the Minister of Petroleum Resources (usually the President of Nigeria), and currently, the Ministry additionally has two Ministers of State: Minister of State, Petroleum Resources; and Minister of State, Gas Resources. The Department of Gas Resources of the Ministry has three key objectives, to wit: (a) maximising the usage of gas in the domestic economy; (b) optimising gas export opportunities; and (c) ensuring long-term gas/energy security for Nigeria. The PIA provides for the creation of a corporation sole known as "Ministry of Petroleum Incorporated" and by section 53(3) of the PIA, shares in the Nigerian National Petroleum Company Limited are to be held by the Ministry of Finance Incorporated and the Ministry of Petroleum Incorporated in equal portions on behalf of the Federation.

The Minister of Petroleum Resources is the head of the Ministry of Petroleum Resources, and is saddled with the responsibility of formulating and executing policies pertaining to the petroleum industry, and also steering the Ministry to achieve its policy objectives. Apart from the usual Civil Service or political functions of a Minister, the Minister is assigned statutory functions under the PIA. Amongst others, the Minister is required by the PIA to: (a) formulate, monitor and administer government policy in the petroleum industry; (b) exercise general supervision over the affairs and operations of the petroleum industry in accordance with the provisions of the PIA; (c) report developments in the petroleum industry to the government; (d) negotiate treaties and other international agreements on matters pertaining to petroleum on behalf of the government; (e) delegate in writing to the Chief Executive of the NUPRC or NMDPRA, any power conferred on the Minister by or under the PIA; and (f) upon the recommendation of the NUPRC, do the following- (i) grant petroleum prospecting licenses and petroleum mining leases through the processes established in the PIA, and (ii) assign and revoke interest in petroleum prospecting licenses and petroleum mining leases pursuant to the provisions of the PIA and Regulations.[89]

The above functions appear to limit (to a certain extent) the powers of the Minister, especially when compared with what obtained under the pre-PIA framework. Although the Minister still has extensive powers over the petroleum industry, they are not as loose as

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88 Ministry of Petroleum Resources, "About."

89 Section 3 of the PIA.

they were formerly, as they are currently mostly subject to or based on certain statutory prerequisites. In terms of gas protection and utilisation, the Minister is empowered to formulate policies aimed at enhancing the protection and utilisation of gas in Nigeria, and also monitor and implement them. The Minister can also supervise the extent to which gas is being utilised domestically, as well as the operations of oil and gas companies operating in the country. Again, the Minister can act on powers donated by the PIA to suspend or revoke PPLs and PMLs of companies that engage in the practice of wasting gas whether through inordinate flaring, venting or any other means. Applying such sanctions would definitely go a long way in ensuring that oil and gas companies in the country protect and utilise gas in a sustainable manner, and avoid wastage as much as possible. The Minister may give general policy directives (which shall be published in the Federal Government Gazette) to the NUPRC on matters concerning upstream petroleum operations, and to the NMDPRA on matters relating to midstream and downstream petroleum operations, as well as matters related to cooperation among the two entities in line with the provisions of the PIA.[90]

Nigerian Upstream Petroleum Regulatory Commission

Section 4 of the PIA establishes the NUPRC as a body corporate with perpetual succession and a common seal, with power to acquire, hold and dispose of property, sue and be sued in its own name, and with responsibility for the technical and commercial regulation of upstream petroleum operations. The objects and functions of the NUPRC are limited to upstream petroleum operations, and its specific objectives are to *inter alia*: (a) regulate upstream petroleum operations including technical, operational, and commercial activities; (b) ensure compliance with all applicable laws and regulations governing upstream petroleum operations; (c) ensure that upstream petroleum operations are carried out in a manner to minimise waste and achieve optimal government revenues; and (d) promote healthy, safe, efficient, and effective conduct of upstream petroleum operations in an environmentally acceptable and sustainable manner.[91] These objectives, if actualised or achieved, will greatly promote the protection and utilisation of gas in Nigeria.

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90 Section 3(4)(5) of the PIA.

91 Sections 5 and 6 of the PIA.

However, as laudable as the objectives are, their taste is in their achievement through proper enforcement of statutory provisions.

With respect to the functions of the NUPRC, the PIA assigns three groups or categories of functions to the NUPRC, to wit: technical regulatory functions, commercial regulatory functions, and functions relating to frontier basins. These functions are generally and respectively to: enforce, administer, and implement laws, regulations and policies relating to upstream petroleum operations; review and approve the commercial aspects of field development plans in the upstream petroleum operations; and promote the exploration of the frontier basins of Nigeria.[92] The NUPRC is endowed with certain powers which include to: (a) enforce the provisions of any- (i) regulation made with respect to upstream petroleum operations, (ii) regulations, policies or guidelines formerly administered by the Department of Petroleum Resources or the Petroleum Inspectorate with respect to upstream petroleum operations, and (iii) enactments with respect to the upstream petroleum industry made prior to the commencement of the PIA and regulations made pursuant to it; (b) recommend to the Minister the revocation or suspension of licences or leases in accordance with the PIA and approve renewal of leases; and (c) impose on a PEL, PPL or PML, special terms and conditions for the grant or renewal of licenses or leases.[93] The NUPRC has a Board that is responsible for its policy and general administration.[94]

In line with its mandate, NUPRC has developed several Regulations as instruments to promote transparency, efficiency, and innovation for the sustainable development of Nigeria's hydrocarbon resources.[95] It equally relaunched the Nigerian Gas Flare Commercialisation Programme which is aimed at facilitating the allocation of gas flares to proficient third-party investors.[96] Additionally, the NUPRC has intensified efforts to grow gas reserves, boost production, and eliminate routine gas flares in all upstream operations across the value-chain, while also dealing with methane capture and other fugitive gas emissions, with positive implications

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92 Sections 7, 8, and 9 of PIA

93 Section 10 of the PIA. The PIA also grants the NUPRC special powers to carry out its functions. See sections 26 and 27 of the PIA.

