LEGAL FRAMEWORK FOR GAS FLARING REDUCTION IN NIGERIA

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ABSTRACT

Gas flaring in Nigeria has continued unabated despite government's attempts to halt it. The command and control regulation have been largely employed to address the non-compliance with existing laws addressing gas flaring, with limited success, as about 800.59 million standard cubic feet per day was flared from September 2017 to September 2018. Previous studies on regulation of gas flaring in Nigeria had focused more on command and control regulation than on tradable permits. This study was designed to examine the existing policy and legal framework for gas flaring with a view to proposing tradable permits to reduce gas flaring in Nigeria.

Environmental Justice and Market Failure theories constituted the theoretical framework, while a combination of doctrinal and survey design was adopted. The Constitution of the Federal Republic of Nigeria, 1999 (as amended), the Associated Gas Re-Injection Act Cap A25 and regulations pursuant thereto, Petroleum (Drilling and Production) Regulations, Nigeria Liquefied Natural Gas (Fiscal Incentives Guarantees and Assurance) Act Cap N87; all contained in the Laws of the Federation of Nigeria 2004, the Flare Gas (Prevention of Waste and Pollution) Regulations 2018, and other relevant statutes were the primary sources examined. Secondary sources included books, journal articles, conference proceedings, annual reports of multi-national oil companies, online materials and newspapers. A questionnaire addressing respondents' awareness on the policy and legal framework for regulating and discouraging gas flaring and the adequacy of the laws, was administered to 20 purposively selected oil and gas legal experts. Key informant interviews were held with two managerial staff of the Department of Petroleum Resources, Lagos, and two principal consultants of selected private firms. Data were analysed using descriptive statistics and content analysis.

Sixty-five percent of the selected oil and gas experts were private practitioners and 35.0% were public servants. Fifty percent were legal consultants, 25.0% were of management cadre, 70.0% had 0 to 10 years work experience and others had above 10 years work experience. Existing policies and legislation have been used to discourage gas flaring. The legislation was, however, made ineffective because it allowed permissible and impermissible flaring of gas concurrently.

Non-compliance of oil and gas companies with legislation and the non-implementation of the flare penalty regime evidenced weak regulatory enforcement. Defective licensing conditions at the commencement of oil and gas operations in Nigeria, inadequate infrastructure for utilisation of gas, non-deterrent sanctions and poor reporting and monitoring of flared gas are challenges limiting large-scale investment in the gas market. The significance of properly assigned property rights was recognised as the rationale for developing a legal commodity known as 'gas flaring reduction obligation certificate' with a value attached thereto as an incentive for not flaring gas, while a penalty for non-compliance is imposed.

The policy and legal framework for gas flaring in Nigeria has not been properly implemented. Government intervention cannot be jettisoned, while integration of the rule of law in Nigeria's environmental agenda is paramount. Tradable permits anchored on property rights are recommended for discouraging and reducing gas flaring in Nigeria.

Keywords: Gas flaring, Property rights, Tradable permits, Oil and gas laws.
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CERTIFICATION

I wish to certify that this work was undertaken by Dr T. O. Jolaosho in the Department of Jurisprudence and International Law, University of Ibadan

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DEDICATION

The work is devoted to the Omnipotent, Omnipresent and Omniscient God, my Almighty Father, the most High and Awesome King, for the enviable gift of life, sound mind, good health, peace, protection, wisdom and favour from above. Thank you for upholding and strengthening me throughout the entire period. This work was only made possible by YOU!!!

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ACHPR- African Charter on Human and Peoples' Rights

AE- Actual Emissions

AAU- Assigned Amount Unit

BACT- Best Available Control Technology

BCF- Billion Cubic Feet

BCTS- Brown Certificate Trading Scheme

BGT- Bonny Gas Transport

BNAG- Bonny Non-Associated Gas

BRP- Brass River Plan

BSA- Burden Sharing Agreement

BSCF/D- Billion Standard Cubic Feet/ day

CAA- Clean Air Act

CATEP- Concerted Action on Tradable Emissions Permits

CAPEX- Gas Capital Expenditure

CDM- Clean Development Mechanism

CER- Certified Emission Reductions

CEQ- Council on Environmental Quality

CIT- Companies Income Tax

CNG- Compressed Natural Gas

COP- Conference of Parties

EGP- Escravos Gas to Liquid Project

EIA- Environmental Impact Assessment

EIS- Environmental Impact Statement

EITI- Extractive Industries Transparency Initiative

EMM- Emissions Mitigation Mechanism

EPSD- Environmental Protection and Safety Department

EU ETS- European Union Emission Trading Scheme

FEPA- Federal Environmental Protection Agency

FMENV- Federal Ministry of Environment

GCTS- Green Certificate Trading Scheme

GEF- Global Environmental Facility

GFRPI- Global Gas Flaring Reduction Public-Private Partnership Initiative

GHG- Greenhouse Gases

ITMO- Internationally Transferred Mitigation Outcomes

KII- Key Informant Interview

LAER- Lowest Achievable Emission Rate

LFN- Laws of the Federation of Nigeria

LNG- Liquefied Natural Gas

LPG- Liquefied Petroleum Gas

MBI- Market-Based Instrument

ME- Measured Emissions

MOU- Memorandum of Understanding

MMSCF- Million Standard Cubic Feet

MTPA- Million Tons per Annum

NAAQS- National Ambient Air Quality Standards

NASPA-CNN- National Adaptation Strategy and Plan of Action on Climate Change for Nigeria

NEITI- Nigeria Extractive Industries Transparency Initiative

NEP- National Energy Policy

NEPA- National Environmental Policy Act

NESREA- National Environmental Standards Regulations and Enforcement Agency

NGC- Nigerian Gas Company

NGL- Natural Gas Liquid

NGMP- National Gas Master Plan

NGP- National Gas Policy

NGFCP- Nigerian Gas Flare Commercialisation Programme

NHT- Nigerian Hydrocarbon Tax

NLNG- Nigeria Liquefied Natural Gas

NNPC- Nigeria National Petroleum Corporation

NOC- National Oil Company

NOSDRA- National Oil Spill Detection and Response Agency

NPAM- Nigerian Petroleum Assets Management Company

NDC-Nationally Determined Contributions

NPE- National Policy on the Environment

OECD- Organisation for Economic Cooperation and Development

ONWA- Oil in Navigable Waters Act

OPEC- Organisation of Petroleum Exporting Countries

PIB- Petroleum Industry Bill

PPT- Petroleum Profits Tax

PSC- Production Sharing Contract

SCF- Standard Cubic Feet

SDM- Sustainable Development Mechanism

SOGA- Sale of Goods Act

UNFCCC- United Nations Framework Convention for Climate Change

USA- United States of America

WAGPP- West African Gas Pipeline Project

WCTS- White Certificate Trading Scheme

WSSD- World Summit on Sustainable Development

ZRFI- Zero Routine Flaring Initiative

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CHAPTER ONE

GENERAL INTRODUCTION

1.1 Background to the Study

Gas flaring remains uniquely branded as a singular foremost origin of ecological effluence in the precincts of the Niger Delta.[1] It is distinctly the well-ordered blazing of natural gas confined within reserves of oil in the ground, unconstrained and extracted along with crude oil from the ground.[2]It is the repeated burning off of unsolicited and unutilised associated gases mined from the interior fragments of the earth along with oil.[3]

In Nigeria, the Niger Delta remains the nucleus of oil and natural gas resources. Nigeria's endowment of natural resources is projected to about 180.5 trillion cubic feet (tcf) and 37.1 billion barrels of verified crude reserves with a production capacity of 2.4 million barrels per day.[4] Although natural gas is Nigeria's most dominant natural resource[5] and it is considered a gas domain with certain amount of oil in it,[6] the utilisation of gas within the country is nevertheless incomplete and the massive gas reserves are underutilised due to poor gas infrastructure and absence of a resilient gas market amongst other things.[7]

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[5]Adeniji, G., Sipasi, S., Mesele, K. and Iroegbunam, G. 2006. *Gas Regulation,* Global Competition Review London: 183-188 at 183.

[6]Ibid

[7]Okunbor, O. 2016. Re-evaluating the development of the Nigerian gas industry, Nigerian Gas Association's Business Forum, Lagos on July 10, 2016. The Managing Director of Shell Petroleum Development Company (SPDC) and Country Chair of Shell Companies in Nigeria, stated that only 25% of Nigeria's gas reserves is utilised. Retrieved on April 15, 2017 from https://www.thenationonlineng.net/25-nigerias-gas-reserve-utilised-says-shell-chief/

About 800.59 million standard cubic feet per day was flared from September 2017 to September 2018.[8] The Energy Information Administration within the United States of America stated that Nigeria tiered the fifth uppermost country which flared natural gas, with a diminution from 2011 when it tiered the second position.[9] At the moment, globally, Nigeria stays designated the seventh topmost homeland engaged in flaring of gas.[10] Within sub-Saharan Africa, Nigeria is branded a prime oil manufacturer and amid the topmost five liquefied natural gas (LNG) exporters around the globe.[11]Nigeria's massive gas reserves rank the ninth largest in the world. In 2014, NNPC reported that 289.6 billion standard cubic feet of gas was flared by oil and gas companies in Nigeria, signifying 11.47 percent of the total gas production.[12] World Bank[13] stated that foreign climes such as America, Britain, and Norway utilise gas and the magnitude flared is lower than 2 standard cubic feet per barrel of oil.

Organisation of Petroleum Exporting Countries[14] records quantified with reference to 2014 revealed that 86,325.2 million standard cubic feet of gas was produced in Nigeria and 10,736.8 million standard cubic feet was flared. The costs involved in utilisation have been projected to amount to at least ten times above that which is consumed for non-associated gas.[15]

Nigerian Government, over the years, endorsed several statutory provisions to curtail gas flaring namely the 2004 Petroleum (Drilling and Production) Regulations, the Associated Gas Re-Injection Acts *etc.* Despite the statutory provisions, gas flaring persists and may be ascribed to

[8]Nigerian National Petroleum Corporation Monthly Financial and Operations Report September 2018. Retrieved on November 17, 2018 from http://www.nnpcgroup.com/

[9]United States Energy Information Administration. Nigeria remains a top gas flaring country says EIA. The Guardian June 1, 2016. Retrieved on November 20, 2016 from http://www.guardian.ng>business-services>nigeria US EIA stated further that Nigeria flared 379 (bcf) of associated gas in 2015.

[10]United States National Oceanic Administrative Agency (NOAA) 2013-2015. Top 30 flaring countries. See also Okafor, C. 2017. NNPC: Nigeria drops to seventh highest gas flaring country. This day, April 3, 2017. Retrieved on November 20, 2017 from http://www.thisdaylive.com/Nigeria/

[11]AFDB/OECD/UNDP African Economic Outlook 2015 p. 27; U.S Energy Information Administration. Retrieved on November 20, 2015 from http://www.eia.gov[U.S Energy Info].

[12]NNPC Annual Statistical Bulletin 2014. Retrieved on November 7, 2015 from http://www.nnpcgroup.com

[13]World Bank. Gas flaring and venting: A regulatory framework and incentives for utilisation, Washington DC.

[14]OPEC Statistical Report 2015. Retrieved on November 7, 2015 from http://www.opec.org

[15]Khan, S.1994. *The Political Economy of Oil*. Oxford University Press/ Oxford Institute for Energy Studies p.157.

the blemished or indecorous application of the above-mentioned legislative provisions (Ukala 2011,[16] Oluduro 2011,[17] Buzcu-Guven, Harriss and Hertzmark 2010,[18] Ogbara 2009.[19])

Gas flaring is a negative externality,[20] denoting the occurrence and unpleasant effect on third-parties who are adversely affected by certain consumption or production resolutions they are not privy to.[21] In general, two foremost schools of thought offered solutions to externalities namely:[22]

a) Public policy approach of taxes and subsidies promoted by Cecil Pigou (1924);[23]and
b) Private resolution approach promoted by Ronald Coase (1960).[24]

Both Pigou and Coase acknowledged that negative externalities were an offshoot of market failure. Although Pigou recommended taxes and subsidies, considering that imposition of taxes would perfect the market, Coase, on the other hand, recommended looking to the markets for the solution to externalities. Pigou's approach was criticised for its rigidity and lack of cost effectiveness at arriving at good environmental outcomes when compared with market approaches. Coase challenged command and control regulation. The Pigouvian and Coasean approaches to externality laid the foundation for the present discuss on market approach to finding lasting solution to gas flaring in Nigeria as Nigeria's environmental agenda had hitherto been patterned mainly after command and control regulation.

[16]Ukala, E. 2011. Gas flaring in Nigeria's Niger Delta: failed promises and reviving community voices. *Journal of Energy, Climate and Environment* 2.1: 97-126 at 97.
[17]Oluduro, O. 2011.Bureacratic rhetoric of climate change in Nigeria: International aspiration versus local realities. Retrieved on July 4, 2016 from http://www.iucnael.org/en/documents/
[18]Buzcu-Guven, B., Harriss, R. and Hertzmark, D. 2010. Gas flaring and venting: extent, impacts and remedies in Barnes .J *et al.* (Eds.) *Energy market consequences of an emerging US carbon management policy, energy forum,* Houston*:* James A. Baker III Institute for Public Policy, Rice University.
[19]Ogbara, N. 2009. Why the extant legal framework prohibiting gas flare in Nigeria did not work. A paper presented at a social action organised forum on *Gas flaring prohibition and sustainable energy future for Nigeria* on September 30 in Abuja.
[20]Oyewunmi, O. A. and Oyewunmi, A. E. 2016. Managing gas flaring and allied issues in the oil and gas industry: Reflections on Nigeria. *Mediterranean Journal of Social Sciences* 7. 4: 643-648 at 645.
[21]Amokaye, O. 2012. Environmental pollution and challenges of environmental governance in Nigeria *British Journal of Arts and Social Sciences* 10. 1: 26-41 at 31.
[22]Winterbotham, A. 2012. The solutions to externalities: From Pigou to Coase. *The Student Economic Review* 26: 172-180 at 173.
[23]Pigou, A.C. 1924. *The Economics of Welfare.*2nd Edition, London: Macmillan. p. 161.
[24]Coase, R. H. 1960.The Problem of Social Cost. *Journal of Law and Economics* 3: 1-44.

This study alludes that continuous atmospheric contamination due to flaring of gas, can be attributed to market failures. Market failure arises when the market miscarries in the yield of public goods or unintentionally creates externalities, which affect the environment negatively. Market failure therefore validates the involvement of the government in the market.[25]

Government can therefore address market failures through regulation based on market approach. With reference to the present study, gas flaring is a conception of market failure ensuing in externalities such as pollution and environmental degradation. Addressing the problem means a change in the law to check gas flaring and in particular through the use of regulation based on market approach.

The United States of America (USA) initiated and introduced market-based regulation early in the 1970s. Samples of instruments based on the market are tradable permits, pollution taxes or charges, government subsidy reduction and market friction reduction. Market-based instruments (MBIs) are fairly novel mechanisms targeted at accomplishing universal environmental protection.[26] The design and use of market-based instruments have been validated when matched with other means of accomplishing ecological protection, such as the orthodox command and control regulation.[27]

The study therefore proffered a legal response to flaring of gas in Nigeria through the introduction of tradable permits which harness market powers to safeguard the environment. Lessons were drawn from United States of America and Australia that have successfully implemented MBIs in protecting their environment. The validation for this selection was that Nigeria is a federal republic, with a presidential system of government patterned after the U.S model. Australia, on the other hand is a federation of six (6) states with two self-governing

[25]Zerbe, R.O. Jr. and Mc.Curdy, H. 1999. The failure of market failure. *Journal of Policy Analysis and Management* 18. 4: 569-578 at 569-570. Also Nelson, R. 1987. Roles of Government in a mixed economy. *Journal of Policy Analysis and Management* 6: 541-557.

[26]Whitten, S. Van Bueren, M. and Collins, D. 2003. An overview of market-based instruments and environmental policy in Australia, Paper presented by Collins .D and Van Bueren .M at the 2003 AARES Symposium.

[27]Rubin, E. 2005. The conceptual explanation for legislative failure. *Law and Social Inquiry* 30: 583-606.

territories, a federal monarchy, constitutional monarchy and a parliamentary system. They had both efficaciously applied MBIs, and consequently, chronicled small degrees of flaring.

1.2 Statement of the Problem

The study sought to make a case for the development of a framework for regulation of gas flaring, and proposed a framework (gas flare reduction market mechanism) which incorporated gas flaring reduction obligation and introduced property rights through gas flaring obligation certificates, which would be issued to companies. The study was concerned with how Nigeria could develop a framework that would incorporate the use of tradable permits acceptable in solving the problem of gas flaring. Through incessant flaring of gas, a potentially invaluable energy source is unexploited. In Nigeria, some oil companies had been involved in gas flaring, all year round for over 40 years. Toxic gases emitted into the atmosphere polluted the air and have had detrimental impacts on the local and global climate.

A noticeable escalation on environmental concerns in recent years had been demonstrated through the Federal Government's attempts and promises to stop flaring of gas. Several targets had been set (such as the flare out dates of 1984, 2004 which later extended to 2008 etc). These targets have passed without experiencing the slowdown of the profligate flares.

Management of gas flaring had been a major concern for countries like Russia, United States of America, Algeria and Nigeria etc. Since 1984, the provision of the Associated Gas Re-Injection Act 1979 criminalised gas flaring in Nigeria and the fine per 1,000 standard cubic feet (scf) of gas flared was N0.02k as at 1984.[28] The penalty was however too low to serve as deterrent, therefore most oil companies opted for the cheaper option of flaring gas. The fine was increased to N0.50k per 1,000 standard cubic feet (scf) of gas flared in 1990,[29] and N10.00 in 1998.[30] The current penalty prescribed is $2 (N613.00 due to the present exchange rate of N306.35 to one dollar) for every 1,000 standard cubic feet of gas flared where 10,000 barrels of oil is produced and $0.50 for every 1,000 standard cubic feet where the oil production volume is not up to 10,000 barrels of oil. There would be disbursement of a supplementary fee of $2.50 where there

[28]The Associated Gas Re-Injection (Amendment) Act 1985.
[29]The Associated Gas Re-Injection (Amendment) Regulations 1990.
[30]The Petroleum Drilling and Production (Amendment) Regulation 1998.

is letdown to yield precise flare statistics, make available access to flare sites and append signature to a connection pact.[31] Unfortunately, Government does not have a reliable estimate of the volume of gas flared, thus making it difficult to accurately penalise oil companies financially.

In retrospect, policy initiatives have certainly not been deficient in Nigeria. Policies such as the National Energy Policy (NEP), National Oil and Gas Policy (NGP), and National Gas Master Plan (NGMP) amongst others were formulated to enhance and promote gas utilisation in Nigeria. A very vital question is whether there was any consistency whatsoever in the policies, as an obvious disconnect exists between the laws and policies governing the gas sector in Nigeria, and some of these policies have remained untransmuted into laws.

An extensive literature review conducted revealed that previous studies conducted[32] were based on the conventional command and control approach, while little studies had examined the market-based approach to addressing the problem of gas flaring in Nigeria. Amokaye[33]adopted the market-based approach in identifying, analysing and enunciating the substantiation for the failure of environmental governance in Nigeria. The study provided a general overview of environmental pollution and challenges met with the poor devising and performance of environmental law in Nigeria, but did not specifically address the problem of gas flaring. He prodded forward the discussion on the most suitable approach to the protection of the Nigerian environment. The present study has moved the discussion forward by specifically addressing the legal response to Nigeria's flaring of gas via the tradable permits.

1.3 Aim and Objectives of the Study

The aim of the study was to examine the existing framework for gas flaring regulation in Nigeria and further develop a framework which would incorporate the use of tradable permits to address reduction of gas flaring. The specific objectives of the study were to:

[31]NGFCP Regulations. Retrieved on September 20, 2018 from http://www.ngfcp.gov.ng/
[32]Oyewunmi Op.cit. p. 774, Ukala Op.cit.p. 97, Nwanji. Op.cit. p. 30. and Amokaye Op. cit p. 35 at 37.
[33]Amokaye, O.G. 2012. Environmental pollution and challenges of environmental governance in Nigeria. *British Journal of Arts and Social Sciences* 10. 1: 26-41.