94 See sections 11 to 23 of the PIA.

95 James Akpandem, "PIA, Regulation and Return of Investments in Oil and Gas," *Upstream Gaze*, June 2023, NUPRC, 10.

96 Lekan Fatodu, "Tinubu pledges Investor-friendly Government, set address concerns on Ease of Doing Business," *Upstream Gaze*, June 2023, NUPRC, 15.

such as the availability of gas for domestic utilisation as LPG, feedstock for power generation plants, fertiliser plants, and petrochemicals.[97]

Nigerian Midstream and Downstream Petroleum Regulatory Authority

Section 29 of the PIA establishes the NMDPRA as a body corporate with perpetual succession and a common seal, and with power to acquire, hold and dispose of property, and sue and be sued in its own name. The NMDPRA is responsible for the technical and commercial regulation of the midstream and downstream petroleum operations in the Nigerian petroleum industry.[98] The objectives of the NMDPRA are to *inter alia*: (a) regulate midstream and downstream petroleum operations, including technical, operational, and commercial activities; (b) ensure efficient, safe, effective, and sustainable infrastructural development of midstream and downstream petroleum operations; (c) promote healthy, safe, efficient, and effective conduct of midstream and downstream petroleum operations in an environmentally acceptable and sustainable manner; (d) promote a competitive market for midstream and downstream petroleum operations; and (e) promote the supply and distribution of natural gas and petroleum products in midstream and downstream petroleum operations and the security of natural gas supply for the domestic gas market.[99] This last objective is specifically aimed at improving domestic gas utilisation in Nigeria. The objective was clearly crafted in recognition of the profound issues that hinder the regular and continuous supply and distribution of natural gas to the strategic sectors as well as the generality of the citizenry. Meeting domestic supply demands has been an issue of concern for a long time. The NMDPRA is empowered to make Regulations, and its Board is responsible for its policy and general administration.[100]

The PIA assigns certain functions to the NMDPRA which are to *inter alia*: (a) regulate and monitor technical and commercial midstream and downstream petroleum operations in Nigeria; (b) regulate commercial midstream and downstream petroleum

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97 Lekan Fatodu, "NUPRC set to unlock Nigeria's potential in Upstream Petroleum Sector," *Upstream Gaze*, June 2023, NUPRC, 23.

98 Sections 29 and 30 of the PIA.

99 Section 31 of the PIA.

100 Sections 33 and 34 of the PIA.

operations, including petroleum liquids operations, domestic natural gas operations, and export natural gas operations; (c) determine appropriate tariff methodology for processing of natural gas, transportation, and transmission of natural gas, transportation of crude oil, and bulk storage of crude oil and natural gas; (d) grant, issue, modify, extend, renew, review, suspend, cancel, reissue, or terminate licenses, permits, and authorisations for midstream and downstream petroleum operations; (e) ensure security of supply, development of the markets, and competition in the markets for natural gas and petroleum products; (f) establish, monitor, regulate, and enforce technical, health, environmental, and safety measures relating to midstream and downstream petroleum operations; and (g) implement and enforce compliance with laws, regulations and policies relating to midstream and downstream petroleum operations.[101] These functions are primarily geared towards enhancing the protection, production, and utilisation of petroleum in Nigeria. The specific or express mention of natural gas as part of the areas or subject matters to be handled by the NMDPRA as part of its functions indicates renewed willingness to enhance the protection and utilisation of gas, especially domestically. While this is laudable and lofty, it remains to be seen how the NMDPRA will act on its statutory functions and ensure that they are fully achieved with positive impacts. The functions equally indicate that environmental issues in the oil and gas industry, especially as they concern the midstream and downstream sectors, are now vested in the NMDPRA. This reflects a significant shift from what was formerly the case, as it was that the National Environmental Standards and Regulations Enforcement Agency (NESREA) had jurisdiction over that sector as well until a recent amendment to its constitutive Act divested it of jurisdiction in the petroleum sector. This significant shift however raises some questions: (a) what is the role of the Ministry of Environment in view of this? (b) how effective can the NMDPRA be in the discharge of its functions pertaining to the environment especially in view of its other loaded functions?