1) assess the effects of the Nigerian policy and legal framework on gas flaring;
2) examine the policy and legal challenges with the quest to reduce gas flaring in Nigeria;
3) assess how market-based approach could address gas flaring in Nigeria;
4) examine the likely legal challenges and solutions to the use of market-based instruments in Nigeria; and
5) comparatively analyse the market-based approach to gas flaring in America and Australia.

1.4 Research Questions

The study speaks to the ensuing enquiries:

1) What effects do the Nigerian policy and legal framework have on gas flaring?
2) What are the policy and legal challenges to the reduction of gas flaring in Nigeria?
3) How can market-based approach address gas flaring in Nigeria?
4) What are the likely legal challenges and solutions to the use of market-based instruments in Nigeria?

1.5 Significance of the study

Nigeria's prevalent natural resource is natural gas. Nigeria is endowed with massive gas reserves and is generally considered a gas domain, although, most of the associated gas is improvidently flared. There was an analysis of the legal framework for gas flaring regulation in Nigeria through the use of tradable permits. The study differed from the traditional or conventional "command and control" approach, which previous studies carried out on this subject matter mainly adopted.

Command and control necessitate laid down laws, rules or regulations stipulating penalties for offenders. Studies have shown that the market-based approach is a more efficient or effective approach when compared with the traditional command and control regulation.[34] This study gave an insight to the distinction concerning the market-based and command and control approaches. The study also contributed to resolving the lingering problem of gas flaring in Nigeria.

[34]Zhang, B. 2013. Market-based solutions: an appropriate approach to environmental problems. *Chinese Journal of Population Resources and Environment* 11.1:87-91 at 87-88.

1.6 Contribution to Knowledge

The study added to existing knowledge, new dimension to regulating flaring of gas in Nigeria especially through the examination of market-based mechanisms both at the domestic level and the analysis of those proposed under the Paris Agreement of 2015. The study afterwards developed and suggested a market-based framework for regulating flaring of gas in Nigeria through the use of tradable permits. A regional greenhouse gas reduction initiative to be known as the "Niger Delta greenhouse gas reduction initiative" was proposed by the study.

First, the market-based theoretical approach adopted, looked to the market for solutions to environmental pollution. The study propped on the theory of environmental justice as well as the theory of market failure. Secondly, market-based mechanisms were examined at the domestic level with the aim of learning useful lessons from other jurisdictions. Finally, an analysis of the new market mechanisms proposed under the Paris Agreement of 2015 was made.

1.7 Methodology

The primary sources examined were the Constitution of the Federal Republic of Nigeria, 1999 (as amended) and various statutes regulating the gas sector in Nigeria such as the Flare Gas (Prevention of Waste and Pollution) Regulations 2018, Associated Gas Re-Injection (Amendment) Act 2004, Associated Gas Re-Injection (Continued Flaring of Gas) Regulations 2004, Associated Gas Re-Injection Act 2004,[35] Environmental Impact Assessment Act,[36] Gas Flaring (Prohibition and Punishment) Bill 2017, NLNG (Fiscal Incentives Guarantees and Assurance) Act,[37]Nigeria National Petroleum Corporation Act,[38] Oil Pipelines Act Cap O7 Laws of the Federation of Nigeria 2004, Petroleum (Drilling and Production) Regulations 2004, Petroleum Act 1969,[39] Petroleum Industry Bill 2017, Petroleum Industry (Governance) Bill 2017 and Petroleum Profits Tax Act[40]etc.

[35]Cap A25 Laws of the Federation of Nigeria 2004.
[36]Cap E12 Laws of the Federation of Nigeria 2004.
[37]Laws of the Federation of Nigeria 2004.
[38]Cap. N 123 Laws of the Federation of Nigeria 2004.
[39]Cap P10 Laws of the Federation of Nigeria 2004.
[40]Cap P13 Laws of the Federation of Nigeria 2004.

Secondary sources consulted were relevant law text-books, proceedings of national and international conferences, peer-reviewed journals, and annual reports of multi-national oil companies, newspaper reports, reported cases and internet materials related to the subject matter.

The methodology adopted by this study was doctrinal and empirical. The doctrinal approach entails an analysis of the legal structure, legal framework of the subject matter and case laws.[41] The doctrinal approach was complemented with the use of key informant interviews (KII) and questionnaires. The choice of this approach was for the purpose of obtaining data on gas flaring from stakeholders, oil companies, particularly those under joint-venture arrangements with NNPC such as Mobil, Shell and NLNG Ltd.

Officers in the DPR, NNPC and legal experts that had been involved in the formulation of gas policies and negotiation of oil and gas utilisation projects and deals were interviewed. Relevant facts were drawn from documents from international organisations and non-governmental organisations such as the Amnesty International report on energy, effluence and paucity in the Niger Delta, United Nations Environmental Program (UNEP) report on Ogoni land and Environmental Rights Action/ Friends of the Earth, Nigeria and the Climate Justice programme.

1.7.1 Research Design

Qualitative and quantitative investigation approaches were used. The qualitative approach purposed to achieve an in-depth consideration of several experiences of the participants. The quantitative approach complemented the qualitative in producing well validated conclusions from the data.

1.7.2 Study Population and Sampling

Sampling indicates the style in which parts of the population for the study were selected. Usually, qualitative research is constructed on non-likelihood and purposive choice. Purposive

[41] Ali, S. J. Doctrinal Research in Law Field. Electronic copy retrieved from http://www.ssrn.com/abstract=2254461 Smith, J.M. 2015. What is legal doctrine? On the aims and methods of legal-dogmatic Research.Maastricht European Private Law Institute working Paper No. 2015/06. Retrieved on May15, 2016 from http://www.ssrn.com/abstract=2644088

sampling means that partakers were selected as a result of some distinctive description that qualified them to be receptacles of the facts required for the study.[42]

This study set out to elicit first-hand information from purposively selected respondents over a period of six (6) weeks (July ending to mid-September 2017). All the respondents were legal practitioners. The respondents were classified as private practitioners and public servants engaged in the oil and gas industry respectively. Four (4) key informant interviews (KII) were conducted.

With reference to the study, purposive sampling was proficient. A search engine, *hg.org legal resources* was engaged. *Hg.org* is one of the very first online law and government sites, founded in 1995. The sample frame was drawn from some leading oil and gas legal consultants in Lagos, precisely within Lekki, Victoria Island and Ikoyi areas. Firms such as Advisory Legal Consultants (ALC), Lekki, which prepared the National Gas Policy 2004, and which firm also negotiated the first gas supply transaction under the National Gas Master Plan (NGMP) was visited. Others were Century Energy Ltd. Lekki, AELEX Legal Practitioners and Arbitrators, Ikoyi, Templars, Victoria Island and Streamsowers and Kohns Legal Practitioners and Arbitrators, Victoria Island, all provided the richest possible information to answer the research questions.

Twenty-six (26) questionnaires were directed at various respondents in the DPR Lagos, NNPC Abuja and the above-mentioned firms. At the end of the exercise, twenty (20) questionnaires were retrieved from the respondents. Four (4) key informant (KII) interviews were conducted. Two of the interviews conducted were one-on-one sessions with management cadre officials of the Department of Petroleum Resources (DPR) Headquarters, Victoria Island Lagos, while the other two were telephone interviews with principal consultants (private practitioners) engaged at oil and gas firms in Lagos.

[42]Nieuwenhuis, J. 2007. *First Steps in Research,* Kobus M. (Ed.) Pretoria: Van Schaik Publishers p. 79.

1.7.3 Study Location

The location of the study was Corporate Headquarters Nigeria National Petroleum Company, Abuja, the Department of Petroleum Resources Headquarters, Victoria Island, Lagos and purposively selected private oil and gas consultancy firms situated within the Victoria Island, Ikoyi and Lekki areas of Lagos.

1.7.4 Data Collection

For the study, the data collection technique was via informal, unstructured in-depth interviews and administration of questionnaires among the participants. Prior to the conducting of the interviews and administration of the questionnaires, the informed consents of the participants were gotten. The main technique adopted for the in-depth interviews was probing. Probing techniques like amplification, feature, illumination and reassuring were adopted in the course of the study.[43]

1.7.5 Interpreting Data

Data collected were amassed into sections or information groupings. These categories of information groupings were known as subjects or encryptions. These subjects or encryptions were persistent sayings, terminologies or thoughts common to the research participants.[44]

1.7.6 Data Management

Data collected were kept confidential, protected and stored safely. Information from the key informant interviews conducted were kept confidential and stored with a recording device while simultaneously taking down notes in the process. Immediately after each interview session, all notes were transcribed and typed out for safe keeping and record purposes. Certain respondents were followed up with telephone calls and e-mails for clarification of issues raised in the course of the research. This was to ensure authentication, consistency and availability of the data to its users.

[43]Grolean, D. and Lewis, A. 2013. Training on qualitative data collection processes and instruments *A compilation of Prof. Danielle Grolean and Dr. Andrew Lewis' Presentations* 21st -25th January.
[44]Turner Op Cit. p.759.

1.7.7 Data Analysis

All data were analysed via frequency counts and percentages. These were presented in tables and bar charts where necessary. For likert type responses, the perceptions of the respondents were inferred and indicated accordingly in percentages (%). Also, general consensus was deduced from the common themes which emanated from a repetition of the ideas and responses of the respondents to questions asked.

1.8 Expected Outcome

As anticipated, the study led to the development of a robust framework setting out mechanisms on compliance requirements, targets, regulations and enforcements, allocation of permits, in the quest to regulate gas flaring in Nigeria. These were in tune with the purpose of the study.

As projected, the study developed a legal commodity (property) proposed to be known as 'gas flaring reduction obligation certificate,' with a value attached to it, as an incentive for not flaring gas while a penalty for non-compliance is imposed. As envisaged, a market for trading and compliance emerged under the proposed framework developed in this study.

1.9 Scope of the Study

The study specifically focused on regulating the flaring of gas within the highest oil producing states in Nigeria through tradable permits. These states comprise of Akwa-Ibom, Bayelsa, Cross Rivers, Delta, Ondo and Rivers States. It is instructive to note that three of these Niger Delta states engage in gas flaring activities. The study gave an analysis of market-based mechanisms and further selected tradable permits for case study and possible incorporation in Nigeria.

1.10 Structure of the Study

The study was organised in six (6) chapters, beginning with a general introduction, followed by the theoretical and conceptual frameworks for the thesis and literature review. Chapter three investigated the structure of the Nigerian oil and gas industry and discussed relevant institutions respectively. The fourth chapter was devoted to a review of market-based instruments from the international and domestic perspectives. The fifth chapter discussed the development of a framework for tradable permits in Nigeria, and chapter six contained the summary, conclusion and recommendations.

1.11 Definition of Terms

With reference to the study, the following terms within the conceptual framework were defined, as the study demonstrated the connectivity which existed between them.

Gas Flaring:

Flaring of gas is distinctly the well-ordered blazing of natural gas confined within reserves of oil in the ground, unconstrained and extracted along with crude oil from the ground.[45]

Negative Externality:

Externalities are third party effects. A negative externality occurs where parties who are not privy to a transaction are negatively affected by the said transaction. With respect to this study, gas flaring can be described as a negative externality. During oil and gas operations, oil and gas companies flare some gas trapped with oil at well heads. The gas flared leads to environmental degradation, health problems and loss of income within communities located within the precincts of the Niger Delta, where the said flaring occurs. The affected communities are therefore considered third parties as they are not privy to the operations which lead to the flaring of gas.

Market Failure:

A market is a domicile for interchange of goods and services steered by the imperceptible market powers of demand and supply. However, an unrestricted market is said to fail where the market cannot deliver public goods or control externalities, leading to inept dissemination of resources.[46] Markets can flop where property rights are non-existent. Consequently, government involvement is indispensable.

Polluter Pays Principle:

The principle postulates that whosoever is blamable with respect to environmental impairment should endure the outlays connected with it.[47] An essential validation for the adoption of market-

[45]Okorodudu-Fubara, M.T. 1998. *Law of Environmental Protection: Materials and Text* Caltop Publications, Ibadan, Nigeria p. 399.

[46]Cowen, T. 2002. Public goods and externalities. The Concise Encyclopedia of Economics Retrieved on September 15, 2018 from https://www.econlib.org/library/Enc1/PublicGoodsandExternalities.html/

[47]Taking Action Chapter 2 p. 3 of the United Nations Environmental Programme. Retrieved on July 27, 2016 from

based regulation to cure market failure lies in the application of the principle, because to cure the failure attributable to the market, added costs need to be paid, hence the rule, that those who cause pollution should be responsible for their polluting acts.

Market-Based Framework:

This is a framework which is designed to address non-compliance to gas flaring regulation through the incorporation of tradable permits that use pricing to offer inducements for contaminators to eradicate ecological degradation by creating a legal commodity (property right) which can be duly recognised and traded in an alternative market established for the usage of ecological goods and services.

Gas Flaring Reduction Obligation Certificate:

As developed and proposed in this study, the gas flaring reduction obligation certificate is a certificate to be issued by the Department of Petroleum Resources to all oil and gas companies operating in Nigeria, following the mandate to reduce gas flaring by 2020 and compulsion by DPR for the respective companies to obtain the certificate.

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http://www.rona.unep.org.action.02.htm

CHAPTER TWO

THEORETICAL FRAMEWORK, CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW

2.1 Introduction

This chapter focused on the theoretical and conceptual frameworks and review of literature. The study drew attention to the correlation between a hygienic and fine fettled environment, which is, by every means, a public good, and the market, where public goods and services are disseminated. The markets, however are said to have failed, when they cannot offer public goods or control externalities, hence the urgent need for government intervention. Diverse literature which delved into the regulation of gas flaring were reviewed.

2.2 Theoretical Framework

This study propped on the "theory of environmental justice" supported by the "theory of market failure" in the quest to regulate gas flaring in Nigeria.

2.2.1 Theory of Environmental Justice

Environmental justice has been described by the United States Environmental Protection Agency, as a nondiscriminatory process of handling of all individuals, irrespective of their nationality, pigment or remuneration, coupled with their significant envelopment, with deference to the advancement, execution, and implementation of ecological statutes, guidelines, and policies.[48] The environmental justice conception originated by way of a crusade early in the 1980s, having admitted that a lopsided quantity of contaminating businesses, control mechanisms, and unsolicited dump zones were located near low-income or minority societies. The drive was put in motion to ensure a fair spread of environmental encumbrances amid all populaces regardless of their upbringing. Environmental justice therefore sponsors the campaign for an uncontaminated and fine fettled environment for all.

[48]What is environmental justice?-definition, principles, examples and issues. Retrieved on November 24, 2016 from http://www.study.com/academy/lesson.what-is-environmental-justice-definition

2.2.2 Theory of Market Failure

Market failure concept is defined as a situation where reserved concern quests are no clue to a proficient usage of society's assets and wealth or a reasonable circulation of civilisation's belongings.[49] It queries the appropriateness of government's intrusion in undertakings distinct from communal concerns. Market failures occur when there is a failure on the part of the market to yield public properties or where externalities are unintentionally generated and there is a contribution to the upsurge of systematic dominations, which in turn relegates parties over information irregularities or leads to the formation of adverse income circulations.[50]

With reference to this study, one can argue that the market has failed, especially, because natural gas, which is Nigeria's dominant natural resource, subject to the market influences of demand and supply, is not properly allocated to public/ private use (such as for manufacturing industries, petrochemicals and cooking gas) but rather flared wastefully. The failure of the market has resulted in unfriendly externalities, consequently the cost of environmental degradation or pollution has been externalised. The law mends the failure by internalising the costs through incentives and market-based instruments. Therefore, the thrust of the theory is that the government ideally should not interfere in the market; however due to market failure, government intrusion has become very indispensable.

Sustainable development may be described as development that meets the needs of the extant generation devoid of conceding the requirements of imminent generations.[51]The polluter pays principle states that whoever is blamable for environmental impairment should endure the outlays connected with it.[52] The proposition of this principle is that those who cause impairment or harm to others should pay for those recompenses. Polluter-pays principle is meant to incorporate outlays of ecological squalor or effluence.

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[49]Zerbe, R. and Mc.Curdy, H. 1999. The failure of market failure. *Journal of Policy Analysis and Management* 18.4: 558-578 at 558, 559.

[50]Ibid p. 561.

[51]Report of the World Commission on Environment and Development: Our Common Future (The Brundtland Report) 1987. Retrieved on July 26, 2016 from https://www.sustainabledevelopment.un.org

[52]Taking Action Chapter 2 p. 3 of the United Nations Environmental Programme. Retrieved on July 27, 2016 from http://www.rona.unep.org.action.02.htm

Market-based instruments are those traits of acts and guidelines which vitalise behaviour through market indicators, as opposed to apparent instructions concerning pollution control levels or methods. The reputed ethical validation for market-based tools is generally centred on the principle of making the polluter pay, while the pecuniary justification for the market-based instrument is that of proficiency, that is, making use of market-based incentives to realise environmental goals. It is anticipated to be more proficient than the traditional command and control policies.[53] Organisation for Economic Co-operation and Development (OECD) scrutiny showed that enormous declines in GHG discharges are attainable at comparatively small outlays if the accurate strategies are positioned. It comprises the extensive usage of market-based tools universally.[54]

2.2.3 The Pigouvian Approach to Externalities

A proportion of the old-style analysis of externalities can be traced to the work of A.C Pigou.[55] Pigou indicated that the problem with externalities was that they produced an incongruity amongst reserved costs and communal costs. Pigouvian solution preferred to use government intervention to solve externalities. He argued that tax should counterbalance negative externalities (costs imposed), while subsidy should counterbalance positive externalities (benefits conferred). Pigou alleged that by government imposing such taxes and providing subsidies and incentives, the externality problem could be internalised.

2.2.4 Coasean Approach to Externalities

Coase[56] debated that pigou's technique would result in outcomes that were not inevitably or typically necessary. Coase observed that Pigou had neglected a very important feature of externalities: that they are reciprocal in nature. This means that externalities do not result from one person's action, but from the combined actions of two or more parties. Coase also observed that Pigou's analysis of externalities had overlooked one of the most elementary philosophies of economics: opportunity cost, which refers to a relinquished alternative.

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[53]Ibid

[54]Climate Change Policies: Organisation for Economic Co-operation and Development (OECD) August 2007 Policy Brief p. 1-7. Retrieved on March 16, 2016 from http://www.oecd.org/publications/policybriefs

[55]Pigou, A.C. 1924. *The Economics of Welfare.*2nd Edition. London: Macmillan p. 161.This tax would be set equal to the marginal external cost, that is making firms pay to use one more factor of production, clean air, that had previously not been priced.

[56]Coase, R. H. 1960. The Problem of Social Cost. *Journal of Law and Economics* 3: 1-44 at 2.

The basis of the squabble in contradiction of market failure scrutiny is consequential from the study of dealings trail-blazed or founded by Coase and ingrained in the scrutiny of assets. The property rights tactic delineates the situation where externalities completely fade away. Coase stated that externality problems would be proficiently solved through private transactions. He enunciated that property rights must be appropriately distinct, property rights are exchangeable and that operation outlays remain sufficiently low. Transaction costs are outlays of making a transaction, which is not received as a payment by a party to the transaction. They can also be described as resources indispensable to handover, establish and maintain property rights.

Pigou adopted a price-based market approach when he proposed internalisation of costs through taxation, which he advocated would dishearten contaminating the environment, while Coase on the other hand embraced a rights-based market approach by suggesting property rights, which are assigned to the environment and those involved in contaminating the environment would be penalised. Although they used different approaches, both of them in their final analysis arrived at the same conclusion that the market must be regulated because of market failure; hence it was indispensable to find lasting clarification to the problematic externalities.

This study contends that with the incorporation of a market-based framework, anchored on a property right or legal commodity known as 'gas flaring reduction obligation certificate,' gas flaring would be reduced.

2.3 Conceptual Framework

The frame developed validates the correlation concerning the terms defined in chapter 1 of this study. Gas flaring is a negative externality as it results in environmental degradation, health problems and economic loss. A hygienic and fine fettled environment is a public good;[57] whose costs are externalised, for instance, with reference to this study, when gas is flared and harmful gaseous emissions into the atmosphere occur.

[57]Cowen, T. 2002.Public goods and externalities. The Concise Encyclopedia of Economics Retrieved on September 15, 2018 from https://www.econlib.org/library/Enc1/PublicGoodsandExternalities.html/

Externalities ensue once the activities of an individual disturb the safety of another person and the applicable outlays and paybacks are not indicated in market rates.[58] When an externality occurs, the market is said to have failed, because of government's inability to provide for public goods. In the bid to internalise costs, it is mandatory for polluters to be held responsible thereby paying for the harm they cause. Market failure is created by negative externalities; therefore, to overcome the failure of the market, government intrusion is necessary.[59]

[58]ibid
[59]ibid

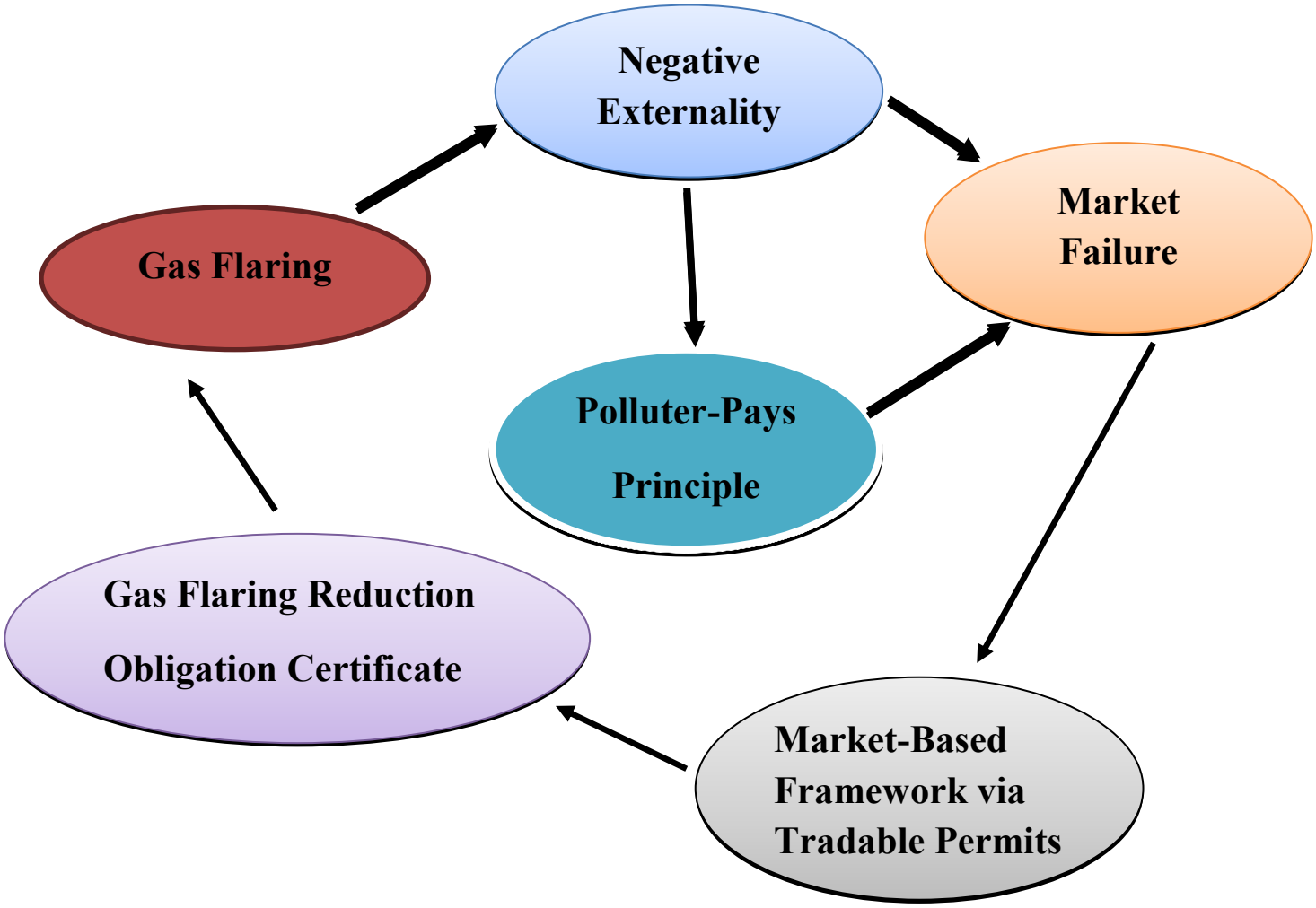

Fig. 2.1 Conceptual Framework

Source: Author (2017)

2.4 Literature Review

2.4.1 The Concept of Rights

Rights are the invention of rules and all rights have complimentary obligations on others to perform them.[60] Sales of Goods Act[61] defined property as the universal possessions in assets and not just a distinctive asset. Zerbe and McCurdy[62] stated that as rights in material goods become further far-reaching and widespread, business outlays slant towards nil and vice-versa.

It is necessary to draw attention to the correlation which exists between rights and property. Since rules create rights with matching duties on others to perform them, issues bothering on property by implication define the right to own, use and transfer. Properties have market value and by inference having rights to such property therefore attaches a value to the respective property.

2.4.1.1 Hohfeldian Thought on Rights

Hohfeld[63] branded essential legal formations applicable to juristic science. His analytical jurisprudence relics authoritative remedial to common blunders in present-day legal thought. He analysed and incited reasoning on legal notions of rights, immunities, duties, privileges and others. He captured diverse legal associations in case law. He noted a mutual tendency among scholars who made blunders in legal scrutiny of concepts such as property, contracts, trusts amongst other things.[64] Hohfeld articulated jural correlatives and labelled types of prerogatives and incapacitations. He contended that for every single prerogative, there existed a matchless and distinctive correlative incapacitation and *vice versa.* He also opined that for each respective right in A, an equivalent responsibility in B existed and *vice versa.*

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[60]Schlager, E. and Ostrom, E. 1992. Property rights regimes and natural resources: A conceptual analysis. *Land Economics* 68: 249-262 at 250.

[61]Section 2 Sale of Goods Act Revised Statutes Cap 408 1989 (amended 1995-1996) electronic version provided by the office of the Legislative Counsel. The Sale of Goods Act 1893 is still in force in Nigeria. It was received into the Nigeria legal system as an act of general application. Subsequently, many states in Nigeria such as Oyo, Ogun and Ondo States adopted the Act as their sale of goods law. In Lagos State, it is known as the Sale of Goods Law Cap S2 Laws of Lagos State 2015.

[62]Zerbe, R.and Mc.Curdy, H. 1999. The failure of market failure. *Journal of Policy Analysis and Management* 18. 4: 558-578 at 561.

[63]Hohfeld, W. N. 1913. Some fundamental legal conceptions as applied in judicial reasoning. *Yale Law Journal 23*: 16- 60.

[64]Ibid p. 19.

From Hohfeld's broad analyses, three strands of the Hohfeldian thought were developed. The 'analytical strand' comprises of the analytical think tanks that endeavored to clarify whether or not Hohfeld's jural conceptions were right.[65] The 'property strand' was anchored by theorists who generally viewed Hohfeld as the originator of 'bundle of sticks' when reference is made to property.[66] Hohfeld spoke about property in expression of multifaceted collection of affairs jurally connected and the necessity for the diverse elements in the collection to be viewed analytically.[67]

In *Quinn v Leathem*[68] Quinn, an alliance organiser, required a butcher to be substituted by his personnel through unification labor. Quinn in the company of associate organisers attempted to assault Leathem's consumer, if he failed to discontinue patronising Leathem. Munce shared same view with Quinn. Leathem recorded losses and thereafter sued Quinn. Lord Lindley opined that the plaintiff possessed the regular rights of a Briton and he was therefore permitted to make a living of his choice so long as he was not in contravention of any law precluding him from undertaking such actions. Hohfeld referred to *Quinn v Leathem* and Lord Lindley's opinion in demonstrating the obvious error with confusion of priviledges with rights in legal relations and further identified the resultant consequences of such errors.[69]

Guerin[70]stated that the awareness of rights having comparable responsibilities and merely prevailing in a people or permissible perspective of guidelines is precisely historic to how rights progress. Alchian and Demsetz[71]argued that rights in property comprised divergent as well as intersecting privileges to own, practice and dispose of property and stated that an essential factor to be considered was that it is a package, or a percentage, of privileges to usage of a reserve that

[65]Gorman, J. 2003. Rights and Reason: An introduction to the philosophy of rights p. 83-99.
[66]Grey, T.C. 1980. *The Disintegration of Property* in Pennock and Chapman (eds.) XXII NOMOS: 69 at 85
[67]Hohfeld, W. N. 1917. Fundamental legal conceptions as applied in judicial reasoning. *Yale Law Journal* 26: 710-747.
[68]*Queen v Leathem* (1901)A..C 495 (H.L.) 503 (appeal taken from Ir.)
[69]Schlag, P. 2015. How to do things with Hohfeld . *Law and Contemporary Problems* 78: 185-234 at 200-209.
[70]Guerin, K. 2003. Property rights and environmental policy: A New Zealand perspective, New Zealand Treasury Working Paper 03/02 March p. 1-47 at 3.
[71]Alchian, A.A. and Demsetz, H. 1973. The property rights paradigm. *Journal of Economic History* 33.1: 16-27 at 17.

is controlled and not the resource itself which is controlled. Cooter and Ulen[72]opined that property provided its holder with wide-ranging and inclusive control over resources and considered this independence to govern quantifiable belongings as the custodian of every single right. They further described property from a legal viewpoint as 'a bundle of rights', explaining that it is acceptable for the owner to exercise the rights over his property and that it is a taboo for others to impede the application of his rights.

Omorogbe and Oniemola[73]discussed the various property rights over petroleum *in situ* between the national, municipal and indigenous governments in a federation. They further discussed the legal character of the innumerable property rights given to companies under various petroleum arrangements.

The discussion of property rights within the context of this study, therefore unveiled that government plays a pivotal role in the design and execution of instruments targeted at positive environmental outcomes, hence they delineate the bearer of the obligations and are at the helm of allocation of certificates (the certificates referred to be property rights).

2.5 Market-Based Instruments

OECD delivered a compilation of diverse cost-effective instruments. They comprise charges, tradable permits, deposit-refund systems, and monetary aid or subsidies.[74]

1) Pollution charge/ tax: The pollution charge system assesses a stipend or tax on the aggregate effluence that is generated by a company. Companies would voluntarily decrease effluence equal to when negligible reduction charge can be comparable with charges paid.
2) Tradable permits: Zhang[75]argued that it is imperative to habitually and efficaciously utilise the permits; corporations that thrive on supporting their discharge beneath the

[72]Cooter, R. and Ulen, T. 1998. *Law and Economics* 2nd Edition Addison-Wesley Educational Publishers p. 69.
[73]Omorogbe, Y. and Oniemola, P.K. 2010. Property rights in oil and gas under domanial regimes in McHarg *et al.* (Eds.) *Property and the Law in Energy and Natural Resources*, Oxford University Press, United Kingdom p. 115-139 at 116.
[74]*OECD Guidelines for the Application of Economic Instruments in Environmental Policy* (1991) contained in the Annexe to the recommendation. Other types of economic instruments not included in the recommendation are enforcement incentives, administrative charges, liability and compensation for damage, trade measures, consumer information incentives as well as no-compliance fees and performance bonds.

apportioned average will one way or the other sell the surplus permits or sell them in altercation for other products to douse the extent of the discharges which surpass the unexceptional.

3) Subsidies: Government subvention cutbacks are another kind of MBIs. Stavins[76] stated that hypothetically, subventions are "the mirror image of taxes" and recommended inducements to tackle ecological complications, although it is common place that many subventions are presumed to stimulate parsimoniously inept and ecologically unreliable performances.

Banet[77] discussed tradable certificates namely the green, white and brown certificates. These are new market-based instruments traded under the European Union Emissions Trading System (EU-ETS). The EU-ETS remains a global primogenital and the largest greenhouse gas trading program. The EU-ETS established a market wherever emissions were traded amidst EU member states. Banet opined that these certificates ascribed market value to environmental goods or services and hence rectified market failure.[78] Green certificates motivate the usage of recyclable energy bases as well as enlarge the manufacture of electricity, while ensuring that white certificates are roused by efficient culmination use of energy and stimulate energy efficiency.

USA is the trailblazer of market-based instruments (MBIs). Over the years, the use of market-based instruments had been rationalised by the extremity of the command and control approach, which was branded as 'direct regulation' and particularly with reference to its running costs and inconsistent efficaciousness.[79] Command systems set boundaries, unswervingly or circuitously, the measure of residues that every actor may produce; [economic incentive systems] inaugurate, unswervingly or circuitously, a charge which should necessarily remain remunerated on behalf

[75]Zhang, B. 2013. Market-based solutions: an appropriate approach to environmental problems. *Chinese Journal of Population Resources and Environment* 11.1: 87-91.
[76]Stavins, R.N. 1998. Market based environmental policies. Retrieved on March 16, 2016 from http://www.rfff.org/documents/RFF-DP-98-26.PDF
[77]Banet, C. 2008. The use of market-based instruments in the transition from a carbon-based economy, *Beyond the Carbon Economy,* Zillman *et al.* (Eds.) Oxford University Press Inc. New York: 207-230 at 229.
[78]Banet Op. Cit p. 229.
[79]Rubin, E. 2005. The conceptual explanation for legislative failure. *Law and Social Inquiry* 30: 583-606.

of every component of residues produced, while every player is permitted to resolve on the basis of the level it produces.

Another rationalisation was that they had the capacity to rectify market failure cost-effectively. MBIs yielded the benefits of exhausting market indicators to rectify market letdowns. Thirdly, a fundamental rationalisation for the use of MBIs laid in the "polluter pays principle" which proposed the prerequisite for the outlays of effluence to be endured by the person/persons liable for instigating the effluence and the substantial outlays.[80] Zhang[81]disputed the recompenses of market-based solutions to ecological effluence likened with the command and control procedures. He stated that market-based elucidations associated the inducement with low-cost and demonstrated that utilising an ecologically considerate inducement in a proper manner may possibly and ultimately accomplish a cost-effective procedure.

Attaining a definite level of environmental quality proficiently could be attributed to initiating markets for certificates because social costs of pollution have been accounted for and hence internalised. Wittmann[82] observed that there had been advanced incidence of certificate schemes in environmental policy and the use of existing policy measures in a more operative way were designated, rather than proposing the institution of new policy instruments.

2.6 Policy Framework

Terminating its profligate gas flaring is the most illustrative area where Nigeria had confirmed intensity about hostility to climate change.[83] The ensuing processes explicitly; culmination of flaring and addressing ecological issues like climate change, extension of gas (associated and non-associated) infiltration in local markets, expediting improvement of the power sector, expediting progress in industry, apprehending cost-effective worth of gas in both domestic and export market, thereby producing abundant income from gas (as oil) and accumulating private

[80]Sands, P. 2003. *Principles of International Environmental Law* 2nd edition Cambridge University Press p. 213-217.
[81]Zhang, Op. Cit. p. 87-88.
[82]Wittmann, N.2008. Combining green, brown and white certificates: A microeconomic analysis in case of a regional monopoly in energy distribution. Paper submitted for the Young Economist Session p.1-19.
[83]Ajanaku .A. Climate change bogged by Nigeria's governance challenge. The Guardian, Sunday September 28, 2014 p. 20.

sector involvement have been usurped by management.[84]Aghalino stated that the policy resolutions enumerated were remarkable and Nigeria had hitherto certainly not been deficient in course of action ingenuities. It is however vexing that some of those policies were certainly not tracked to coherent decisions.[85] Some of the policies articulated which relate to gas are:

2.6.1 National Energy Policy (NEP) 2003

The NEP was validated by the government in 2003. It was targeted at the provision of well-synchronised improvement, utilisation and administration of all energy resources. Unconventional ways of gathering rural energy source and request with unoriginal (petroleum products, gas, coal, electricity) and unorthodox and renewable substitutes were specifically permitted.[86]Nelson[87] appraised the upgrading of the NEP 2003 as a statutory instrument in confronting gas flaring in Nigeria and evaluated the efficaciousness of the NEP 2003 in attaining viable expansion.

2.6.2 National Gas Policy 2017

The policy established full-bodied requirements primarily on authorised restructurings in the oil and gas sector with the intention of coagulating the Ministry of Petroleum Resources as an institution which constructs policies and generates a new regulatory authority, to avert role intersection presently conceded. Under this policy, the federal government intends to develop Nigeria's gas resources to attain gas flare-out by completing projects targeted at gas utilisation, impose the domestic gas supply obligation (DGSO) on gas producers and also shift from an economy based solely on oil to one that is based on oil and gas.

2.6.3 National Gas Master Plan (NGMP) 2008

The ninth (9) biggest reserves of gas globally and the most prevalent reserve in Africa are clasped by Nigeria. Regardless of these massive gas resources, the local gas market is largely infantile and a substantial proportion of the obtainable natural oil and gas is alternatively

[84]Okogun, B. 2004. Current efforts to enhance natural gas utilisation and reduce gas flaring in Nigeria. Retrieved on March 16, 2016 from http://www2ife.org/organic/files/ggralgiers2004
[85]Aghalino, S.O. 2009. Gas flaring, environmental pollution and abatement measures in Nigeria 1969-2001. *Journal of Sustainable Development in Africa* 11.4: 219-238 at 231.
[86]Ibid p. 50
[87]Nelson, N. 2015. National Energy Policy and Gas flaring in Nigeria. *Journal of Environment and Earth Science* 5.14: 58-64.

disseminated as liquefied natural gas, re-injected to heighten oil recovery or merely flared. In 2008, the federal government pursued the addressing of the disablements with the improvement of the local gas segment, rouse gas monetisation, lessen the flaring of gas and safeguard security of gas on a long-term through the prescriptions of the NGMP.

Complete refurbishment of the supervisory regime, expansion of supportable profitable structures and obtaining an indispensable set-up, were objectives sought to be attained and were trailed through the master plan, through a charted course for the revolution of the domestic gas segment into an occupied market-steered production by 2015.[88]

The national gas supply and pricing policy (the policy) and the national domestic gas supply and pricing regulations (the regulations) were delivered in line with the blueprint of government. The policy and regulations made provision with deference to the accountability of a domestic gas supply obligation (DGSO) on the entirety of gas manufacturers, necessitating them to separately set aside, a fixed percentage of gas produced for supplying the local marketplace.[89]

DGSO is an authorised obligation to the national gas market. The NGMP comprised of a gas infrastructure blueprint (the blueprint), which rewards assemblies for reserved segment partaking in the expansion of arrangements requisite to sustain the domestic gas market. The NGMP is a premeditated long-term plan (minimum of eight years) that described the strategies for the utilisation of the gas resources in the production of energy. While the NGMP is yet to be achieved, the main issues have nonetheless, been integrated into the petroleum industry bill (PIB), which had stalled in the national assembly for several years.[90]

2.6.4 National Petroleum Policy 2017

The National Petroleum Policy (NPP) 2017 made provision for the authorised and supervisory, institutional, profitable, fiscal and operative framework for the oil and gas sector. The NPP was to be executed concomitantly with the NGP and the NPFP. It is instructive to note however that the fiscal policy and framework were contained in a separate NPFP document.

[88]Ibid p. 51.
[89]Ibid
[90]Ibid p. 52

2.6.5 National Policy on the Environment 2017

Nigeria's domestic environmental policy was initially articulated in 1991. It was reviewed in 1999. The policy purposed the provision of a lucid, practicable, articulate and all-inclusive approach to the quest of economic and societal advancement in a manner where there are minimal incongruities coupled with replications, whereas internal and intrasectoral collaboration and efficacy are supplemented entirely for every stage. Under this policy, provision was made for ideas and tactics which would promote the nation into an age of social justice, self-assurance and viable enlargement in the 21st century.

With respect to the oil and gas sector, some viable utilisation schemes were expected to be embraced nationally. Those which relate explicitly to gas flaring were initiated in paragraphs (j), (k) and (l) of Section 4.14 (oil and gas) as follows:

> j. monitor air discharges and gaseous wastes (CO, CO_2, NOx, H_2S, CH_4, SO_2 *etc*) emitted at production stages, refineries, petrochemical and gas treating amenities through constant air quality specimen as well as through day-to-day graphic checks for seepages nearby tanks, pumps, pipelines and transfer points;
> k. endorse preservation and renewal of natural foundation pressure through eradication of gas flaring and the re-injection of manufactured associated gas and underpinning waters;
> l. stimulate the comprehensive utilisation of manufactured associated gas, lessen gas flaring and the manufacture of conservatory gases;

The Federal Government had initiated diverse actions to reaffirm its commitment to putting an end to gas flaring and partaking in emission reductions in line with the provisions of the national policy on the environment and the Paris Agreement. Precisely, the commitment was demonstrated by the ratification of the Paris Agreement of 2015, signing of the Global Gas Flaring Partnership (GGFP) principles for global flare-out by 2030, while committing to a national flare-out target by the year 2020 and the launching of the National Gas Flare Commercialisation Programme (NGFCP).[91]

[91] National Gas Flare Commercialisation Programme- Environmental Effect. Retrieved on March 7, 2019 from http://www.ngfcp.gov.ng

An affiliation exists between policy, law and implementation.[92] Policies are transmuted into laws but intermittently, some policy constructions are not followed to reasonable conclusions. Omorogbe[93]captured the prominence of policy and law as the essential charter upon which societal structures respite and further added that laws shadow policies and are instruments that promote the realisation of policies. Ladan [94]opined that the perception of law as a mechanism for attaining acquiescence is met with certain confines. It is certain that rules (in addition to a supervisory body) invariably would not spontaneously bring about a variation in behavior. Omorogbe and Ladan are in agreement on their arguments.