The Midstream and Downstream Gas Infrastructure Fund

The PIA established the MDGIF, subject to appropriation of the National Assembly. The Fund is a body corporate with perpetual

[101] Section 32 of the PIA.

succession and a common seal, residing in the NMDPRA as prescribed in accordance with the PIA.[102] The Fund has a Governing Council which is to supervise and make investment decisions on its behalf, and also an Executive Director (amongst other officers) who will be responsible for project management and administration of the Fund.[103] The source of the Fund shall be: (a) 0.5% of the wholesale price of petroleum products and natural gas sold in Nigeria, which shall be collected from wholesale customers in addition to levies provided for under section 47(2)(c) of the PIA; (b) funds and grants accruing from multilateral agencies, bilateral institutions, and related sources dedicated partly or wholly for the development of infrastructure for midstream and downstream gas operations in Nigeria; (c) any interest payable in respect of money in the Fund; (d) money received from gas flaring penalties by the NUPRC under section 104(4) of the PIA which shall be for the purpose of environmental remediation and relief of the host communities of the settlor on which the penalties are levied; and (e) any other sum, freely donated or accruing to the Fund for development of infrastructure in midstream gas operations.[104] The purpose of the Fund is to make equity investments of Government-owned participating or shareholder interests in infrastructure related to midstream and downstream gas operations aimed at: (a) increasing the domestic consumption of natural gas in Nigeria in projects which are financed in part by private investment; (b) encouraging private investment through risk sharing by participating initially in select high risk projects and in such other equity investments that encourage investment in midstream and downstream gas infrastructure; and (c) reducing or eliminating gas flare.[105]

The Fund is aimed at enhancing gas infrastructure in the midstream and downstream sector. From statutory contributions or sources, the Fund is to be applied towards establishing gas infrastructure and making investments. As to gas infrastructure, it will clearly ensure that multiple infrastructure is set up, and this will enhance production, storage, and utilisation of gas domestically. Another significant point is environmental remediation which the Fund is also to be applied to. This is a significant statutory milestone

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102 Section 52(1) of PIA.
103 Section 52(3)(5) of the PIA.
104 Section 52(7) of the PIA.
105 Section 52(10) of the PIA.

that will go a long way in ensuring that there is remediation especially in respect of gas operations– an area that has received little or no attention before now. The Fund also aims at reducing or eliminating gas flare. This may be made possible through the establishment of adequate facilities or infrastructure that will harvest the bulk of flare gas and repurpose it. If these measures are implemented to the latter, there will be a profound transformation in the way and manner in which gas is protected and utilised in Nigeria.

Nigerian National Petroleum Company Limited

Pursuant to section 53(1) of the PIA, the NNPCL was incorporated as a limited liability company under the Companies and Allied Matters Act 2020 (CAMA). Ownership of all shares in NNPCL (which are generally not transferable) is vested in the Federal Government and is held by the Ministry of Finance Incorporated and the Ministry of Petroleum Incorporated in equal portions on behalf of the Federation.[106] NNPCL and its subsidiaries are to conduct their affairs on a commercial basis in a profitable and efficient manner without recourse to government funds, and NNPCL is to operate as a CAMA entity, declare dividends to its shareholders, and return 20% of profits as retained earnings to grow its business.[107] Although still the national oil company of Nigeria, NNPCL is now being run as a commercial venture or entity, a sharp departure from what it was under the pre-PIA framework.

The NNPCL is administered by a Board, which Board is appointed by the President, and shall perform its duties in accordance with the provisions of the PIA, the CAMA, and the articles of association of the NNPCL.[108] Amongst others, the objectives of the NNPCL are: (a) to carry out petroleum operations on a commercial basis, comparable to private companies in Nigeria carrying out similar activities including exemption to the Public Procurement Act, Fiscal Responsibility Act, and Treasury Single Account; (b) NNPCL to be vested as the concessionaire of all production sharing contracts, profit sharing, and risk service contracts as the National Oil Company on behalf of the Federation in line with its competencies; (c) lift and sell royalty oil and tax oil on behalf of the NUPRC and the FIRS respectively for an agreed commercial fee and in the case of profit oil

106 Section 53(3)(5) of the PIA.
107 Section 53(7) of the PIA.
108 Sections 58 and 59(2) of the PIA.

and profit gas payable to the concessionaire, NNPCL is to promptly remit the proceeds of the sales of both to the Federation less its 30% for management fee and frontier exploration fund as specified in section 9(4) of the PIA; (d) to be vested with the rights to natural gas under production sharing contracts entered into prior to and after the effective date of the PIA; and (e) to promote the domestic use of natural gas through development and operation of large-scale gas utilisation industries.[109] Some of the objectives raise significant issues. The fourth objective is aimed at ensuring that natural gas is not wasted by the other party (the oil company). How this will be ensured so that gas may not be flared or vented is another issue. The provision does not add or state anything further and so it may be concluded that as it states, NNPCL is entitled to natural gas (but nor flare gas), and so the other party may freely flare or vent. The fifth objective neatly aligns with domestic gas utilisation in Nigeria. Although it is a laudable objective, the question however is the ability and finance to fund and run the large-scale gas utilisation industries. Some of the subsidiaries of NNPCL are: NNPC Gas Infrastructure Company (NGIC), NNPC Gas Marketing Limited (NGML), and NNPC Gas and Power Investment Services (NGPIS).

NGML recently commissioned a 150 million scf per day natural gas city gate facility in Ogun State, poised to deliver clean energy to hundreds of manufacturers and businesses within the Sagamu Gas Distribution Zone and beyond.[110] Recently too, NNPCL entered into a landmark gas supply agreement with Indorama Eleme Petrochemicals Limited, aimed at boosting natural gas utilisation among large-scale industries, with the expectation that it would significantly impact Nigeria's economy, with projected annual GDP contributions of $3 billion and a staggering $18 billion in lifetime revenue for the government.[111] Nigeria is poised for significant growth in gas-based heavy manufacturing with plans to expand industries such as fertiliser, methanol, and petrochemicals production, and establish Nigeria as a leading urea producer in the western hemisphere, yielding substantial benefits such as: (a) harnessing 1.7

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109 Section 64 of the PIA.

110 Templars, "TEMPLARS Transcripts: Energy & Natural Resources Digest," *Templars*, June 2023, 2.

111 Mary Izuaka, "NNPCL, Indorama sign agreement on gas supply," *Premium Times,* September 17, 2023, https://www.premiumtimesng.com/business/business-news/626197-nnpcl-indorama-sign-agreement-on-gas-supply.html.

TCF of gas and 100 million barrels of oil reserves; (b) producing 4.8 million tonnes of methanol, urea, fertiliser, and other downstream products annually; (c) developing a condensate refinery to boost domestic petroleum product supply and reduce reliance on imports; (d) contributing over $3.8 billion to Nigeria's GDP annually; and (e) attracting over $7 billion in foreign direct investment.[112]

Federal Ministry of Environment

The Federal Ministry of Environment's mission is to ensure environmental protection, natural resources conservation and sustainable development, whilst working on the following mandates: (a) securing a quality environment conducive for good health and wellbeing of flora and fauna; (b) promoting sustainable use of natural resources; (c) restoring and maintaining the ecosystem, ecological process and preserve biodiversity; (d) raising public awareness and promoting understanding of linkages of the environment; and (e) cooperating with relevant Ministries, Departments and Agencies, the private sector, Non-Governmental Organisations, and international organisations on environmental matters.[113] The Ministry is headed by a Minister of Environment, and is divided into five departments, to wit: Department of Climate Change; Department of Pollution Control and Environmental Health; Department of Environmental Assessment; Department of Erosion, Flood Control and Coastal Zone Management; and Department of Drought and Desertification Amelioration.[114]

As one of the technical departments of the Ministry, the Department of Environmental Assessment is charged with the responsibility of ensuring that all developmental projects are carried out in compliance with relevant environmental laws and regulations in order to ensure environmental sustainability.[115] The Department has five central functions, to wit: (a) implementation of the provisions of the Environmental Impact Assessment Act on development projects; (b) ensure environmental sustainability of development projects through regulation of activities within the oil and gas, mining,

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112 Izuaka, "Indorama."

113 Federal Ministry of Environment, "About." *Federal Ministry of Environment,* n.d. https://environment.gov.ng.

114 Federal Ministry of Environment, "About."

115 Office of Environmental Assessment Department, "About Us." *Office of Environmental Assessment Department*, n.d. https://ead.gov.ng.

infrastructure, agriculture, manufacturing sectors, etc.; and (c) development of guidelines and standards for environmental quality monitoring, eco-labelling, etc.[116] The Oil and Gas Division of the Department has the following functions: (a) environmental compliance monitoring of operational phase of midstream and downstream oil and gas facilities and activities; (b) operational permits license; (c) certification of environmental audit of oil and gas facilities; (d) post impact assessment and environmental evaluation studies of oil and gas facilities and operations; (e) monitoring of implementation of gas flare down policy; and (f) general health, safety and environment (HSE) in the oil and gas industry.[117]

Nigerian Content Development and Monitoring Board

The Nigerian Content Development and Monitoring Board (NCDMB) was established by the Nigerian Oil and Gas Industry Content Development Act as a body corporate with perpetual succession, a common seal, and ability to sue and be sued in its corporate name.[118] The NCDMB is assigned functions by the Act which include the following: (a) implement the Regulations made by the Minister of Petroleum Resources in relation to any aspect of the Act; (b) supervise, coordinate, administer, monitor, and manage the development of Nigerian content in the Nigerian oil and gas industry; and (c) supervise, coordinate, administer, and monitor the implementation and development of Nigerian content as specified in the Schedule to the Act in the operations of operators, contractors, and all other entities in the Nigerian oil and gas industry.[119] The NCDMB is administered by a Governing Council that is empowered to conduct its affairs.[120]

E. Comparative Insights from Indonesia

Indonesia is an oil-rich country with significant natural gas deposits that not only serve as key energy sources, but also contribute to the overall economic development of the country primarily through exports. Data indicate that as of 2024, the country had the following as reserves: (a) proven natural gas reserves to the tune of 33.8 tcf; (b)

116 Office of Environmental Assessment Department, "About Us."
117 Office of Environmental Assessment Department, "About Us."
118 Section 69 of the NOGICDA.
119 Section 70 of the NOGICDA.
120 Section 71 of the NOGICDA.