The main policy constructions with regard to the oil and gas sector in the last eleven years were collated into the National Gas Policy 2017, which is to be executed concomitantly with the National Petroleum Policy 2017 and the National Petroleum Fiscal Policy 2017. The policies provided the basis for the launching of the National Gas Flare Commercialisation Programme (NGFCP) in 2016,[95] amendment of the NESREA Act 2007 by the NESREA (Establishment) Amendment) Act (Amendment Act) 2018 and the introduction of the Flare Gas (Prevention of Waste and Pollution) Regulations 2018; which amongst other things, were targeted at attaining gas flare-out by embracing gas utilisation projects, further empowering the relevant authorities in the protection and development of the environment, by giving them discretionary powers and authority to tackle environmental crimes, increase penalties and permit the search of premises without warrant.

2.7 National Legal Framework

The internal response to protect and enhance dominance of air ideals and fortification of the atmosphere in Nigeria had been demonstrated within the policy thrust, legislative and institutional arrangements situated over the years. Nigeria's legal framework is a prototype

[92]Omorogbe,Y. 2008. Promoting sustainable development through the use of renewable energy: The role of the law. *Beyond the carbon economy,* Zillman *et al.* (Eds.) New York: Oxford University Press Inc. p. 45-46.
[93]Ibid
[94]Ladan, M.T. 2012. Review of NESREA Act 2007 and Regulations 2009-2011: A new dawn in environmental compliance and enforcement in Nigeria. *Law, Environment and Development (LEAD) Journal* 8.1:116-140 at 126.
[95]National Gas Flare Commercialisation Programme- Environmental Effect. Retrieved on March 7, 2019 from http://www.ngfcp.gov.ng

mainly of the orthodox command and control approach to ecological and environmentally friendly regulation. This is because there are laws, rules and regulations which stipulate offences and prescribe the respective punishment for such offences.

Ladan[96]argued that Nigeria had a somewhat wide-ranging environmental regime in terms of her legislation on environmental regulation and protection. A quantifiable impression of the law on the fortification of Nigeria's air worth was exclusively dependent on acquiescence and the operative enforcement of the law. Amokaye[97]discussed the shortages of Nigerian regulatory laws and opted for the rule of law amongst other things, to secure proficient and operative enforcement tactics.

2.7.1 Constitution of the Federal Republic of Nigeria 1999 (as amended)

Chapter two of the Constitution of the Federal Republic of Nigeria 1999 (as amended) conveyed fundamental objectives and directive principles of state policy. Section 17 (1) discussed the social objectives and directed that the national societal mandate was instituted on principles of liberty, impartiality and fairness. By virtue of the provisions of Section 17 (2) (d), gas flaring infringes on the rights of the people. The section provided that in societal order continuance, exploitation of human or natural resources in any method whatsoever, for reasons other than the communal respectability or morality, will be prohibited.

With deference to exploitation of human or natural resources, the principle of derivation is fundamental. It is a constituent of fiscal federalism which guarantees that a region or state holds a specified proportion from oil tax revenues derived from the exploitation and extraction of natural resources (oil and gas) in its territory. The principle of derivation is encapsulated within the Constitution.[98] The principle is targeted at providing recompense to producers of natural resources for the appropriation of their rights to control and manage such natural resources by

[96]Ibid p.119.
[97]Amokaye, O.G. 2012. Environmental Pollution and Challenges of Environmental Governance in Nigeria. *British Journal of Arts and Social Sciences* 10.1:26-41at 35, 37.
[98]Proviso to Section 162 (2) of the Constitution of the Federal Republic of Nigeria 1999 (as amended).

the Nigerian state. A mandatory payment of not less than 13.0 % derivation should be made to the producing states.[99]

Section 162 however provided that the 13.0% derivation cannot be implemented without a Revenue Allocation Act. The reality remains that there is need for a new Revenue Allocation Act to be enacted, so as to ensure conformity with changing realities, as the previous Act[100] was obsolete and is not in tandem with present realities of the resources produced within the Niger Delta region.

Although the enactment of the Allocation of Revenue Act[101] was a giant stride by the Federal Government to remedy the injustice addressed by the 1999 Constitution (as amended), Adangor[102] having analysed the principle of derivation as a fiscal tool, with a view to ascertaining whether or not the principle had served as an effective tool of distributive justice in the Niger Delta region, opined that the legislative intervention had partially succeeded because the Act amongst other things failed to tackle the prevalence of externalities.

A holistic perspective of the principle of derivation promises to serve as legislative relief from exploitation of the natural resources in the Niger Delta. However, the Federal Government needs to imbibe a straightforward approach towards resolving the revenue allocation dilemma, and not sit back relaxed and watch the principle of derivation remain a contentious feature in Nigerian distributive federalism.

Section 20[103] provides that the state would protect and improve the environment and also safeguard the water, air and land, forest and wild life of Nigeria. Distinguishing Section 17 from Section 20 draws attention to a cursory enquiry into the intendment of the law. Reference is made to the prohibition of exploitation of human or natural resources, which result in negative externalities, and by virtue of Section 162, legislative relief can be incorporated through the

[99]ibid
[100]Revenue Allocation Act No. 106 of 1992.
[101]Allocation of Revenue (Abolition of Dichotomy in the Application of the Principle of Derivation) Act 2004.
[102]Adangor, Z. 2015. The principle of derivation and the search for distributive justice in the Niger Delta region of Nigeria: the journey so far. *Journal of Law, Policy and Globalisation* 41: 115- 133 at 129.
[103]Constitution of the Federal Republic of Nigeria1999 (as amended).

principle of derivation. By virtue of Section 6 (6) (c) however, a major shortcoming of the provisions of Section 20 and 17 is revealed. They are non-justiciable due to the fact that they form part of the fundamental objectives and directive principles of state policies contained in Chapter 2 of the Constitution.

Section 20 referred to the responsibility of the state to protect, improve and safeguard the environment. Section 44 (3) provided that

> …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 shall vest in the Government of the Federation and shall be managed in such manner as may be prescribed by the National Assembly.

Sections 20 and 44 (3) read together point to the salutary role of Government in protecting the environment and safeguarding the natural resources deposited therein. Clearly, there is a clash of interests, as government is concurrently responsible for upholding the rights of all Nigerian citizens and indirectly involved in the exploitation. In essence therefore, Government itself, apart from regulating the activities involved in the oil and gas sector, needs to be regulated.

The African Charter of Human and Peoples' Rights was ratified by the African Charter of Human and Peoples' Rights (Ratification and Enforcement) Act.[104] Article 24 of the ACHPR provided that all populations are assured of the right to a broad-spectrum suitable atmosphere advantageous to their advancement.

With respect to the case of *The Social and Economic Rights Action Center for Economic and Social Rights vs. Nigeria,*[105]it was revealed that the constitutional rights to the environment assured by virtue of Article 24, the right to life (Article 4), to property (Article 14), to health

[104]Cap A9 Laws of the Federation of Nigeria 2004.

[105]Gas flaring in Nigeria: A human rights, environmental and economic monstrosity 2005. Environmental Action/ Friends of the Earth Nigeria and the Climate Justice programme p. 1-36. Also the decision regarding Communication No. 155/96 African Commission of Human and Peoples' Rights (ACHPR/COMM/A044/1, 27th May 2002). Retrieved on March 18, 2016 from https://www.i.umn.edu/humanrts/africa/comcases/155- 96

(Article 16), to housing (implicit in Article 18), to food (Articles 4, 16 and 22), and the right to freely dispose their wealth and natural resources (Article 21), had been ruptured in Nigeria.

The Nigerian government acknowledged the anomalies committed by asserting that oil and gas companies in Ogoniland and undeniably within the precincts of the Niger delta carried out a large percentage of mayhems.[106] In *Allar Iron v Shell BP,*[107] the applicant demanded an injunction from the court, which said injunction was to constrain the defendant from engaging in added activities which resulted in contamination of his land, creek and fish pond. Warri High Court however denied the injunction.

Allar Iron's case raises the question "Was the Court really just with the refusal to grant the order of injunction? The injunction required by the plaintiff against the defendant was intended to halt the persistent grievance to the victim. However, the court appeared to have in-appropriated the fact that the injunction sought was to preclude further impairment or injury to the plaintiff and not categorically halt oil and gas operations. Dimowo[108] argued that the gas re-injection project from late 70s to late 80s was purely a statutory provision which lacked commitment from administration and the IOCs to strive towards implementation of the statutes.

In the case of *Jonah Gbemre v SPDC & Ors*.,[109] the plaintiff, Jonah Gbemre represented the Iweherekan community, and trailed the implementation of their fundamental rights against Shell, NNPC and the A.G Federation as respondents. In his assertion, the plaintiff purported that the unremitting flaring of gas of the 1st and 2nd respondents while carrying out their oil survey and manufacture undertakings, is a desecration of their right to existence and self-respect under the provisions of the 1999 Constitution (as amended) and buttressed by Articles 4, 6 and 24 of the ACHPR.

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[106] ibid

[107] Unreported Suit No.W/81/71/Warri High Court.

[108] Dimowo, F. 2008. The Liquefied Natural Gas Act and 2004 Gas Flaring Deadline. *Nigeria Education Law Journal* 9.1: 189-204 at196.

[109] Unreported Suit No. FHC/B/CS/53/05. This was the historic judgment pronounced against Shell, and by which Shell was compelled to end the flaring of gas which had, all along, been declared illegal in Nigeria. This decision was however overturned on appeal at the Court of Appeal.

Additionally, the plaintiff declared that Sections 3 (2) (a), (b) of the AGRA and Section 1 of the AGR Regulations, which allowed unrelenting flaring of gas in Nigeria, remain impulsive with reference to the aforesaid applicant's rights. Accordingly, the applicant therefore implored that an order of long-lasting embargo be granted, to confine the defendants from additional flaring of gas in the communal settings. The Court believed that the undertakings of the 1st and 2nd defendants engaged in gas flaring, were illegitimate and a desecration of the people's rights. The court further held that Section 3 (2) (a) and (b) of the AGRA and Section 1 of the AGR (Continued Flaring of Gas) Regulations were insignificant and invalid for their discrepancy with the applicant's prerogative to existence and self-esteem of mortal persons, as protected in the constitution. The court ordered for the defendants to be controlled from further flaring gas in the affected community and that the A.G Federation should start the procedure for an Act of the National Assembly, to promptly modify the relevant sections of the AGRA and Regulations made thereunder.

2.7.2 Associated Gas Re-Injection Act[110]

This Act was transmitted as a decree in 1979. Section 3 (1) provides that by January 1, 1984, gas flaring is prohibited except with approval of the Minister of Petroleum in writing.

Section 3 (2) stated that:

> where the Minister is satisfied after January 1, 1984, that utilisation or re-injection is not appropriate or feasible in particular field(s), then he may issue a certificate in respect of the company specifying the terms and conditions as he may at his discretion choose to impose for the continued flaring of gas and also permit the company to continue to flare gas in the particular field(s) if the company pays the prescribed fees as the Minister may from time to time prescribe.

Oche[111] observed that Section 3 (2) (b) of AGRA rendered little assistance in actualising the endeavor to abolish flaring of gas in Nigeria. The said paragraph authorised the flaring of gas on the payment of the prescribed fees. Oche was however of the opinion that it appeared unfavourable to the objectives of the Act.

[110]Cap A25 Laws of the Federation of Nigeria 2004.

[111]Oche, P.N. 2003. *Petroleum law in Nigeria: arrangement for upstream operations.* Jos: Mono Expressions Limited. p. 161.

Section 4 (1) provided for the penalisation of authorisations approved for holders within precise fields with respect to the grant of such concessions. Under circumstances where felonies were committed pursuant to Section 3, such person concerned was to ordinarily act in accordance with the statutory requirements. Subsection 2 required that the Minister might mandate the censorship of the entire privileges or portion of same with reference to any unusual individual in the direction of the fee for accomplishment and execution of an anticipated scheme meant for re-injection or the mending or renovation of any tank situated within the field, apart from fines indicated in subsection 1, adhering strictly to good oil-field practice. Section 5 discussed the authority of the Minister to make regulations. The Act purposed to exterminate flaring of gas in Nigeria. Etikerentse[112] stated that primarily, the emphasis of the law was for gas flaring to completely cease by January 1984. This however did not cease because all oil operators were excluded. He opined that the resolve of the ownership of associated gas was imperative for a truthful acquiescence with the requirements of the Act to be achieved. Atsegbua[113] stated that the Act was abortive in realising its resolve because oil companies found flaring of gas inexpensive than engaging in expensive gas re-injection projects.

2.7.3 Associated Gas Re-Injection (Continued Flaring of Gas) Regulations 2004

The AGRA regulations of 1984 came into force on January 1, 1985.[114] Section 1 deals with the conditions for issuance of certificate for continued flaring of gas as follows:

> a.Where more than 75 percent of the produced gas is effectively utilised or conserved.
> b. Where the produced gas contains more than 15 percent impurities such as: N_2, H_2S, $C0_2$ *etc*. which render the gases unsuitable for industrial purposes.
> c. Where an on-going utilisation program is interrupted by equipment failure, provided such failures do not occur too frequently, from point of view of the Minister, and the period of interruption is not more than 3 months).
> d. Where the ratio of the volume of gas produced daily to the distance of the oil field from the nearest gas line or possible utilisation point is less than 50,000 standard cubic feet / kilometre.

[112]Etikerentse, G. 1985. *Nigerian Petroleum Law,* London and Basingstoke, Macmillan Publishers Ltd: 114.
[113]Atsegbua, L. 2004. *Oil and gas law in Nigeria: Theory and practice* 2nd Edition, Benin, New Era: 199.
[114]Now contained in the Laws of the Federation of Nigeria 2004.

e. Where the Minister in appropriate cases as he may deem fit, orders the production of oil from oil fields that do not satisfy any of the conditions specified in these regulations.

The authorities to evaluate, modify, rework, augment or erase some of these rules and guidelines as the Minister might reckon to be apt, were dealt with in Section 2. These regulations modified the present statute to offer half-finished insusceptibilities for flaring in definite situations. Another amendment additionally braced the provisions of the law in 1985 [115] and fortified an acceptable sum of 2 kobo for each 1000 standard cubic feet (scf) of gas flared. Afterwards, the fine was increased in 1988 to $11dollars per 1000 scf of gas flared. Thereafter, AGRA 2004 and AGR (Amendment) Act 2004 were enacted. The submission of detailed plans for gas utilisation by IOCs involved in operations in the country, by virtue of the statutes was mandatory. The flaring of associated gas devoid of the inscribed authorisation of the Minister of Petroleum Resources (MPR) was outlawed by virtue of the statutes. These measures, nonetheless, were not deterrent enough to eradicate flaring of gas by the oil companies.

2.7.4 Environmental Impact Assessment Act [116]

The Environmental Impact Assessment Act was transmitted as Decree No. 86 of 1992. Environmental Impact Assessment (EIA) involved the appraisal, forecast and communal dialogue of the unswerving and incidental effects that strategies, groups, and asset had on the societal and nationwide environment.

The notion of environmental impact assessment was initiated in the USA. In 1970, the United States Congress enacted the National Environmental Policy Act (NEPA) and subsequently, an environmental impact statement (EIS) was released. It also provided that copies of the statement must be made available to the President of the United States, to the Council on Environmental Quality (CEQ) and to the communal.

The Environmental Impact Assessment Act Laws of the Federation of Nigeria 2004 is apportioned into three (3) parts and sixty-four (64) sections. Part 1 deals with universal

[115]Associated Gas Re-Injection (Amendment) Decree of 1985.
[116]Cap E12 Laws of the Federation of Nigeria 2004.

ideologies on EIA (sections 1-13); part 2 deals with environmental project valuation with reference to EIA (sections 14-59); while part 3 deals with sundry provisions (Section 60-64).The EIA Act empowers National Environmental Standards Regulation and Enforcement Agency (NESREA) to make valuations of any project intended to be carried on in the country by any individual, expert, company or autonomous organisation comprising the management, which is likely to have a consequence on the environment and to further define the extent of the outcome which such activity might have on the atmosphere.

Section 15 of the EIA Act captured types of projects which were exempted from the requirements of EIS. Valuation of some projects approved or funded by the President might be excluded, and also instances when the NESREA council strongly perceive that the consequence of such project would probably be minimal. During periods of emergency, projects to be carried out and those that are seemingly expected to be the concern of public health or safety are also excluded. Section 62 specifies the wrongdoings and the approved punishment. Penalty charge to the tune of one hundred thousand naira or five (5) years imprisonment is meted out for individuals, and for instance a fine for a corporation, which is more than fifty thousand naira but not up to one million naira. However, the difficulty encountered with the EIA is that there is a dearth of inflexible conditions, among other things that can actualise its effective operation. Even though Nigeria's EIA Act has been in existence for more than twenty years, its procedure is problematic.

2.7.5 Flare Gas (Prevention of Waste and Pollution) Regulations 2018

The regulations were issued on June 28, 2018 and made available by the Federal Executive Council. These regulations remain pertinent to owners of oil fields, comprising borderline field owners. The intendment of the regulations was to make available a legal framework to fortify the environment against the effects of flaring of gas, avert unending discard of associated gas and generate societal and profitable paybacks from gas flared.[117] Flaring of gas is unambiguously outlawed and the regulations further presented reporting obligations, whereby gas producers

[117]Regulation 1 (a) – (d) Flare Gas (Prevention of Waste and Pollution) 2018.

were authorised to make flare gas data available at any given time, while similarly yielding once-a-month reports to the Department of Petroleum Resources.[118]

The regulations assured the utilisation of flare gas by authorising the Minister to award certifications which would absolutely license holders of such permits to take flare gas for and as representatives of the Federal Government of Nigeria, from one or more sites.[119]

2.7.6 National Environmental Standards Regulations and Enforcement Agency (Establishment) Act and Amendment[120]

NESREA is the key federal organisation empowered with the fortification and improvement of Nigeria's environment. Section 7 deliberately eliminates the oil and gas segment from the NESREA's authority. However, by virtue of Section 21 of the Act, with respect to ozone protection, National Oil Spill Detection and Response Agency (NOSDRA), another relevant authority, was empowered over oil companies, where harmful substances released to the environment had effects which may reasonably be anticipated to endanger public health.

The Act which was first enacted in 2007, was amended in November 2018, by the NESREA (Establishment) Amendment) Act (Amendment Act) to further empower the NESREA in the protection and development of the environment. The Amendment Act gave the agency discretionary powers and authority to tackle environmental crimes, review the conditions of appointment of some council members, increase penalties and permit the search of premises without warrant.

2.7.7 Nigeria Liquefied Natural Gas (FIGA) Act[121]

The law was circulated as NLNG (FIGA) Decree No. 39 1990, far ahead modified by Decree No. 113 of 1993 and regulates the operations of the NLNG Ltd. in the use of the gas properties in Nigeria and furthermore provides a barrage of fiscal inducements. The NLNG Decree (now Act) was promulgated with inducements, guarantees and assurance by the nationwide government, in order to embolden investment of oil companies in the re-injection scheme. Legal provisions

[118]Regulation 16 and 17 Flare Gas (Prevention of Waste and Pollution) 2018.
[119]Regulation 2 (2) Flare Gas (Prevention of Waste and Pollution) 2018.
[120]NESREA Act No. 25 2007 was amended by NESREA (Establishment) Amendment) Act (Amendment Act) 2018.
[121]Cap N87 Laws of the Federation of Nigeria 2004.

aimed at giving inducements to companies involved in usage of allied and non-allied gas were introduced by the Finance (Miscellaneous Taxation Provisions) Decree.[122]This amendment was premeditated to enact certain key provisions of a previous pact concerning the national administration and IOCs concerning the usage of associated gas.

This agreement was in the form of letters and memoranda. It stated the fiscal inducements approved by the President, widely known as the Associated Gas Framework Agreement (AGFA). Some of the main provisions were tax calculations: gas capital expenditure (CAPEX), capital allowance, abridged tax percentage from 85 to 40 per cent, tax counterbalance and condensates to be conserved as oil while other gas offshoots would enjoy a distinct financial administration.[123]

The Act reputed NLNG as a forerunner establishment restricted by the dictates of the Industrial Development (Income Tax Relief) Act. With deference to tax, NLNG is guided by the ideologies of the Companies Income Tax Act. Revenue, disbursements, proceeds, quantifiable proceeds, aggregate proceeds, and all other sums mandatory for calculation by CITA or any other Act would be calculated in U.S dollars. The NLNG Act pardoned the establishment from certain tariffs, custom charges and superfluous charges. Further fiscal inducements comprised of tax reprieve for a ten-year era starting on the date of paramount dissemination of liquefied natural gas manufactured by the company. The second schedule to the Act (Decree) contained the guarantees, assurance and undertakings made by the federal government, to NLNG Limited and stakeholders and it granted these guarantees in recognition of huge investments, which had been made by the company to carry out its purposes. The Act made available stabilisation clauses, which were designed to encourage the foreign shareholders that there would be stability and that no unilateral changes would be witnessed in the fiscal and legal regime governing the contracts. The minds of the investors were put at rest, as they were more apprehensive of the steadiness of contractual relationship with the host government.[124]

[122]Finance (Miscellaneous Taxation Provisions) Decree No. 18 1998 as an amendment to the Petroleum Profits Tax Act Cap 354 Laws of the Federation of Nigeria 1990.
[123]Rilwanu .L. Nigerian Petroleum Business Handbook p. 286.
[124]Dimowo, F. 2008. The Liquefied Natural Gas Act and 2004 Gas flaring deadline in Nigeria Oil Industry. *Nigeria Education Law Journal* 9.1:189-204 at 199.

2.7.8 Oil Pipelines Act[125]

The Act offered approval of licenses for the institution and upkeep of conduits accompanying and complementary to oil turfs and oil excavating, and for supplementary resolves to such conduits. In *Shell Petroleum Development Company vs. H.B.F.M.C.S Ltd*,[126]the court established the exclusive authority of the federal high court to entertain assertions concerning upstream oil procedures.

2.7.9 Petroleum Act 2004 and the Petroleum (Drilling and Production) Regulations 2004

The dual prime statutes regulated the petroleum sector in Nigeria. The 2004 Act[127] in no way encompassed any requirements bothering on gas usage, however Regulation 42, called for operators to yield to the Minister whichever viability inquiry, scheme or bid for the usage of natural gas, whether or not concomitant with oil, revealed in the pertinent area, within a 5-year period, after production had been initiated. Malumfashi[128] described this law as ruinously defective, as provisions for sanctions against non-compliance were not integrated therein. Yunusa *et al.*[129]suggested that government should embrace gas utilisation policy and there should be intensification of the penalty for companies engaged in gas flaring, while generating electricity from the flared gas.

2.7.10 Bills Regulating Gas Flaring

2.7.10.1 Gas Flaring (Prohibition and Punishment) Bill 2017

The above-mentioned has undergone senate deliberation for probable passage into regulation. At the core of the peculiarities of the bill lies the endeavor for the proscription of flaring of gas in whichever oil and gas manufacture, procedure, masses, turf, whether onshore or offshore, and

[125]Cap O7 Laws of the Federation of Nigeria 2004.
[126]*Shell Petroleum Development Company vs. H.B.F.M.C.S Ltd* (2002) 1 WRN 37.
[127]Petroleum Act Cap P 10 Laws of the Federation of Nigeria 2004.
[128]Malumfashi G.I 2007. Phase-out of gas flaring in Nigeria by 2008: The prospects of a multi-win project. *Petroleum Training Journal (PTJ)* 4:1: 1-39 at 15.
[129]Yunusa N *et al*. 2016. Gas flaring effects and revenue made from crude oil in Nigeria. *International Journal of Energy Economics and Policy* 6.3: 617-620.

gas capacity usage plant operative in Nigeria. This is a rehash of the earlier legislation, which had secured the flare-out deadline for December 2020. The flaring or expelling of natural gas in any oil and gas manufacturing procedure is prohibited by virtue of the bill, as soon as it comes into effect. The bill recognised two cases in point where flaring or venting was allowable namely; where flaring or venting is strictly and parsimoniously defensible and also on commencement, apparatus letdown, shut down or safety flaring. For these two instances, the Ministry of Petroleum Resources approved an authorisation for not more than thirty (30) days.

The bill prescribed inducements and further suggested drawbacks for non-amenability with its requirements. They comprised disbursement of forfeits at the charge for gas at the international market, forfeiture of franchises and issuance of a certificate of forfeiture and a withdrawal of the lease or license hitherto approved.

2.7.10.2 Petroleum Industry Bill 2017

The PIB intended to fuse petroleum productiveness reform proposals. The bill recognised the salutary role of the internal gas aggregator and mirrored the crucial directives of the national oil and gas policy (NOGP) and the national gas master plan (NGMP) with respect to the downstream gas permitting, estimating and source, customer fortification and rivalry. The Bill discussed penalties for gas flaring and simply stated that the Minister of Petroleum Resources would intermittently determine the amount stipulated for flaring penalty. The Bill provided for domestic gas supply obligation (DGSO). It required that gas be made available for domestic use at the applicable level by laying aside a preset percentage of their gas manufacture for stock to the local market.

2.7.10.3 Petroleum Industry Governance Bill 2017[130]

The ascendency and established structure for the petroleum segment and interrelated concerns was provided for in the PIGB. The objectives were mainly the formation of proficient and operative leading establishments with distinct and discrete parts for the petroleum industry; institution of a structure for the institution of commercially-adapted and proceed-compelled

[130]The Petroleum Industry Governance Bill 2017 was passed by Senate on May 25th, 2017. Retrieved on August 6, 2017 from http://www.petroleumindustrybill.com/2017/05/

petroleum bodies that certify worth accumulation and internationalisation of the petroleum industry; advancement of limpidity and answerability in the management of petroleum resources of Nigeria; and nurture an advantageous commercial milieu for petroleum manufacturing tasks.

It discussed the founding of a novel ministry to be celebrated as 'Ministry of Petroleum Incorporated.' The primary focus of the bill was to reshuffle the NNPC by dividing the properties and accountabilities of the establishment into two (2) new commercial entities namely the Nigerian Petroleum Assets Management Company (NPAM) and National Petroleum Company (NPC) respectively.

Worika[131]opined that sheer laws and regulations without the essential political resolve from government were not appropriate to crack the drift. Aghalino[132] indicated that massive flaring of gas in Nigeria should be ascribed to the sloppiness with the operation of Nigerian environmental law. Oyewunmi[133]reported that the repetition of gas flaring still dawdles in Nigeria till date essentially because of the profoundly unbothered established and supervisory configurations.

Ehighelua[134] opined that satisfactory level of enforcement of the statutory and regulatory measures in the public laws would curtail the snags and nuisance of gas flaring in Nigeria. Nwanji[135] considered the legal and environmental outlook to gas flaring and stated that there was no explicit average and time interval for the implementation of government policies. Ajugwo[136] stated that ecological guidelines had not been meritoriously obligatory by government as a result of intersecting and differing dominion of detached administrative interventions directing

[131]Worika, I.L. 2002. *Environmental Law and Policy of Petroleum Development: Mechanisms for Sustainable Management in Africa.* Anpez Centre for Sustainable Development, Port-Harcourt p. 168.
[132]Aghalino, S.O. 2009. Gas Flaring, Environmental Pollution and Abatement Measures in Nigeria, 1969-2001. *Journal of Sustainable Development in Africa* 11. 4: 219-238 at 226.
[133]Oyewunmi, T. 2014. Domestic Gas Utilisation and Power Generation in Nigeria: Examining the Existing Legal and Regulatory Framework, *Proceedings of the 2014 NAEE/IAEE Conference Energy Access for Economic Development: Policy, Institutional Frameworks and Strategic Options,* Adenikinju A *et al.* (Eds.) Nigerian Association of Energy Economics, University of Ibadan: 767-788 at 774.
[134]Ehighelua, I. 2007. *Environmental Protection Law.* Warri: New Pages Law Publishing Company p. 133.
[135]Nwanji, U.E. 2009. Gas flaring: legal and environmental perspectives. *Nigerian Journal of Petroleum, Natural Resources and Environmental Law* 1.1:26-45 at 30.
[136]Ajugwo, A.O. 2013. Negative effects of gas flaring: the Nigerian experience. *Journal of Environment Pollution and Human Health* 1.1: 6-8 at 6.

petroleum and environment-related affairs, coupled with absence of limpidity within ascendency machineries.

Oluduro[137]stated that without a flawless legal framework, effectually containing national gas flaring issues, might be tough, although the influence with Nigeria gas master plan and policy, have not been essentially identified in the productiveness. Mohammed[138]argued that since the inauguration of oil survey until 1979, there remained virtually no legal framework in place to contend gas flaring in Nigeria. Udok and Akpan[139] examined the statutory measures domiciled to restrain the detrimental environmental effects of gas flaring. They also considered the ecological, wellbeing and societal impacts of gas flaring and made references to the effects of gas flaring which rendered the concerned regions tarnished.

2.8 Relevant International Framework

Globally, there is a notable veracity that the undertakings of the advanced and industrialised western countries have over the years been principally prompted by climate change. It therefore resulted in annual conferences and gathering of world leaders and society as international concerns grew exponentially.

2.8.1 UNFCCC 1992

Targeting stabilisation and emphasis of greenhouse gases (GHG) atmospherically was the aim of the 1992 UNFCCC. Industrialised countries were inspired to meet intentional aims of GHG reduction. It was ratified in1994. Nigeria is party to this Convention. Some accomplishments of the UNFCCC are;

a) The climate dialogues through the UNFCCC machinery have over time advanced to include apparatuses for assuagement, variation, funding, know-how and capacity building.[140]

[137]Oluduro, O.F. 2014. The legal implications of gas flaring on climate change in Nigeria. *Journal of Law , Policy and Globalisation* 29: 168-175 at 172.
[138]Mohammed, J.I. 2016. Comparing Nigeria's legal framework for combating gas flaring with that of Norway- lessons for Nigeria. *Imperial Journal of Interdisciplinary Research (IJIR)* 2. 9:1252-1261 at 1253.
[139]Udok, U. and Akpan, E.B. 2017. Gas flaring in Nigeria: problems and prospects. *Global Journal of Politics and Law Research* 5.1: 16-28 at 17.
[140]Hamadoun, I. 2014. Celebrating 20 years of the UNFCCC. Retrieved on April 20, 2016 from http://itu4u.wordpress.com/2014/04/04/celebrating- 20- years-of-the-unfccc/

b) The Convention was paramount in globally recognising and engaging in climate change debate. The convention has equally expedited global dialogues on climate change. Presently, over sixty (60) countries have climate regulation.[141]
c) The main accomplishment of this convention is the Kyoto Protocol, which established legally mandatory aims on emission reduction.

However, the Convention had been largely criticised, that the diction couched by the draftsmen were excessively slack or wobbly to ensure acquiescence. For instance, "should" was used often instead of imperative words like "must", "will" or "shall."

2.8.2 Kyoto Protocol 1997

This Protocol to the UNFCCC was endorsed in 2005 and arrayed a well-founded program for decline of GHG emissions by annex 1 countries, and strong objectives to come across contained in a decided obligation era. The Protocol had two commitment periods namely; from 2005-2012 and from 2012-2020. The aim of article 2 of the protocol was to render stable greenhouse gas absorptions in the air at a rate where averting hazardous anthropogenic meddling with the weather scheme.

Clean Development Mechanism (CDM) is a market instrument which was comprehended during the Kyoto Protocol dialogues to link the breach between urbanised and emerging countries. CDM was established and categorised as Article 12 of the Kyoto Protocol.[142]Projects in emerging nations through the CDM, permitted the enumeration and supervision of greenhouse gas discharge diminutions under the United Nations, and consequently allowed rebate merchandising to urbanised countries which had discharge restrictions.

Article 12 (2) stated the objectives to be achieved by the clean development mechanism (CDM) as supporting emerging nations to attain maintainable enlargement and supported urbanised nations in conforming with their release decline pledges and donating to the accomplishment of the ecological objectives of the framework pact.

[141]Ibid
[142]Olawuyi, D. 2009. Achieving sustainable development in Africa through the clean development mechanism (CDM): legal and institutional framework. *African Journal of International and Comparative Law*17: 1-22 at 3-5.

Annex b to the protocol set out specific commitments of annex 1 countries to lessen their global greenhouse emissions by 5.2% below 1990 levels over the 2005 to 2012 period.[143] Kyoto protocol was the first universal treaty to inaugurate legally-binding emission slashes for industrialised nations. It was the most widely known protocol which followed the UNFCCC. It should also be noted that Nigeria did not domesticate the Kyoto Protocol. This had therefore altered the move for gas utilisation's reliance on the benefits offered by the protocol.

Olawuyi[144] noted that the interchange of certified emission reductions (CERs) and emission decline projects were encompassed in the CDM process and that urbanised countries were permitted to cherry pick the emerging country within which they intended to instigate their emission decline procedure. Nations with astonishing decline capacity, apt investment environment and apposite lawful context on CDM execution were most likely found alluring to CDM investments for certified emission decline schemes.

2.8.3 Paris Agreement 2015

The Paris Conference of 2015 recognised the deathtrap of climate change to human civilisation and the world and accordingly necessitated an exigent and potentially far reaching collaboration amongst all countries with the outlook of fast-tracking the wane of global (GHG) emissions.[145] The hastening of carbon pricing was an essential step towards advancing the Paris agreement adoption, which was equally the most operative policy tool in confronting emissions unswervingly. Article 6 of the Paris Agreement dealt with carbon market requirements and inaugurated a new instrument which added to the alleviation of greenhouse gas emissions and back-up of viable improvement.[146] The prospect to enlarge the reach of carbon pricing to enable full implementation of countrywide resolute aids was provided for under article 6. This was steered by the vigorous ideologies of safeguarding ecological dependability and circumventing dual calculation.

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[143]Birnie, P.W. and Boyle, A.E 2002. *International law and the environment* 2nd Edition. Oxford: Oxford University Press p. 526.
[144]Olawuyi, D. 2009 Op. Cit. p 1-22.
[145]Paris Agreement. Retrieved on September 14, 2016 from https://unfccc.int./files/application/pdf/
[146]Marcu, A. 2016. Archive of European Integration (AEI) Carbon Market Provisions in the Paris Agreement (Article 6) CEPS Special Report No. 128 January 2016.

Article 6 had two configurations;[147]

i) It pronounced usage of universally transferred assuagement consequences. The perception of carbon units interchange, either hypothetical or factual, should be a groundwork feature of any ITMO to guarantee apt book-keeping.
ii) It instituted an instrument meant to add to the assuagement of GHG discharges, or an emission assuagement mechanism, and back viable improvement.

The Federal Government of Nigeria signed the Paris agreement on September 22, 2016, ratified it on May 16, 2017 and it came into force on June 15, 2017. The agreement, as expected, has located the podium for endeavors relevant to climate change. It was therefore envisioned, within a couple of years, that a high-pitched descent in global emissions would occur, when all parties to the agreement would adopt a global pathway to de-carbonation.

2.9 Major Gas Utilisation Projects

A worthwhile option for varying the frugality of Nigeria through re-injection, power generation, and conveyance of gas through conduits and transformation of the gas to liquids, which can be conveyed painlessly, was projected within the sphere of gas utilisation. The federal government through the NNPC and her multinational JV partners were energetically trailing gas utilisation projects directed at coupling her gas resources economically for example, the NLNG project. Omorogbe stated that associated gas utilisation was subject to the domestic gas market capability and the fiscal phase of utilisation in relation to flaring.[148]

Associated gas utilisation outlays aggregated to non-associated gas and reinjection outlays multiplied in ten places. However, the cost implication for utilisation of non-associated gas and or re-injection is more lavish when compared to flaring.[149] Gas utilisation in Nigeria accounts for about 24 percent of gross production.[150]Sub-Saharan Africa as a whole and Nigeria in particular,

[147]IETA Climate Challenges Market Solutions 2016. A Vision for the Market Provisions of the Paris Agreement Retrieved on September 14, 2016 from http://www.ieta.org
[148]Omorogbe, Y. 1996. Law and investor protection in the Nigerian natural gas industry. *Journal of Energy and Natural Resources Law* 14. 2: 181.
[149]Khan, S. 1994.*The Political Economy of Oil.* London: Oxford University press p. 160.
[150]Ibid p. 159.

undergo a lack of infrastructural funding and practicable gas utilisation arrangements. Additionally, minimal or zero inducement to the respective companies to search for, or advance, or utilise gas,[151] thus making gas flaring a cheaper option.

Gas utilisation over the years, had occurred with the pact of the oil company, which had been granted lease to engage in oil and gas operations, specifically within the arena where the natural gas was located. Gas utilisation had been at a slow pace and until recently, gas projects were few. The federal government had tried to enforce utilisation in the late 1960s to early 1980s but lacked the finance and the required partisan resolve to bind great amounts of money to gas utilisation projects.[152]Associated gas discarding had been a main task the oil and gas industry in Nigeria is faced with. Major oil companies brought on board several projects aimed at reducing gas flared in the course of their operations and utilisation schemes for commercial and industrial, as well as for universal resolutions. Nigeria had eleven (11) duly registered CDM projects, out of which five (5) are gas utilisation registered projects under the UNFCCC. Some of them are Kwale gas project, Pan-Ocean gas utilisation project, Adscan methane avoidance project and Asuokpu/Umutu gas recovery and marketing facility.

2.9.1 Nigeria Liquefied Natural Gas Project

NLNG limited was integrated as a limited liability company on May 17, 1989, to couple the nation's massive gas resources and yield LNG and NGLs for export.[153] The company was held by four shareholders namely: Federal Government of Nigeria represented by Nigerian National Petroleum Corporation (NNPC) (49%); Shell (25.6%); Total Gaz Electricite Holdings France (15%) and Eni (10.4%).[154]With the exception of the NLNG, no other LNG project has come on stream. It is the solitary LNG project functioning in Nigeria.[155]The NLNG trade had so far chronicled attainments in Nigeria. However, with current global trends, a lot more improvement in the sector was required to ensure that Nigeria had a reasonable advantage.

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[151]Ibid
[152]Omorogbe, Y. 2008. Why we have no energy. University Lecture, Ibadan university press p. 45.
[153]NLNG Company profile. Retrieved on October 23, 2015 from http://www.nlng,com/our-company/profile/
[154]ibid
[155]Obebe, K. and Adegoke, B. 2016. *Nigeria-Oil and Gas Regulation 2016, International Comparative Legal Guide (ICLG)* Bloomfield Law Practice United Kingdom. Retrieved on May 9, 2016 from http://www.iclg.co.uk/uploads/publications/images/O&G16/chapter-24/mexico-1-jpg/

2.9.2 West African Gas Pipeline Project

The production capacity of WAGPP was 475 million metre standard cubic feet (mm scf) per day and delivered the gas from Ogun State, Nigeria to Togo, Republic of Benin and Ghana. It was a project mutually owned by Shell, Chevron and NNPC. The delivery of 200mm scf of gas per day to the above-named countries was the primary goal of the project. Although the project was in operation, it is however underutilised and had failed to deliver the anticipated volume of gas at the respective countries.[156]

2.9.3 Pan Ocean Gas Utilisation Project

Pan Ocean Oil Corporation, operator of Pan Ocean/ NNPC joint venture, had continued dedicatedly in its quest to improve the unattractive environment of gas production in Nigeria. The company had demonstrated through its gas ingenuity, the qualities of a trailblazer in its operations aimed at achieving a sterile and improved environment, export revenue for the country and yield for the establishment.

Pan Ocean had delivered the largest single CDM project in Africa, located at Ovade-Ogharefe, Delta State. With maximum capability, the project was estimated to provide 135mscf/d gas for electricity generation. It was designed to reduce GHG by more than 2million tons of CO_2 annually. The project was value worthy and endorsed by the Chairman and Managing Director of Pan Ocean, Dr. Festus Fadeyi, due to the gas that would have otherwise been flared, but would be vended to urbanised nations to create revenue for the State.