454 tcf of coalbed methane; and (c) 572 tcf of shale gas reserves.[121] Despite these indices, the country's natural resources and their potentials still remain largely untapped, with the country having only "explored about 16% of its 128 oil and gas basins."[122] Through executive orders and intentional policies such as Presidential Regulation Number 5 of 2006 (the "National Energy Policy") however, Indonesia seeks to ramp up its exploration of natural resources and the profound development of renewable energy sources, with increased natural gas consumption as a key target. Recent developments indicate that there is increasing focus by government on the domestic utilisation of gas in the country, especially as gas is regarded as a central resource for the energy transition. Mirza Mahendra, the Director of the Program Development Division at the Indonesian Ministry of Energy and Mineral Resources recently noted that since 2012, "domestic gas consumption has outpaced exports, demonstrating a strong government commitment to ensuring energy resilience through domestic gas utilisation."[123] As part of projections, government intends to prioritise decarbonisation, enhance domestic utilisation of gas, and develop a national grid for transmitting and distributing gas over the next five years.

The legal framework for domestic gas protection and utilisation in Indonesia consists primarily of two core legislations: the Indonesian Constitution, and Law Number 22 of 2001. Although there are other legislations and regulations that in one way or the other regulate or impact domestic gas protection and utilisation in the country, these two legislations are foundational and directly impactful. They are analysed below.

The Constitution of the Republic of Indonesia

The 1945 Constitution of the Republic of Indonesia (amended in 1999, 2000, 2001, and 2002) serves as the primary legislation for

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[121] U.S. Energy Information Administration, *Country Analysis Brief: Indonesia* (U.S. Energy Information Administration, 2025), 6.

[122] Indonesian Petroleum Association, "Oil and Gas Exploration: A Pillar of National Energy Security Supporting Renewable Energy," *Indonesian Petroleum Association*, July 31, 2025, https://www.ipa.or.id/en/news/news/oil-and-gas-exploration-a-pillar-of-national-energy-security-supporting-renewable-energy.

[123] Gusty Da Costa, "Government reaffirms natural gas as key pillar of energy transition," *Indonesia Business Post*, August 6, 2025, https://indonesiabusinesspost.com/4931/national-resilience/government-reaffirms-natural-gas-as-key-pillar-of-energy-transition.

the country, with stipulations as to how the country may be organised and administered, how governmental powers may be distributed, and how natural resources may be utilised. Article 33(3) of the Constitution provides that "The land and the water as well as the natural resources therein are controlled by the state and utilized for the optimal welfare of the people." By virtue of this provision, ownership and control of natural resources (natural gas inclusive) in Indonesia is vested in the government of the country, in line with the domanial theory of ownership of oil and gas. Although the provision appears quite general in nature, it nonetheless serves as the prime basis for the regulation of the exploration for and utilisation of natural resources in the country, including natural gas. It is on the basis of the provision (in addition to powers conferred on the House of Representatives to make law (Articles 20(1), 20A(1), and 21)) that laws are made for the specific regulation of natural gas and other natural resources. Equally relevant in the constitution is Article 22D(1)(2)(3) which empowers the Regional Representative Council to: (a) propose to the House of Representatives, draft laws related to the management of natural resources; (b) participate in the discussion of draft law related to the management of natural resources; and (c) supervise the implementation of laws concerning the management of natural resources.

Law Number 22 of 2001

Law No. 22 of 2001 on Oil and Natural Gas is a fundamental basis for the specific regulation of oil and natural gas in Indonesia. The Law adopts an egalitarian and country-wide beneficial approach to the exploration and exploitation of natural gas. This position is drawn from Article 2 which stipulates that the execution of oil and natural gas business activities in the country is based on people's economy, benefits, justice, equilibrium, equal distribution, welfare, consideration of the environment, security and safety, and legal certainty. Although Nigeria has an indirect but somewhat similar provision in section 16 of the Nigerian Constitution, the provision is generally non-justiciable and can only be activated not through litigation, but through the enactment of federal laws (that contain and activate parts or all of the provision) by the National Assembly.

The execution of oil and natural gas business activities in Indonesia is based on a number of objectives, some of which are: (a) to ensure that exploration and exploitation are undertaken and

effectively controlled on a long-term basis; (b) to ensure that the processing, transportation, storage, and trade of oil and natural gas are all done in a transparent manner, by leaving matters to the fair and sound business competition mechanism; and (c) to ensure the availability of oil and natural gas, both as a source of energy and as raw material.[124] The provisions make for a commercially-oriented but egalitarian approach to the exploitation of oil and natural gas in the country. If followed through completely or largely, it is certain that positive impacts from the petroleum sector would be significantly felt all over the country.

By Article 4 of the Law, the oil and natural gas business activities consist of: (a) upstream business activities (which involve exploration and exploitation), and (b) downstream business activities (which involve processing, transportation, storage, and trade). The upstream business activities are carried out and controlled through a Cooperation Contract (for a maximum initial period of 30 years, and a maximum renewable period of 20 years) that covers all forms of contracts or cooperations on the condition that the ownership of the natural resources remains with the Government up to the point of delivery.[125] Downstream business activities on the other hand are carried out by issuing a Business License, and are generally left to the reasonable and sound business competition mechanism.[126] Specific statutory requirements with respect to upstream business activities are contained in Articles 9 to 22. For downstream business activities, specifics are contained in Chapter IV of the Law. Further issues relating to downstream business activities are to be regulated through Government Regulations.