2.10 Impact of Gas flaring

Gas flaring bearing within the precincts of Niger Delta can be classified into environmental, health and socio-economic impact respectively.

2.10.1 Environmental Impact

Flaring of gas has had dilapidating impacts on the environs. When gas is flared, enormous amounts of methane, which have amazing global heating predictions, are unrestrictedly

[156]Shokoya, Y. and Iledare, O. 2014. Impact of PIB 2012 on the LNG Projects in Nigeria. *Proceedings of the 2014 NAEE/IAEE conference energy access for economic development: policy, institutional frameworks and strategic options,* Adenikinju A *et al.* (Eds.) Nigerian Association of Energy Economics, University of Ibadan: 725-741 at 728.

concentrated into the air. Flaring results in the diffusion of high temperature radioactivity and current devolution into the environs, which in turn render large areas ram shackled. Ajugwo[157]conducted a study on the negative bearings of flaring gas. Ayoola[158]argued that gas flaring discharged greenhouse gases into the air in oil rigs and wells, thus contributory to climate change. Martinot and McDom[159]argued that Nigeria had remained branded as one of the highest emitting countries of GHG in Africa. The incessant flaring of gas attributable to the IOCs and indigenous companies functioning in Nigeria had remained a main avenue for the diffusal of GHGs in the air. Carbon dioxide diffused in this region is amongst the highest recorded universally.

Umukoro and Ismail[160]attempted a forecast of carbon, carbon dioxide, nitrous oxides, nitrogen and sulphur discharges from flaring of associated natural gas. Their study deliberated twelve (12) natural gas samples and advanced a prototype to envision and offer data. They argued that gas flaring was still extensively utilised as a preference for associated gas in oil production particularly where scant production structure for utilisation of gas exists. Ali and Heo [161]concentrated their study on the correlation between domestic utilisation of gas and improvement of energy proficiency in Nigeria and how congregation of both of them could bring about viable pecuniary growth and enhancement in Nigeria.

Odumugbo[162] opined that flaring of gas uninterruptedly has contrary consequences on the nation's ecological sustainability, particularly the precincts of Niger Delta, where majority of the

[157]Ajugwo, A. 2013. Negative effects of gas flaring: the Nigerian experience. *Journal of Environment Pollution and Human Health* 1.1: 6-8.
[158]Ayoola, T.J. 2011. Gas flaring and it's implication for environmental accounting in Nigeria. *Journal of Sustainable Development* 4. 5: 244-250.
[159]Martinot, E and McDom, O. 2002. Promoting energy efficiency and renewable energy. GEF climate change projects and impacts. Global Environmental Facility, Washington DC.
[160]Umukoro, G.E. and Ismail, O.S. 2015. Modelling emissions from natural gas flaring. *Journal of King Saud University-Engineering Sciences* xxx, xxx-xxx (article in press):1-5 at 1. Retrieved on June 6, 2016 from http://www.dx.doi.org/10.1016/j.jksues.2015.08.001
[161]Ali, G.A. and Heo, E. 2014. Efficiency in domestic gas production and utilisation for sustainable economic growth in Nigeria. *Proceedings of the 2014 NAEE/IAEE conference energy access for economic development: policy, institutional frameworks and strategic options,* Adenikinju A *et al.* (Eds.) Nigerian Association of Energy Economics, University of Ibadan: 850-865 at 864.
[162]Odumugbo, C.A. 2010. Natural gas utilisation in Nigeria: Challenges and opportunities. *Journal of Natural Science and Engineering* 2:310-316 at 314.

nation's oil and gas activities are conducted. Ecological squalor associated with gas flaring has also impelled massive pecuniary damages.

Elvidge *et al.*[163] conducted a relative examination of key oil producing countries from 1994-2008, within which period their gas flaring proficiency was calculated. They stated that gas flaring proficiency remains capacity of gas flared for every barrel of crude oil manufactured. Results showed that flaring proficiency of Nigeria improved from 2005-2008, signifying that gas flaring reductions are expected to result in either re-injection, improved utilisation of gas, undeviating atmospheric venting of gas. The authors were of the view that a major reason for the unrelenting flaring of gas is due to the lack of structure which makes it unbearable to commoditise the gas.

The recent position on the proficiency of Nigeria with respect to harnessing flared gas to stimulate economic growth and drive investments in oil producing communities was initiated when the Federal Executive Committee approved the Nigerian Gas Flare Commercialisation Programme (NGFCP). The initiative was launched by the Minister of State for Petroleum Resources on December 13, 2016.[164]The initiative promises to bring on board economically viable gas flare capture projects, wherein flare gas would be offered for sale through transparent and competitive bid processes.[165]

Ibeanu[166] pointed out that acid rains are caused by flaring of gas within the neighborhood of human abodes. Wreckage of terrestrial and fishing waters, deforestation and annihilation of wildlife are caused by gas flaring and also leads to intimidation of resource streams and incomes. Edino *et al.*[167]found that the Niger Delta inhabitants viewed gas flaring as precarious to

[163]Elvidge, C.D.*et al.* 2009. A fifteen year record of global natural gas flaring derived from satellite data. *Energies* 2.3: 595-622 doi: 10.3390/en20300595.
[164]Nigerian Gas Flare Commercialisation Programme (NGFCP) 2016. Retrieved on March 7, 2019 from http://www.ngfcp.gov.ng.
[165]ibid
[166]Ibeanu, O. 2008. Affluence and affliction: The Niger Delta as a critique of political science in Nigeria. Being a 27th inaugural lecture of the University of Nigeria, Nsukka delivered on February 20, Nsukka: University of Nigeria Press.
[167]Edino, M., Nsofor, G. and Bombom, L.2010. Perceptions and attitudes towards gas flaring in the Niger Delta, Nigeria. *The Environmentalist* 30.1: 67-75.

healthiness, environment and the overall wellbeing of the oil business host populations. Another adverse environmental impact on gas flaring is the displacement of persons from their regular dwellings to alternate localities.

2.10.2 Health Impact

World Health Organisation (WHO)[168] in its municipal air value database reported that 98.0 per cent of metropolises in little and intermediate revenue countries do not meet WHO midair value procedures. The report stated that there was an intensification of the menace of ailments like stroke, heart disease, melanoma of the lungs and protracted and critical respirational ailments such as asthma, bronchitis, even though the value of air in the urban areas decline. According to Dr Flavia Bustreo,[169] air effluence is a major source of ailment and bereavement. It is a welcome development that additional metropolises are striding up to monitor air value, so there would be a touchstone or yardstick when arrangements are made to escalate it. Universal aid on inceptions and boundaries for basic air contaminants that place or constitute wellbeing threats are accessible by WHO's air quality guidelines. The guidelines indicate that through a reduction of particle effluence, there could be a 15.0 per cent approximate decline in air effluence associated demises.

Gas flaring has disadvantageous bearings on the health and living of the affected communities. During the course of flaring gas, pollutants such as nitrogen dioxide, sulphur dioxide, benzene are discharged unrestrictedly into the air. These may cause blood-related diseases, bronchitis, skin cancers and also prevent chlorophyll formation in plants.[170] Ovuakporaye *et al.*[171] noted that health problems such as melanoma, asthma, plasma maladies, respirational disorders, abridged life prospect and malformations in offspring, through the risks which are advanced amongst expectant and post-natal women.

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[168]World Health Organisation. 2016. Air pollution levels rising in many of the world's poorest cities. Retrieved on May 12, 2018 from http://www.who.int/en/news-room/detail/12-05-2016-air-pollution-levels-rising-in-many-of-the-world-s-poorest-cities/

[169]Dr. Flavia Bustreo, WHO Assistant Director General, Family, Women and Children's Health. Retrieved on May12, 2018 from http://www.who.int/en/news-room/detail/12-05-2016-air-pollution-levels-rising-in-many-of-the-world-s-poorest-cities/

[170]Okorowo, C. 2014. Gas flaring in the Niger Delta Nigeria: An act of inhumanity to man and his environment. *World Academy of Science, Engineering and Technology International Journal of Social, Behavioural, Educational, Economic, Business and Industrial Engineering* 8.7: 2346-2349.

[171]Ovuakporaye, S.I.*et al.* 2012. Effects of gas flaring on lung function among residents of gas flaring community in Delta State, Nigeria. *Research Journal of Environment and Earth Sciences* 4. 5: 525-528.

Orimoogunje *et al.*[172] reasoned that the procreative system of women is exaggerated by gas flaring, as some have fertility issues. Ite *et al.*[173]stated that blazing and expelling of gas concomitant to petroleum assessment and manufacture within the precincts of the Niger Delta, have had dire consequences on vigor, healthiness, ordinary surroundings, socio-economic milieu and viable improvement over the little historical times.

2.10.3 Socio-Economic Impact

Harmful substances like methane, propane, ethane *etc.* pool through atmospheric humidity to transform into acid rain, which in turn drops on roof tops and farmlands, damaging crops and livestock. Gaffer[174]emphasised that gas flaring complements climate change, food uncertainty, forfeiture of plant life, contamination of water and little revenue. Diugwu *et al.*[175]attributed the inability to optimally utilise our massive gas reserve capacities to the relentless flaring activities conducted in Nigeria. They further argued for improved guideline and administration of the gas segment in order to optimally utilise the nation's gas potentials. They resolved that gas flaring has a destructive influence on the economic growth of Nigeria. Adekomaya *et al.*[176]argued that gas flaring was stimulated to the disadvantage of infrastructural improvement.

According to Amnesty International,[177] over forty years of oil search and manufacture undertakings have reportedly lingered an unpleasantly tarnished environment within the precincts of the Niger Delta. With the visualisation for all individuals to relish every single right embedded in the Universal Declaration of Human rights and other global anthropological rights standards, Amnesty International investigation groups stopped by eight sites in Rivers and

[172]Orimoogunje, O.I. *et al.* 2010. Perception on the effect of gas flaring on the environment. *Research Journal of Environmental and Earth Sciences* 2. 4: 188-193.
[173]Ite, A.E. and Ibok, U.J. 2013. Gas flaring and venting associated with petroleum exploration and production in the Nigeria's Niger Delta. *American Journal of Environmental Protection* 1.4: 70-77.
[174]Gaffer, E. 1996. Exploring the Earth : Introduction to Physical Geology. Strahler Publishing Company third edition, California, USA.
[175]Diugwu, I.A., Ijaiya, M.A, Musa, M. and Egila, A.E. 2013. The effect of gas production, utilisation, and flaring on the economic growth of Nigeria. *Natural Resources* 4:341-348 at 345 , doi:10.4236/nr.2013.44041 published online August 2013 (http://www.scirp.org/journal/nr*)*
[176]Adekomaya, O.*et al.*2016. Gas flaring and it's impact on electricity generation in Nigeria. *Journal of Natural Gas Science and Engineering* 29:1-6. Retrieved on 6th June 2016 from http://www.sciencedirect.com/science/art
[177]Amnesty International Nigeria: Petroleum, Pollution and Poverty in the Niger Delta (Report) June 2009. Amnesty International Publications, London: 1-143. AI-Index AFR 44/017/2019.

Bayelsa States, to dialogue with some indigenes of the communities that were negatively impacted by air contamination and the anthropological rights desecrations occurring in their neighborhoods. Ineffectual observation by government within the affected oil producing areas was reportedly a common theme. Amnesty's report drew attention to the federal government's failure to ensure self-governing rule of the oil industry and the administrative restraints were found to have attributed to the lack of ability and resources to implement environmental laws and ideals.

Having captured the impact of flaring of gas on the Niger Delta from the ecological, health as well as socio-economic vista, this study contended that it was imperative to monitor and advance air quality in Nigeria by regulating gas flaring, as the minority and low-income communities located within the Niger Delta region suffer from the despicable air quality violation.

CHAPTER THREE

THE NIGERIAN OIL AND GAS INDUSTRY

3.1 Introduction

The chapter provided a historical review of the oil and gas segment in Nigeria, while focusing on the institutional framework and contractual arrangements directing procedures related to oil and gas in the nation.

3.1.1 History of Oil and Gas in Nigeria

The unearthing of blasts in Nigeria is integrally connected with oil.[178] This is because gas was found while oil companies bore oil in the Niger Delta.[179]Petroleum quest took place in 1908, when surveyors from Germany rummaged for oil in the Araromi area of Ondo State.[180] The solitary concessionary privileges pertaining to the entire terrain of Nigeria was bestowed on them. This attempt was futile and as soon as the world warfare broke out in 1914, the attempt to explore for petroleum was frozen.[181] Oil search within the Niger Delta recommenced in 1947 after the Second World War and Shell D'Arcy, being the only oil company engaged in oil exploration at that time, drilled some oil wells in 1951. Mobil Producing (Nigeria) Ltd. thereafter got the oil exploration license and inaugurated operations in Nigeria.

Marketable measure of oil finding was first made around 1956 in Oloibiri by Shell d'Arcy[182] (later identified as Shell-British Petroleum). Subsequently, Afam discovered a succeeding oil turf. Rudimentary oil produced from Oloibiri and Afam turfs were shipped by Shell British Petroleum in February 1958.

Shell's sole concessionary rights were revised in 1959, and this resulted in the deferment of numerous rights to superfluous multi-national oil companies, such as Mobil, Gulf oil company (now Chevron), Agip, Safrap (Elf), Teneco and Amoseas (Texaco/ Chevron), Eni, Philips and

[178]Kupolokun, F.M. 2006. Nigeria and the future global gas market, Houston: The James A. Baker III Institute for Public Policy, Rice University p. 8.
[179]Obaje, N.G. 2009. *Geology and mineral resources of Nigeria*, Berlin, London: Springer p.1-221.
[180]NNPC Business Information: Development of Nigeria's Oil industry. Retrieved on August 6, 2017 from http://www.nnpcgroup.com/nnpcbusiness/businessinformation/oilgasinnigeria/developmentoftheindustry/
[181]ibid. Also Omorogbe, Y. 2001. *Oil and Gas Law in Nigeria*, Lagos: Malthouse Press Limited. p.16 at 17.
[182]NNPC Business Information Op Cit.

Pan Ocean oil corporation. Shell, nevertheless, relics as the leading producer of Nigerian oil as a consequence of the domination it hitherto enjoyed.[183]

Insufficient legislation on petroleum had previously existed before the emergence of exploration activities in Nigeria. The paramount legislation was the Petroleum Ordinance of 1889, strictly shadowed by the Mineral Regulation (Oil) Ordinance of 1907. These legislations formed the equilibrium for the progression of petroleum resources in Nigeria. The existing petroleum legislation was abrogated by the Petroleum Act 1969. The Petroleum Act together with the Petroleum (Drilling and Production) Regulations, form the bedrock or substratum upon which the legal structure for the regulation of the oil and gas segment lies.[184]

The Department of Petroleum Resources (DPR) Inspectorate was inaugurated in 1970. The paramount countrywide oil corporation, the Nigerian National Oil Corporation (NNOC), remained till 1971. There was a merger between Nigerian National Oil Corporation (NNOC) and the Federal Ministry of Mines and Power, which led to the conception of the Nigerian National Petroleum Corporation (NNPC) in 1977. Nigeria patrioticised British Petroleum's assets wholly in 1979 and Shell-BP became Shell Petroleum Development Company of Nigeria (SPDC).

The oil and gas industry in Nigeria is detached into three (3) strategic sectors namely the upstream, midstream and downstream sectors. For the purpose of this study, only the upstream sector shall be deliberated, as gas flaring activities are conducted within this sector.

3.1.2 Upstream Sector

The upstream sector is at the helm of the search for, reclamation and manufacture of crude oil and natural gas. This subdivision is also known as the 'exploration and production' (E and P) sector.[185] The major oil companies that partake in the Nigerian upstream sector include Shell, Exxon Mobil, Chevron, Eni, Agip and Total. These international oil companies (IOCs) account for about 97% of Nigeria's oil reserves and production. They are engrossed in joint ventures with

[183]Omorogbe Op.Cit p.17.
[184]Omorogbe Op.Cit p.19.
[185]Petroleum Services Association of Canada (SPAC). Retrieved on September 8, 2017from http://www.spac.ca/business/industry-overview/

Nigeria National Petroleum Company (NNPC) as operators/contractors under production sharing contracts (PSC).

Major activities within the upstream segment comprise the pursuit for prospective backstage or submerged oil and gas turfs, boring of investigative pits and thereafter setting up of the pits which recover and fetch rudimentary oil and ordinary gas to the exterior.[186] This segment is the most important segment of the Nigerian economy, as it is attributable for over 90% of its total exports.

As soon as the international oil companies are conferred with the rights to explore, then upstream activities can be carried out. The Petroleum Act 1969 stated that the whole proprietorship and regulation of all petroleum in, beneath or above whichever acreage in Nigeria was bestowed on the Government. The law conveyed that a contract or authorisation under the Act possibly will be approved merely on behalf of a registered countrywide firm subject to Companies and Allied Matters Act (CAMA) or whichever equivalent statute.

The Court of Appeal in *Nwadioro & 2 Ors. V. Shell Petroleum Development Company of Nigeria Ltd.*[187]held that the Petroleum Decree No. 51 of 1999 (now Petroleum Act) authorised the Minister to award an oil exploration license, oil prospecting license and oil mining leases to a Nigerian national or a firm registered in Nigeria, subject to the Companies Decree, 1968 or any other analogous regulation. In any of the three licenses, whatsoever right was bestowed on a concern, the reversionary right was reserved in the grantor. The Act additionally posited that only Nigerian nationals or companies registered within Nigeria could remain bestowed or conferred with the above-mentioned licenses.[188]

3.1.2.1 Oil Exploration License[189]

The OEL terminates on 31st of December every year wherein the conferment was made. Its perpetuation is only for one year. The right bestowed is non-exclusive and in respect of the same

[186]ibid
[187]*Nwadiaro & 2 Ors.v Shell Petroleum Development Company* Nigeria Oil and Gas Case Law Reports Vol. 1 (1961-1995) 205 C.A.
[188]Section 2 Petroleum Act 2004
[189]Paragraph 1-3, schedule 1, Petroleum Act 2004.

area, several persons may be allotted licenses. The licensee has the right to conduct activities consisting of a maiden exploration by superficial, ecological and geophysical procedures comprising above ground assessments but not including boring beneath 91.44 metres.

3.1.2.2 Oil Prospecting License[190]

This license convenes special privileges to ascertain and watch for petroleum for a thoroughgoing preliminary five-year term. Similar to the case of the OPL, it is projected that the expanse applied for would have delineations of conventional lines successively mapped with guidelines starting northward-southward and eastward-westward. It is instructive to note however that OPLs are the major medium through which exclusive rights are bestowed on the respective holders of such license.

Nigerian National Petroleum Corporation (NNPC) signed a production sharing contract (PSC) with Elf Petroleum Nigeria Limited. It is instructive to note that oil prospecting licenses can, be transformed to oil mining leases, after certain years, if the relevant holders are desirable of such arrangements.

3.1.2.3 Oil Mining Lease[191]

The OML confers or bestows special rights in respect of the lease area and similarly confers interests in respect of petroleum uncovered surrounded by the expanse sheltered by the lease.

An OML can stay contracted to the owner of an OPL who gratified all the state of undertakings enforced on the authorisation or else enforced on him by the Act and uncovered oil in marketable magnitudes. An OML has a perpetuation of twenty (20) years, which must not be exceeded, but may be renewed.

3.1.2.4 Rights and Controls of holders of OMLs and OPLs

OPL as well as OML holders have definite rights and powers over the licensed or leased areas embedded in Part 111 of the Petroleum (Drilling and Production) Regulations. These rights

[190]Paragraph 5-7, schedule 1, Petroleum Act 2004; Regulations 2 (2), paragraph 10-13, Petroleum (Drilling and Production) Regulations 2004.
[191]Paragraph 8-11, schedule 1, Petroleum Act 2004.

remain however subject to the pertinent regulations and authorisation of the Manager of the DPR, a division situated in the Petroleum Resources Ministry at the national level. These rights and powers may be applied unswervingly through the licensee or lessee, or the respective agents.