It is noteworthy that the Indonesian Minister of Energy and Mineral Resources is empowered to determine the national Natural Gas Transmission and Distribution Network Master Plan, and also that holders of Natural Gas Transportation and Trading Business Licenses can only be respectively granted certain transportation

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[124] Article 3 of Law No. 22 of 2001 (Act of the Republic of Indonesia, dated November 23, 2001) on Oil and Natural Gas, https://policy.asiapacificenergy.org/sites/default/files/Act_on_Oil_and_Natural_Gas.pdf.

[125] Articles 6 and 14 of Law No. 22 of 2001 refer.

[126] Articles 7 and 23(1) of Law No. 22 of 2001 refer. Business Licenses are in four categories: (a) business license for processing; (b) business license for transportation; (c) business license for storage; and (d) business license for trading. See Article 23(2) of Law No. 22 of 2001.

segments and trading territories.[127] While the price of natural gas is left to the mechanism of a fair and sound business competition, the development of oil and gas business activities are generally carried out by the Government, with the said development covering the following: (a) the implementation of Government affairs in the field of oil and natural gas business activities; and (b) the determination of policies concerning oil and natural gas business activities based on— (i) the reserves and potential of the owned oil and natural gas resources, (ii) production capabilities, (iii) the domestic need for fuel oil and natural gas, (iv) the mastering of technology, (v) national capability, and (vi) development policy.[128] By Article 41 of the Law, supervision on the execution of upstream and downstream business activities are respectively carried out by the Executive and Regulating Bodies.

Other Legislations

Apart from the Indonesian Constitution and Law No. 22 of 2001, other legislations that provide for the domestic protection and utilisation of natural gas in Indonesia include: (a) Presidential Regulation No. 40 of 2016 concerning Natural Gas Pricing; (b) Regulation of the President of the Republic of Indonesia Number 6 of 2019 concerning the Supply and Distribution of Natural Gas through Natural Gas Transmission and/or Distribution Networks for Households and Small Customers; (c) Regulation of the Minister of Energy and Mineral Resources No. 6 of 2016 concerning Provisions and Procedures for Determining the Allocation and Utilization and Prices of Natural Gas; (d) Regulation of the Minister of Energy and Mineral Resources No. 8 of 2020 concerning Procedures for Determining Certain Natural Gas Users and Prices in the Industrial Sector; (e) Regulation of the Minister of Energy and Mineral Resources No. 10 of 2020 concerning Utilization of Natural Gas for Power Generation; (f) Regulation of the Minister of Energy and Mineral Resources No. 25 of 2017 concerning the Acceleration of Gas Fuel Utilization for Transportation; (g) Regulation of the Minister of Energy and Mineral Resources No. 32 of 2017 concerning Utilization and Selling Prices of Flare Gas in Upstream Oil and Gas Business Activities; and (h) Regulation of the Minister of Energy and Mineral Resources No. 14 of 2019 concerning Selling Prices of Natural Gas

[127] Article 27(1)(2)(3) of Law No. 22 of 2001 refers.
[128] Articles 28(2), 38, and 39 of Law No. 22 of 2001 refer.

through Pipes in Downstream Oil and Gas Business Activities.[129] Also relevant is the Specific Natural Gas Price (HGBT) policy that provides natural gas to 253 industries at special rates that are usually adjusted based on the level of utilisation.

Regulation No. 6 of the Indonesian Minister of Energy and Mineral Resources, 2016 ('Regulation of the Minister of Energy and Mineral Resources Regarding Provisions and Procedures on Determination of Allocation and Utilisation as well as Price of Natural Gas') may be considered here. Under the Regulation, natural gas is regarded as a "product of natural process in the form of hydrocarbon in pressurized condition and atmospheric temperature in the form of gas phase acquired from Oil and Natural Gas mining process including Non-Conventional Natural Gas and Flare Gas," while utilisation of natural gas is regarded as an "activity involving the use of Natural Gas to meet the demands for fuel, raw material, and/or other purpose."[130] The Minister is empowered to determine policy on the allocation and utilisation of natural gas, which policy is to be in consideration of public and national interests, Indonesian natural gas balance, reserve and market opportunity of natural gas, existing infrastructure, and field economies from oil and natural gas reserve to be allocated.[131] The policy, per Regulations, is to be directed at guaranteeing the efficiency and effectiveness of availability of natural gas to meet domestic demands optimally. The Minister is equally empowered to stipulate the country's natural gas balance, the allocation and utilisation of natural gas, the price of natural gas for domestic and/or export demands, and determine policy on the supply of natural gas derived from imports.

The determination by the Minister, of the allocation and utilisation of natural gas, is to be based on priority to the following: (a) support Government programmes for the supply of natural gas for

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129 Iqbal Iqbal and Hilmi Rayhannafi, "Legal Politics toward Natural Energy: Natural Gas Utilization in Indonesia." *Journal of Sustainable Development and Regulatory Issues* 1, no. 1, (2023): 28. https://doi.org/10.53955/jsderi.v1i1.4.

130 Article 1 of Regulation No. 6 of 2016 (Terms and Procedures of Setting Allocation, Use and Prices of Natural Gas (Regulation of the Energy and Mineral Resources Minister of the Republic of Indonesia No. 06/2016 dated February 24, 2016), https://wplibrary.co.id/sites/default/files/ESDM06-2016_ENG_%5BBN%5D.pdf.

131 Article 2 of Regulation No. 6 of 2016. "Indonesian Natural Gas Balance" is the estimated domestic demands and supplies of -Natural Gas for a particular period. Article 1(10) of the Regulation refers.

transportation, households, and small customers; (b) enhancement of the production of national oil and natural gas; (c) fertiliser industries; (d) natural gas-based industries; (e) the supply of electricity; and (f) industries that use natural gas as fuel, and all for the distinct purposes of fuel diversification, improving oil and natural gas production in supporting the availability of national oil and natural gas, maintaining the availability of domestic fertilisers, supporting the improvement of the competitiveness of domestic industries, and for fulfilling the supply of domestic electricity.[132] Natural gas for export is allocated on the basis of fulfilling domestic demand, the unavailability of adequate infrastructure in the country, and inadequate purchasing power of domestic consumers.

The determination of the price of natural gas generally is to be done in consideration of three factors, to wit: (a) field economies; (b) the domestic and international price of natural gas; and (c) the additional value of the domestic utilisation of gas. Determination of the price of natural gas in other cases is based on the following: (a) the purchasing power of domestic consumers; (b) support to Government programmes for the supply of natural gas for transportation, households, and small customers; and (c) the price of fuel or energy substitution.[133] Contractors are required to propose plans for optimised utilisation of flare gas to SKK Migas, which utilisation may be by way of additional gas facilities upstream, or utilisation by enterprises that are holders of processing and or commercialisation business permits.[134] Contractors are also required to submit to the Minister through SKK Migas, reports on the implementation of Sale and Purchase Agreements on natural gas once every six months or at any time required.[135] While Article 18 of the Regulations provide for the management of impurities gas (non-hydrocarbon compounds contained in natural gas which are by-products produced by

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132 Article 5 of Regulation No. 6 of 2016. See Articles 6 to 14 of Regulation No. 6 of 2016.

133 Article 16 of Regulation No. 6 of 2016.

134 Article 17 of Regulation No. 6 of 2016. By virtue of Article 1(7) of the Regulations, "Contractor" refers to enterprises or permanent businesses that are designated to carry out exploration and exploitation in a Working Area based on production sharing contract with the Special Task Force for Upstream Oil and Natural Gas Business Activities (SKK Migas).

135 Article 30 of Regulation No. 6 of 2016 refers.

exploration activities and production or processing of oil or natural gas), Chapter IV (Articles 19 to 29) outlines procedures for submitting and determining the allocation and utilisation of natural gas as well as the price of natural gas. By virtue of Article 31 of the Regulations, the Minister is empowered to impose administrative sanctions on contractors or buyers of natural gas that fail to comply with the provisions on the allocation, utilisation, or price of natural gas, and such sanctions are in the form of written reprimands and/or cancellation of the determination of allocation, utilisation, or price of natural gas.

Regulatory Institutions

As previously noted, supervision on the execution of upstream and downstream business activities are respectively carried out by the Executive and Regulating Bodies. The Executive Body is empowered to supervise upstream business activities in a manner that ensures that the exploitation of oil and natural gas resources results in the maximum benefit and revenue for the country, and by extension, enhance the welfare of citizens. The supervision extends to such areas as: (a) the conservation of oil and natural gas resources and reserves; (b) environmental management; (c) the mastery, development, and application of oil and natural gas technology; and (d) other oil and natural gas business activities that concern public interest.[136] By virtue of Article 44(3) of Law No. 22 of 2001, the duties of the Executive Body are to: (a) sign Cooperation Contracts; (b) study and transmit field development plans submitted for the first time within a working territory to the Government for approval; (c) approve field development plans other than those in (b) above; (d) approve working and budget plans; (e) monitor and report on the execution of Cooperation Contracts to the Minister of Energy and Mineral Resources; and (f) appoint an oil or gas seller for the portion of the State.

The Regulating Body on the other hand is tasked with the responsibility of *inter alia*, increasing the domestic use of natural gas. Its duties cover *inter alia*, the regulation, determination, and execution of: (a) generally, natural gas transportation business through pipes; (b) natural gas transportation tariff; (c) the price of natural gas for household and small size customers; and (d) natural gas transmission

[136] Articles 42 and 44(1)(2) of Law No. 22 of 2001 refer.

and distribution management.[137] The establishment of the Executive and Regulating Bodies is determined with a Decree of the President. While the operational budgets of both bodies are charged to the national budget, the structures, statuses, functions, duties, personnel, authority, and responsibilities of both bodies are regulated through Government Regulation.[138] In addition to the Police, certain civil servants are vested with special authority as Investigators to carry out investigation on crimes in oil and natural gas business activities. It is noteworthy that while the Law contains criminal provisions, there is no specific provision that criminalises gas flaring, venting, or other forms of wastage. This may however be salvaged by the provisions of Regulations made pursuant to the Law.