The licensee may:

a) censor down and clear timber and undergrowth;
b) create thoroughfares;
c) apply and utilise water found, with the proviso that there is no interference by way of water rights relished by the group of people contained in the relevant area;
d) build, transport, sustain, adjust, control, disassemble, do away with:
i) manufacturing constructions and connections, including boring podiums, locomotives, control plants, flow-lines, stowage tanks, stacking stations, anchorages, docks, berths, moles; landing places and wellheads;

ii) mechanisms of communications, comprising cellular phones and non-cabled locations;

iii) services for freight and airplane:

iv) existing lodging and conveniences for personnel and workers of the licensee or lessee: and

v) additional edifices, systems, mechanisms, possessions and personal property;

e) plunge; and

f) exploration, excavation and acquire unrestricted of charge grit, soil, earthen and pebble not affixed to whichever license or lease within vacant state-run property. This is on condition that it will not be vended, and that on cessation or accomplishment of labor, all pits will be inflated or flattened out, and reinstated as far as is achievable, to the preliminary situation.

3.2 Petroleum Agreements

A legal commitment of two or more parties with reference to an undertaking is delineated in every contract. A contract can be defined as a pact duly recognised by law as mandatory on the parties thereto. The Nigerian oil and gas industry has four diverse types of petroleum

agreements.[192] These arrangements preserve the contractual structure within which NNPC, representing the Nigerian government and the international oil firms, undertake petroleum procedures nationwide. The legal obligations of the parties concerned are set out in the agreements. They include joint operating agreements, production sharing contracts, service contracts and memorandum of understanding.[193]

3.2.1 Joint Operating Agreement (JOA)

The joint venture processes are instigated with JOA. The JOA is the rudimentary, systematic pact concerning NNPC and the operators. This agreement defines how the operators function. It is at variance with the memorandum of understanding (MOU). The JOA encompasses the rudimentary deliberation on the joint venture (JV), while the memorandum of understanding reacts to the basics of financial inducements.[194]

3.2.1.1 Key Features of the Joint Operating Agreement (JOA)

Under a JOA:

1) A solitary partner is elected as operator, to ensure the smooth administration of diurnal activities of the joint operations.
2) The right to turn out to be an operator is reserved for NNPC.
3) Altogether the partakers in the contract share overall cost of operations.
4) Going by the proviso to the disbursement of petroleum profit tax (PPT) and royalty, every single partner remains entitled to boost and independently array its interest portion of production.
5) Tenders for programme of exertion and financial plan of joint expenditure annually are prepared by the operator and shared on the shareholding basis.
6) Every single partner has the priviledge to tenaciously carry on sole risk operations.
7) Discussion of technical matters and policy resolutions are taken at operative teams where associates are embodied on the foundation of parity allotment.

[192]National Petroleum Investment Management Services (NAPIMS). Retrieved on August 5, 2017 from http: //www.napims.com/dynamic.html
[193]ibid
[194]Joint venture operations: NNPC business upstream ventures. Retrieved on August 5, 2017 from http://www.nnpcgroup.com/nnpcbusiness/upstreamventures /

Oladunjoye[195] examined the rampant regulatory threats and legal consequences of integrating existing and future combined undertakings in the Nigerian petroleum industry attributed to the continuing permissible restructurings in the industry. He suggested that any category of regulation or policy which will disturb the processes of existing and future joint ventures should be exhibited in such a way that opportunity would be given for decline and risk remoteness.

It is instructive to note that under joint venture contracts, the degree of envelopment of every participant in the administration of the company's undertakings is established in the involvement agreement. This agreement also resolves the paybacks and commitments of the respective parties. The agreement equally influences the proprietorship of manufacture services and chattels. In Nigeria, the six (6) JVs concerning NNPC and overseas maintained oil concerns are wrought via the ensuing concerns;

1) Shell Petroleum Development Company of Nigeria Ltd. (SPDC)

A JV wrought via Shell discloses financial accounts of more than 40% of Nigeria's overall oil manufacture from over eighty oil turfs. The JV consists of NNPC (55%), Shell (30%), Elf (10%) and Agip (5%). The JV functions onshore, offshore and in the swamps.

2) Chevron Nigeria Ltd. (CNL)

This JV comprises of NNPC (60%), Chevron (40%). It was hitherto the succeeding prevalent producer (roughly 400,000 barrels per day) with fields in Warri region, west of the river Niger and offshore in superficial water. It has been recounted that there is an ambition to escalate its production to 600,000 bpd.[196]

3) Mobil Producing Nigeria Unltd. (MPNU)

This joint venture between NNPC (60%) and Mobil (40%) functions in shallow waters off Akwa Ibom State in the Southeastern Delta. It was the second largest producer. In addition, Mobil holds a 5% interest in a production sharing contract (PSC) for a deep-water mass further off-seashore.

[195]Oladunjoye, O.M. 2013. Incorporated joint ventures in the Nigerian Petroleum Industry: Examining the legal implications and regulatory risks. *Oil, Gas and Energy Law Intelligence (OGEL)* 11.2: 1-13 at 4.
[196]ibid

4) Nigeria Agip Oil Company Ltd. (NAOC)

A joint venture operated by AGIP and owned by NNPC (60%), Agip (20%), and Phillips Petroleum (20%) produces 150,000 bpd mainly from small onshore fields.

5) Elf Petroleum Nigeria Ltd. (EPNL)

The JV exists concerning Nigeria National Petroleum Corporation (60%) and Elf (40%) both for onshore and offshore operations.

6) Texaco Overseas Petroleum Company of Nigeria Unltd. (TOPCON)

This JV wrought by Texaco is retained by NNPC (60%), Texaco (20%) and Chevron (20%) now producing an average 60,000 bpd from 5 offshore fields.

Marshall[197]examined the joint operating agreement in order to establish the vision of solitary peril and non-approval phrases within joint operating agreements, among oil companies who have principally assumed to assuage countless amounts of outlays and threats by making combined submissions for license domain. Peters and Kumar[198] distinguished between joint venture contract and joint operating agreement and opined that joint venture occasions co-ownership of property of the scheme and involvement in its controlling actions, while joint operating agreement is a joint venture arrangement which developed from the joint venture contract.

3.2.2 Production Sharing Contracts (PSC)

It is renowned that there is no universally or totally proven ideal of PSCs; each country has established its own prototype according to their distinctive idiosyncrasies. Duval *et al.*[199]observed that PSC has reserved rudimentary configurations which make provision for the host country (HC) cherry-picking the IOC unswervingly or via the countrywide oil corporation, as the distinctive "servicer" to instigate petroleum operations in certain areas over specific time

[197]Marshall, J.B. 2016. Joint operating agreements in oil and gas industry: The consequence of sole risk and non-consent clauses to joint operation, *Journal of Asian Business Strategy* 6.10: 214-220 at 214.
[198]Peters, M.S. and Kumar, M. 2012. Why international oil companies choose to enter into joint operating agreements, *Acta Juridica Hungarica* 53. 2:175-180.
[199]Duval, C., Le Leuch, H., Pertuzio, A. and Weaver, J. 2009. International Petroleum Exploration and Exploration Agreements: Legal, economic and policy aspects (2nd Edition) New York: Barrows Company Inc. p. 69-79.

periods. The IOC performs tasks under outstanding ability, its personal outlay, and in subordination of the HC; where petrol is found, it fits in with the HC, however, there exists a production share which can be obtained by the IOC in return for price salvage and for-profit sharing. It is acceptable for the IOC to salvage its entitled budget in the PSC after a percentage of the manufacture from prearranged percentage is fragmented amongst the HC and the IOC. The IOC's non-refundable proceed is chargeable, unless otherwise provided by the PSC. There is a switch of designation to the apparatus and system fittings procured by the servicer to the HC both instantaneously and eventually, harmonising with the price salvage programs.

In a PSC, NNPC pays a proficient servicer to provide petroleum procedures. The rudimentary legislation which regulates PSC is the Deep Offshore and Inland Basin Production Sharing Contracts Act 1999. PSC is a procedure utilised in the upstream segment for the assessment and manufacture of petroleum resources in oil producing nations. The considerations between the NNPC and all fresh partakers in the new internal subterranean and ultra-deep-water acreages are administered by the PSC.

Today, PSC is the paramount, extensively accredited upstream petroleum contract, for bestowing acreages in the Nigerian petroleum industry. An innovative contractual arrangement evolved and this was attributed to a sponsorship problem which previous joint venture partners were confronted with, coupled with the dealings of the Nigerian government towards the development of the sector with regard to alien funds.[200]

Carrying out risky activities is encompassed within survey or importation centered projects. IOCs thus strove to safeguard loans to fund oil and gas survey projects. PSCs have hitherto been widely utilised in the oil and gas segment by means of ancillary backing up of survey undertakings. PSC was regarded apt having remarkable paybacks, as the arrangement did not involve monetary indications on the part of government, unlike joint venture (JV) operations

[200]Ogunleye, T. A. 2015. A legal analysis of production sharing contract arrangements in the Nigerian petroleum Industry. *Journal of Energy Technologies and Policy* 5. 8: 1-10.

where difficult tasks with fulfilling cash call obligations to the funding of oil and gas operations were faced.[201]

Ogunleye[202] examined the notion and configurations of PSCs, and the numerous prototypes of PSC arrangements popular within Nigeria, with the determination to detect their divergences. He further appraised the Deep Offshore and Inland Basin Production Sharing Contracts Act 1999 as this law amongst other things, gave jurisdictive support to the financial inducements approved by the federal administration towards definite production sharing contract prototypes, especially PSC concerning the Nigeria National Petroleum Corporation or additional companies bestowed oil prospecting license (OPL) or oil mining leases (OML) and numerous petroleum search and manufacture companies.

Ogunleye[203] provided a synopsis of the extant PSC schedules and provisions within the Nigerian oil and gas industry. His study captured necessary procedure and cataloguing of PSC in the Nigerian context. He classified them into the 1973 PSC and the 1993 and post 1993 PSCs respectively.

3.2.2.1 The 1973 Production Sharing Contract (PSC)

In Nigeria, the principal PSC was implemented on June 12th 1973 with reference to the NNOC, NNPC's successor and the Ashland Oil (Nigeria) Company. The contract was accomplished as per measure of government's exertion to regulate oil and gas undertakings within Nigeria. A Government Notice[204] issued in 1972 bestowed all expanses not sheltered by prevailing oil mining leases, oil prospecting licenses and oil exploration licenses in the NNOC. It was further delivered through the government notice that no companies, organisations or individuals; foreign or indigenous would have concessionary rights bestowed on them. It was mandatory for NNOC to select suitable oil companies, organisations that they would partner as servicer concerning constructing its operative franchises. The 1973 PSC dealt with two (2) OPLs.

[201] Okafor, C. 2016. As Federal Government exits joint venture cash call with International oil companies. Retrieved on December 20, 2017 from https://www.thisdaylive.com/ It was reported that the Federal Government exited the crude oil joint venture cash-call policy it had with about six major international oil companies operating in the country for consistently failing to meet up its cash call obligations.
[202] Ogunleye Op Cit. p. 1-10.
[203] ibid
[204] Government Notice GN 1972 No, 311:284.

The initial 1973 PSC was for twenty (20) years with the prospect of completing additional five (5) year renewal duration. The servicer is answerable for the entire outlays of search and manufacture, however with the proviso, that these outlays are reimbursable if no treasure trove is completed in the acreage. The pact was to be terminated if profitable or marketable quantities of oil were unrevealed in the acreage, within five (5) years from the operative period. Designation to oil and gas authorisations are transmuted to every party at rig.

The PSC failed to inaugurate a commission responsible for the regulation and administration of petroleum operations, however it was necessary for the servicer to formulate a graft programme and financial plan and thereafter yield the aforementioned to the NNOC for endorsement within a period of four weeks succeeding the operative period of the pact and subsequently within a minimum of two months before the start of every single year. The endorsement by necessity cannot be suspended arbitrarily through the NNOC. Whichever plan for modification for the project and NNOC's financial plan must be attached within a month from when it was acknowledged. If however, NNOC declines to notify the servicer of the modification to the project and financial plan, it will be considered accepted.

The servicer was similarly mandated to remunerate manufacture disbursements at a progressed rate grounded on day-to-day manufacture per barrel. The production percentages were recovered as operating charge. Conscription and preparation of Nigerians in the bearing of all the petroleum operations was requisite of the contractor. All operative charges, comprising rentals and disbursement funded, with interest costs on monies lent to undertake procedures were absolutely to be recovered, out of the transactions' earnings of a maximum of the first 40 percent of available crude oil. The servicer was permitted to take in two percent (2%) of the actual operating outlays as overall duties in the calculation of the total operating costs. It was mandatory for the contractor to pay for the essential equipment for the oil and gas procedures and influx of this apparatus in Nigeria, automatically resulted in NNOC becoming the asset owner, with the provisor that they were not for let. Cost reimbursement is made with deference to profitable discovery of rudimentary oil, asides cost oil, tax oil and profit oil.

The critical views expressed within the 1973 PSC reveal a lack of foresight on the part of the government to envisage or predict an ideal concept or model of PSC. However, it is advisable to

consider or keep in mind that the PSC was functional in Nigeria prior to the oil boom, at a time when the country's vast resources had not been copiously cherished, talk less of being aware of what an ultimate concept or model of PSC should entail.

Ogunleye[205] highlighted some of the concomitant failings with the 1973 PSC, such as truancy of a management committee to administer the petroleum operations; discrepancy of specific lingoes of the PSC with the rudimentary structure of a present-day PSC with unique configurations, PSC manufacture payments recoverable as a fragment of cost oil.

3.2.2.2 The 1993 and Post 1993 Production Sharing Contract

It is instructive to note that five (5) fundamental licencing series (1991, 2000, 2005, 2006 mini and 2007) between 1991 and 2007, were steered by government and from which three (3) diverse prototypes of PSCs emerged namely; the 1993 PSC, 2000 PSC and the 2005 PSC respectively.

These new PSCs were a rehash of the preceding ones, however, certain requirements in the 2000 PSC and 2005 PSC replicated perfections prepared as a consequence of the limitations previously perceived in the 1993 PSC classic. It should be noted that the 2006 mini and 2007 licencing rounds utilised the 2005 PSC. All 1993 and post 1993 PSCs had comparable structures.

Omorogbe[206] identified three crucial imperfections of PSC. She was of the view that the hitch or snag with PSC was the risk occasioned by the contractor being allowed to single-mindedly decide on production of one prolific ground and lessen exploration undertakings in other areas. She also drew attention to the likelihood of the contractor electing to be profligate in the survey activities as government is fully responsible for supplying or providing for all disbursements sustained in the processes. Omorogbe also drew attention to bonanza turnovers and the likelihood of its occurrence where the contractor may earn such proceeds. Omorogbe attributed the occurrence of such proceeds to instances where enormous upsurge in the worth of rudimentary oil occurs. In similar vein, Ogunleye[207] identified the insufficiencies of the 1993 PSC, and found that a contractor was explicitly permitted to finance activities bothering on

[205]Ogunleye Op Cit.
[206]Omorogbe, Y. 1986. Contractual forms in the oil industry: The Nigerian experience with production sharing contracts, *Journal of World Trade* 20.3: 342-349 at 345.
[207]Ogunleye, T. A.2015. A legal analysis of production sharing contract arrangements in the Nigerian petroleum industry, *Journal of Energy Technologies and Policy* 5.8: 1-10.

petroleum operations with credits from outside sources by virtue of paragraph 7 and article 11 of annex B. This however must be subject to the validation of NNPC and profit on the loans recoverable as operating cost.

3.2.2.3 Deep Offshore and Inland Basin Production Sharing Contracts Act 1999[208]

The Act amongst other things bequeathed the burden of definite financial inducements particularly on petroleum companies functioning in the subterranean ashore and interior sink expanses under PSC concerning the NNPC or additional companies which hold OPL or OML amid several petroleum search and manufacturing companies.

PSCs are the main arrangements covered in the Deep Offshore and Inland Basin Production Sharing Contracts Act 1999. With reference to the PSC, section 1 states that irrespective of anything that may been closed uncooperatively, happening within one additional depiction or regulation, the delivery of the Act will apply to all PSCs as defined by Section 17 of this Act. Royalty to be paid with deference to the Act is specifically addressed in section 5. Section 5 (1) states that the royalty to be paid with deference to the Deep Offshore PSC will be graduated as follows; 12.0 percent rate will be charged for expanses with 201 to 500 metres water penetration; 8.0 percent rate will be charged for expanses with 501 to 800 metres water penetration; 4.0 percent rate will be charged for expanses with 801 to 1000 metres penetration and 0.0 percent in expanses in surplus of 1000 metres penetration. Section 5 (2) provides that 10.0 percent royalty rate payable will be fixed under the PSC in the Inland Basin.

The calculation of petroleum profits tax (PPT) is covered in section 6 of the Act. The calculation and recompense of the projected and ultimate PPT is to be completed in US dollars based on the US dollar refunded. Section 12 makes provision for tax which can be charged on oil and gas operations. The actionable tax on petroleum tasks in the agreement expanse under the PSC will be fragmented amid the establishments or holder and the contractor in equivalent proportion as the fragmented profit oil clearly spelt in the PSC concerning them.

[208]Deep Offshore and Inland Basin Production Sharing Contracts Act No. 9 of 1999.

Section 16 made provision for periodic appraisal of the requirements of the Act and further provided that the requirements of the Act will be answerable to evaluation fifteen years after the day of inauguration of the Act and subsequently every five years. Section 17, which is the interpretation section, defined production sharing contract (PSC) as whichever contract or procedure that is prepared concerning the Nigerian National Petroleum Corporation (NNPC) or holder of whichever petroleum firm or firms engaged in search and manufacture, for the doggedness of investigation and manufacture of oil in the subterranean offshore and internal sinks.

This study argues that although Section 16 made provision for periodic review of the Act, the law however does not give any guidance or direction on the review process to be adopted or how the review is to be conducted. This is a lacuna in the law as the law is silent on the directions for review. Consequently, assuming, that such review process would take place, this study argues that principles of best international practice should be adopted and utilised. Furthermore, this study argues that the first review process which is to be conducted fifteen (15) years after the day the act is inaugurated, is unduly long and the timeframe given needs to be re-evaluated in line with the ongoing restructuring being experienced in oil and gas precincts.

3.2.2.4 Service Contract (SC)

The OPL designation stands retained by NNPC under the SC. The operator is designated the service provider, who in turn makes provision for all the resources required for search and manufacture mechanisms. This is a peculiar characteristic that this procedure stakes with the PSC.

In the event that there is occurrence of a marketable discovery, service provider outlays are recovered in line with measures articulated within the pact. Solitary foremost variance concerning the SC and PSC is that only the OPL is covered by the SC while the PSC might extend to two or additional OPLS at a time. The SC also shelters a secure era of five (5) years and the contract is inescapably determined if the efforts do not yield any profitable discovery.

Within the framework of the SC, installment payments are made for exploration and development costs, which payments are made over a specified era and the servicer is not allowed access to the crude oil manufactured, even though there are available options from which

recompense and payment in oil may be approved. By way of inducement for the hazard taken, the contractor has the principal choice to procure definite and stipulated measure of crude oil manufactured from the SC area. It is instructive to note that only the Agip Energy and Natural Resources (AENR) operate the SC in Nigeria.

3.3 Downstream Sector

This sector is responsible for the supply, pricing in addition to distribution of petroleum products. On 14th August 2000, the Federal Government established a thirty-four (34) distinct affiliate team on the appraisal of oil and gas produce, source and circulation, from diverse investors, shareholders and interest groups, to deliberate on the difficulties in the downstream oil and gas sector.

The downstream sector was however faced with many problems. Some of them are;

1) Dearth of oil and gas merchandises which outcome in protracted columns at the overhaul locations.
2) Minute volume of utilisation and pitiable condition of the nation's processing plant.
3) Sturdy incidence of fire outbreaks due to indecorous usage of products-adulteration.
4) Vandalisation of pipelines.
5) Extraordinary rate of trafficking to/from adjoining nations.
6) Minute level of investment projections in the sector.[209]

The special committee met and subsequently yielded its report and recommendations in October 2000. The Federal Government consequently circulated its views. A diplomatic systematic movement commission on liberalisation of the downstream segment of the petroleum industry was set up and most of the recommendations of the committee were accepted. This new committee progressed with the sensitisation of Nigerians on the need for the said deregulation and liberalisation.[210]

[209]Petroleum Products Pricing and Regulatory Agency (PPPRA) history. Retrieved on December 12, 2017 from http://www.pppra.gov.ng/history-the-revolution-of-petroleum-products-pricing-regulatory-agency/
[210]ibid

3.4 Relevant Institutions

3.4.1 Federal Ministry of Petroleum Resources

The Ministry of Petroleum Resources at the countrywide level is among centralised ministries in Nigeria that direct oil and gas resources. It is answerable for policy initiation and management of the execution of approved policies with reference to the oil and gas industry. The mission of the ministry of petroleum resources is the operative execution of the nation's tenets on oil and gas search, manipulation and utilisation in agreement with paramount global training. In addition, it also performs supervisory roles over operators and investors in the oil and gas segment.[211] Various organisations and parastatals under the administration of the ministry which guarantee the performance of the recognised strategies and guidelines for the sector exist.