Pertamina, a state-owned company, is vested with the responsibility of managing the country's oil, gas, and natural resources, as well as investments in the petroleum industry. For a considerable period of time, the company held sway potently as a regulator and operator in the country's petroleum industry, thus making for a monopolistic system. With reassessments of the structure and function of the industry, as well as the consideration of the actual intentions of extant legislations and the need for a better commercial orientation of the industry, there has been some form of deregulation, with Pertamina now acting as a production sharing contractor, while the management of upstream oil and gas business activities is carried out by SKK Migas. Downstream oil and gas business activities are carried out or managed by BPH Migas.[139] SKK Migas, the Special Task Force for Upstream Oil and Natural Gas Business Activities, is vested with the responsibility of implementing the provisions contained in cooperation contracts for upstream oil and gas business activities, while BPH Migas (the oil and gas regulatory agency) has the responsibility of "allocating fuel supplies and distribution, as well as setting tariffs for natural gas transportation via pipelines."[140] On its part, the Ministry of Energy and Mineral Resources is responsible for policy formulation and implementation, as well as general supervision.

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[137] Articles 8 and 46 of Law No. 22 of 2001 refer.

[138] See Articles 45(3), 47(5), 48, and 49 of Law No. 22 of 2001.

[139] Bambang H. Supriyanto, "Legal Protection of the National Oil and Gas Energy by Law Number 22 of 2001," *International Journal of Social Science* 3, no. 4, (2023): 461, 464, https://doi.org/10.53625/ijss.v3i4.6995.

[140] Indah Dwi Qurbani, et.al., "The Ideal Concept of Energy Control in Indonesia from the Economic Constitution Perspective" *Jurnal Pembaharuan Hukum* 9, no. 3 (2024): 481-502, http://dx.doi.org/10.26532/jph.v9i3.17429

Some Gas Utilisation Issues and Prospects

In spite of the series of legislations that make for domestic gas protection and utilisation in Indonesia, the country continues to flare gas, with recent estimates placing the country as 16th worldwide in gas flaring. With efforts on the part of government and oil companies in the country to reduce the rate of flaring in line with the Minister of Energy and Mineral Resources Regulation No. 17 of year 2021, and Minister of Energy and Mineral Resources Regulation No. 30 of year 2021, flaring rates reduced from 342 MMSCFD in 2012 to 162 MMSCFD in 2021 by mainly making use of flares as "boiler and gas turbine fuel."[141] The country is also rated as the "seventh largest gas exporter in the world from the 10 largest gas producing countries in the world after Australia."[142]

In spite of subtle challenges that exist in Indonesia with respect to the domestic protection and utilization of gas, the country possesses an active framework for regulation. With the series of applicable laws and regulations as well as strong regulatory institutions, Indonesia is, to a very large extent, making productive use of its natural gas domestically, with exports also featuring. This is so as there is the evident intentional approach to fully harness the potentials of natural gas for the benefit of the Indonesian people. The Indonesian approach presents valuable insights and lessons for emulation.

Conclusion

The paper examined Nigeria's legal and regulatory framework for domestic gas protection and utilisation. The analysis revealed a robust framework, bolstered by the Petroleum Industry Act (PIA), which regulates various aspects of gas utilisation, including production, transportation, and distribution. The PIA has transformed the regulatory landscape, introducing innovative and specific provisions that recognise gas as a vital resource. Regulatory

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141 Rolandi Kurniawan, Thomas R. Hartanto, Tommy Rinanto, Ardian Nengkoda, Sutrasno Kartohardjono, and Andy N. Sommeng, "A preliminary review on Indonesian regulation of routine gas flare utilization to endorse zero routine flaring by 2030," *AIP Conf. Proc.* 3076, no. 1, 2024, https://doi.org/10.1063/5.0208869.

142 Sabungan Sibarani, "Analysis of State Control over Natural Resources Oil and Gas (According to Law No. 22 of 2001 Concerning Oil and Gas)," *Brawijaya Law Journal: Journal of Legal Studies* 5, no. 2, (2018): 219, https://doi.org/10.21776/ub.blj.2018.005.02.06.

institutions, particularly the Nigerian Upstream Petroleum Regulatory Commission and the Nigerian Midstream and Downstream Petroleum Regulatory Authority, play crucial roles in overseeing the gas industry. While the framework is generally laudable, it is not without flaws. Certain gaps and inconsistencies could undermine statutory objectives and hinder effective gas protection and utilisation. To address these issues, this paper recommends revising the PIA, Regulations made pursuant to it, and related laws to excise flaws and update provisions. Effective implementation and enforcement of applicable laws and regulations by regulatory institutions are also crucial to achieving statutory objectives.

Enhancing domestic gas protection and utilisation requires a robust framework that balances regulation with commercial viability. With Nigeria's vast gas reserves, it is essential to prioritise gas development and utilisation to achieve energy security, economic growth, and environmental sustainability. The Indonesian approach analysed in the paper provides crucial lessons in this regard. By refining the legal framework and ensuring effective implementation and enforcement, Nigeria can unlock its gas potential and promote a more efficient and sustainable gas sector. The recommendations proposed in this paper aim to optimise the framework in order to ensure that Nigeria's gas industry reaches its full potential and contributes meaningfully to the country's economic and environmental goals, all for the benefit of the Nigerian people. By implementing the recommendations, Nigeria can better harness its gas resources for sustainable development.

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All authors declare that this work is original and has never been published in any form and in any media, nor is it under consideration for publication in any journal, and all sources cited in this work refer to the basic standards of scientific citation.