Pursuant to a Federal Government publication, the Ministry of Petroleum Resources was specifically apportioned the ensuing duties:

(a) the complete administration of the Nigerian oil and gas industry comprising the Nigerian National Petroleum Corporation and its affiliates to guarantee acquiescence with pertinent laws;
(b) issuance of permits, licenses, leases, and those authorisations statutorily prearranged for an unabridged assortment of oil and gas undertakings from seismic assessments to boring, manufacture, assembly and setup of process plants like factories, petrochemical and liquefied natural gas machineries and for the promotion of oil and gas produces;
(c) policy matters related to the permitting of petroleum rights and the marketing of crude oil, natural gas and their byproducts;
(d) watching and regulation of ecological effluence inherently linked with oil and gas procedures and the fortification laws and constitutional requirements touching such procedures;
(e) setting of permissible manufacture and costs for crude oil, natural gas, oil and gas produces and their offshoots;

[211] Federal Ministry of Petroleum Resources. Retrieved on December 6, 2017 from *http://www.petroleumresources.gov.ng*

(f) implementation of oil and gas conservation laws and performance and watching of petroleum undertakings to ensure proper preservation of oil and gas;

(g) compassionate aid to the oil and gas sector to advance the sector in Nigeria's comprehensive concern; and

(h) duties involving the ensuing bodies; Nigerian National Petroleum Corporation, Organisation of Petroleum Exporting Countries, Petroleum Equalisation Fund, Petroleum Technology Development Fund, Petroleum Training Institute, Effurun and African Petroleum Producers Association.

3.4.2 Department of Petroleum Resources (DPR)

It is the official ministerial department which controls in addition to observing undertakings and occurrences in the oil and gas segment.[212]This administrative agency is saddled with the accountability of directives and control of the entire activities approved under authorisations and agreements in the oil and gas industry.[213]These procedures comprise the assessment, manufacture and promotion of rudimentary oil and cultured petroleum merchandise.

The DPR is a repository for the exploration and importation of petroleum products and concerns.[214] The department was previously the Petroleum Inspectorate, which was thereafter detached from the NNPC and conveyed to the MPR as the methodical division and subsequently rechristened DPR.

Prior to the institution of the DPR, petroleum concerns were controlled by the Hydrocarbon Section of the Ministry of Lagos Affairs; who communicated directly to the Governor-General. The hydrocarbon section retained proceedings of matters relating to assessment and ingress of petroleum merchandise. They were also responsible for enforcing safety and regulating petroleum matters. With the increase of activities, the unit was elevated and brought under the petroleum detachment in the Ministry of Mines and Power.[215]

[212]Department of Petroleum Resources (DPR) Nigeria. Retrieved on August 6, 2017 from http://www.dpr.gov.ng
[213]ibid
[214]History of Department of Petroleum Resources-DPR Nigeria. Retrieved on August 6, 2017 from https://www.dpr.gov.ng/index/history-of-dpr-nigeria/
[215]ibid

The Petroleum Division later revolved to be the DPR in 1970. Precisely a year after, 1971, a fresh organisation, the NNOC was formed to grip unswerving profitable procedures in the oil and gas sector on behalf of the federal government, while the DPR in the Federal Ministry of Mines and Power unrelentingly implemented legislative administration and control of the industry.

In 1975, the section was elevated to a Ministry and named the Ministry of Petroleum and Energy; which was thereafter renamed the MPR. The MPR and the NNOC were merged by virtue of Decree 33 of 1977, to form the NNPC. The decree equally created the Petroleum Inspectorate as a fundamental fragment of the NNPC, and handed over the ruling of the petroleum industry.

In 1985, the Ministry of Petroleum Resources was rejuvenated, though; the Petroleum Inspectorate remained within the NNPC pending 1988, when a restructuring of the NNPC occurred. The DPR is statutorily accountable for guaranteeing acquiescence with oil and gas laws, strategies and guiding principles in the oil and gas industry.[216] DPR's duties include checking procedures at drilling sites, production of mines, and creation of periods and pour locations, crude oil export workstations, processing plants, stowage depots, pump locations, marketing channels, other localities where fuel is stowed or vended, and all conduits transporting crude oil, natural gas and fuel produces.[217]

Echefu and Akpofure[218] indicated that the DPR, an arm of the MPR, acknowledged the severe ecological bearings of oil and gas survey and manufacture by siting ecological ideals and procedures to supervise the implementation of oil and gas schemes. The DPR Environmental Guidelines and Standards (EGAS) of 1991 for the petroleum industry, is a manuscript which

[216]Functions of the Department of Petroleum Resources. Retrieved on January 5, 2018 from https://www.dpr.gov.ng/index/functions-of-dpr/

[217]ibid

[218]Echefu, N. and Akpofure, E. 2002. Environmental impact assessment in Nigeria: Regulatory background and procedural framework, United Nations Environmental Programme EIA Training Resource Manual p. 63-74.

comprehensively considered the safeguarding and fortification of the Niger-Delta milieu, and the Nigerian milieu, while exploratory and manufacturing activities in respect of crude oil occur.[219]

3.4.3 Nigerian National Petroleum Corporation (NNPC)

This is the management organisation saddled with the high-class accountability for upstream and downstream improvement,[220]by undertaking the commercial ventures in petroleum survey, manufacture, conveyance, processing plant, treating and dissemination of rudimentary oil, petroleum merchandise and natural gas and perform investigation pertinent to the petroleum sector. It carts out these purposes via its divisions namely; the Nigerian Petroleum Marketing Company (NPMC)[221]; Integrated Data Service Ltd; the Kaduna Refining and Petrochemical Company; Warri Refining and Petrochemical Company; Port Harcourt Refining Company; Nigeria Liquefied Natural Gas (NLNG); the Nigerian Petroleum Development Company (NPDC); Nigerian Engineering and Technical Company (NETCO); Hyson; Nigerian Gas Company (NGC); Eleme Petrochemicals Company; and the National Petroleum Investment Management Services (NAPIMS).[222]

NNOC, now NNPC was established by the Nigeria National Petroleum Corporation Act in 1971 to reinforce local capability and state proprietorship of the industry. The company is intricate in natural gas manufacture on a JV foundation with global oil concerns and domestic self-determining operatives, which perform also as the operative of JV franchises captured under OMLs or as servicers under PSCs. NNPC divisions pertinent to the gas sector include:

3.4.3.1 Nigerian Petroleum Development Company (NPDC) Ltd

NPDC is a wholly-owned detachment of NNPC.[223] NPDC is affianced in oil and gas assessment and manufacture undertakings in the hydrocarbon-rich expanses of coastline Nigeria (the Niger

[219]ibid p. 63-64.
[220]Operators in the industry. Retrieved on August 6, 2017 from http://www.nnpcgroup.com/nnpcbusiness/businessinformation/oilgasinnigeria/operators/
[221]Formerly known as Petroleum Products Marketing Company (PPMC).
[222]Operators in the industry Op Cit.
[223]NPDC-Nigerian Petroleum Development Company (NPDC). Retrieved on September 10, 2017 from http://www.npdc.nnpcgroup.com

Delta), together ashore and not ashore, and lately about Equatorial Guinea. NPDC activates joint ventures with universal and domestic operatives.[224]

NPDC was established in 1988. NPDC operations are principally focused in the Niger Delta region and contiguous surface offshore areas where it works with above two hundred (200) mass societies in oil mining lease areas. NPDC operations are focused especially in five (5) states of Nigeria namely, Edo, Delta, Imo, Bayelsa and Rivers States.[225]

NPDC's undertakings spread across a widespread array of upstream oil and gas trade from search to relinquishment. The company comprises of board of Directors (BOD), a managing director (MD) and five (5) executive directors, who are custodians of the five (5) divisions namely; procedures, joint undertakings, amenities, funding and financial records, and methodical facilities.

NPDC has recorded the following accomplishments: "involvement in twenty-eight (28) concessions presently the fifth principal manufacturer in the nation; retains and controls the seventh principal FSPO in Nigeria (FPSO Mystras) and initiated complete supply of above 600 million standard cubic feet wet gas per day (mmscfd) to the national market."[226]

Presently, the fifth prevalent oil producer in Nigeria is NPDC.[227] NPDC produced its first oil from OML 40.[228] After concerted efforts by the NPDC Ltd, a subsidiary of NNPC, the company produced its first oil from Opuama oil wells in OML 40, in the offshore of the Niger Delta which was barred by Shell Petroleum Development Company (SPDC) in March 2006. The NPDC was successful at re-opening two Opuama oil wells with a mutual manufacture of 2,500 barrels per day (bpd).[229]

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[224]ibid
[225]ibid
[226]NPDC-Nigerian Petroleum Development Company (NPDC). Retrieved on September 10, 2017 from http://www.npdc.nnpcgroup.com The 28 concessions include 21 OMLs and 7 OPLs.
[227]NPDC now Nigeria's 5th largest oil producer-NNPC-DailyTrust. Retrieved on December 25, 2017 from https://www.dailytrust- com.ng/npdc-now-nigeria-s-5th-largest-oil-producer-nnpc.html/
[228]NPDC produced its first oil from OML 40. Retrieved on December 25, 2017 from https://www.npdc.nnpcgroup.com/press/news/
[229]ibid

NPDC (operator) and Elcrest Exploration and Production Nigeria Ltd mutually own OML 40. OML 40 is one of the chattels that were dissociated from SPDC.[230] NPDC took over its operation in 2013. This was a longed-for improvement to attain this feat within one year of action.[231]

3.4.3.2 National Petroleum Investment Management Services (NAPIMS)

NAPIMS was inaugurated to attain success with the federation's interests in the upstream (various oil concessions).[232] NAPIMS is a corporate services unit (CSU) in the exploration and production (E & P) Directorate of NNPC.

Recently, the federal government commenced moves to restructure NAPIMS. This move is targeted at achieving further reduction of costs of managing oil and gas investments in Nigeria, which the new Petroleum Policy has put at US dollars $200 million. This is equivalent to 61 billion naira yearly at the current exchange rate.[233]

Trustworthy personnel who attended the 2017 Conference of the National Association of Energy Correspondents (NAEC) in Lagos, uncovered that the present 10 detachments in NAPIMS might be curtailed to 7 at the culmination of the reshuffle.[234] He further added that NAPIMS will be fortified with essential fixated configurations like standard instructions, techniques and scheme to chaperon its procedures. They will comprise amenability and handling of facts and figures to heighten undertakings.

According to the petroleum policy, representatives of NNPC in the operative assemblages of the various JVs are selected from NAPIMS. Furthermore, all venture tenders, mutual undertaking finances and fundamental functional resolutions in gas ventures are liable to NAPIMS' endorsement. The source further indicated that NAPIMS budget of handling government's concern is considerably more advanced than it should be. An outlay of over US dollars $200 million twelve-monthly is intolerable in the contemporary oil rate milieu. These outlays when

[230] ibid
[231] ibid
[232] National Petroleum Investment Management Services (NAPIMS). Retrieved on September 10, 2017 from http://www.napims.com
[233] Federal Government begins restructuring of NAPIMS-Vanguard News. Retrieved on August 22, 2017 from https://www.vanguardngr.com/2017/08/
[234] ibid. The conference had the theme: PIGB: Prospects and challenges to the Nigerian oil and gas industry; organised by the National Association of Energy Correspondents (NAEC) and took place on 17th August, 2017 in Lagos. Retrieved on August 22, 2017 from http://www.energwindowmedia.com/

functional cut transversely the JVs and PSCs, create certain of the management's neutrality benefits within the JV non-lucrative.[235]

3.4.3.3 Nigerian Gas Processing and Transportation Company (NGPTC)

This company is expected to possess and work the government-owned gas diffusion linkage and progression plants.

3.4.3.4 Nigerian Petroleum Marketing Company (NPMC)

NPMC is an offshoot of the defunct Pipelines and Products Marketing Company (PPMC) and remains a detachment of NNPC which performs as its advertising division in Nigeria.[236] The NPMC is the NNPC sub-division in charge of petroleum merchandise in Nigeria and is the chief operative in the liquefied petroleum gas (LPG) production in Nigeria. It holds and pushes 9 LPG stowage warehouses from one place to another within the country.

The NPMC sees to the provision of tremendous client facilities by conveying rudimentary oil to the processing plant and stirring white petroleum merchandise to prevailing and imminent marketplaces proficiently and cost-effectively. It is also part of the objectives of the company to lucratively and proficiently operate within Economic Community of West African States (ECOWAS) sub region, arrange for nautical facilities and also maintain incessant undertaking of cultured petroleum merchandise from the indigenous processing plant.[237]

In 1965, the leading petroleum processing plant was founded in the garden city by Shell and British Petroleum (BP). Prior to this, petroleum yields utilised in Nigeria were brought into the country. In 1988 nonetheless, NNPC was reorganised in order to capitalise and commercialise the nation's abundant oil and gas properties. This led to the creation of PPMC, and is very crucial to the reorganisation of PPMC. The establishment of a new subsidiary of NNPC (the NPMC), guarantees interalia, the accessibility of petroleum yields to maintain our industries, run autos and for home culinary. The marketing companies (both the major and independent ones) in

[235]Federal Government begins restructuring of NAPIMS-Vanguard News. Retrieved on August 22, 2017 from https://www.vanguardngr.com/2017/08/
[236]Pipelines and products marketing company (PPMC). Retrieved on December 22, 2017 from https://www.ppmc.nnpcgroup.com.About/
[237]ibid

turn distribute petroleum merchandises to the final consumers after getting deliveries from NPMC.

NNPC commenced the unbundling of the PPMC into three (3) diverse concerns; storage, pipelines and products marketing company.[238] The Group Managing Director of NNPC, Dr. Ibe Kachikwu, made this disclosure in the course of the Okrika Jetty and the Port Harcourt Refining Company (PHRC) Ltd tour. Dr. Kachikwu noted that PPMC would be fragmented into a pipelines company that would primarily emphasise on the conservation of not less than five (5) thousand kilometers pipelines of the corporation; a stowage company which would sustain all the over twenty three (23) depots and a products marketing company that would advertise and vend petroleum merchandises.[239] Kachikwu similarly divulged that the country's processing plants would not be merchandised, but in a bid to guarantee proficiency, JV allies with reputable histories of accomplishment in refining would be referred to support the successive administration of the refineries.

From the foregoing, it is instructive to note that the NPMC displays the pivotal role being played in the commercialisation of the nation's abundant oil and gas resources. This is in line with the policy provisions of the National Gas Policy 2017 which introduces different commercial arrangements to be used by the market players in order to develop Nigeria's market position. It is therefore necessary that the federal government ensures that the NPMC discharge their duties effectively.

3.4.3.5 Petroleum Products Pricing and Regulatory Agency (PPPRA)

This agency is answerable for setting the point of reference rates of petroleum merchandises and for the regulation and observation of the passage and dissemination of petroleum merchandises in Nigeria. The Petroleum Products Pricing Regulatory Committee (PPPRC) was set up, by government on 8th March 2001, as an intervening quota to transmit the purposes of the Petroleum Products Pricing Regulatory Agency (PPPRA),[240] as endorsed by the special committee on the

[238]PPMC Archives-Information….NNPC to unbundle subsidiary PPMC by Niyi, Metro News on 2nd September, 2015. Retrieved on December 22, 2017 from https://www.informationng.com/2015/

[239]ibid

[240]Petroleum Products Pricing and Regulatory Agency (PPPRA) history. Retrieved on December 12, 2017 from http://www.pppra.gov.ng/history-the-revolution-of-petroleum-products-pricing-regulatory-agency/

review of petroleum products supply and distribution (SCRPPSD), while they awaited the passage of the bill establishing the PPPRA to law. The bill establishing the PPPRA was passed by the senate and the House of Representatives.[241]

The special committee on the appraisal of petroleum products supply and distribution (SCRPPSD) had around October 2000 yielded its report and the federal government mulled over the endorsements, after which the endorsements were circulated in the government paper. Some of the endorsements of the committee acknowledged by the federal government include reformation of the NNPC and its divisions, with the location of a PPPRA with ample autonomy to oversee diverse segments of the scheme embodied in the report (SCRPPSD) amongst other things.[242] Nwokeji[243] scrutinised the history, strategies and future prospects of the NNPC. His study was one of the first academic studies fixated wholly on NNPC.

3.4.3.6 Relationship between the Department of Petroleum Resources (DPR) and Nigeria National Petroleum Corporation (NNPC)

The government body saddled with the responsibility of regulating the petroleum industry is the DPR. DPR sprang from the Petroleum Inspectorate Department of NNPC. NNPC on the other hand is the national oil corporation, through which regulation and involvement in petroleum activities in the country is achieved.

It has been argued that NNPC doubled as a quasi-regulator and a commercial entity, and coupled with intersection of roles by various agencies amidst interference from NNPC. The previous arrangement was however defective with lack of clear and translucent regulatory framework.[244]

In view of the above stated, the PIGB seeks to create new organisations with the directive to control both the procedural and profitable facets of the petroleum segment value chain, that is the upstream, midstream and downstream sectors respectively.[245]

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[241]The passage by senate and the house of representatives was on February 5th 2003 and May 22nd 2003 respectively. The President of the Federal Republic of Nigeria assented to the bill in May 2003.
[242]Petroleum Products Pricing and Regulatory Agency (PPPRA) history. Op Cit.
[243]Nwokeji, G.U. 2007. The Nigerian National Petroleum Corporation and the development of the Nigerian oil and gas industry: History, strategies, and current directions. The James A. Baker III Institute for Public Policy, Rice University p. 1-138.
[244]ibid

The Bill (PIGB) seeks to bring on board an arduous supervisory group that will be answerable for both the procedural and profitable facets of regulating the trade. The Petroleum Regulatory Commission would be saddled with assumption of the privileges, benefits, responsibilities and accountabilities of the Petroleum Inspectorate, the DPR and the PPPRA.[246]

3.4.4 Nigeria Extractive Industries Transparency Initiative (NEITI)

Nigeria enthusiastically picked up on the global Extractive Industries Transparency Initiative (EITI) in 2003. The resolution was attributed to the all-inclusive socio-economic reformation pattern which the Federal Government boarded in the course of the succeeding tenure of the Obasanjo government which begun on May 29, 2003. The reformation pattern was ingrained in the National Economic Empowerment Development Strategy (NEEDS). In 2004, the former President of Nigeria, Chief Olusegun Obasanjo established NEITI. NEITI was projected to warranty the management of Nigeria's natural resources and to offer precautions, worthwhile enlargement and supplementary affluence for Nigerians. It was also to hold the administration accountable in oil and gas and related matters.[247]

NEITI Act was enacted on May 28, 2007. The Act gives NEITI the required legislative backing and the mandate to stimulate equitable practice and limpidity in extractive proceeds funded and acknowledged by government, also guarantee limpidity and answerability in the presentation of extractive proceeds. The enactment was to implement the execution of the ingenuity in Nigeria. Nigeria was the leading nation in the global EITI to back execution with legislation. NEITI is an agency proven by regulation, censored, and overseen by the Office of the Secretary to the Government of the Federation. It is by the same token an integral part of the global EITI.

The NEITI Act is responsible for the institution of an organisation branded as NEITI.[248] NEITI is a self-directed, sovereign body which lawfully reports to the President and the National Assembly. It's equally a corporate organisation having unending sequence with a mutual seal

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[245]The Petroleum Industry Governance Bill 2017 was passed by Senate on May 25th, 2017. Retrieved on August 6, 2017 from http://www.petroleumindustrybill.com/2017/05/

[246]ibid

[247]Nigeria Extractive Industries Transparency Initiative (NEITI) Handbook 2013.Retrieved on August 6, 2017 from http://www.neiti.gov.ng/The Petroleum Industry Governance Bill 2017 was passed by Senate on May 25th, 2017.

[248]Section 1 (1) Nigeria Extractive Industries Transparency Initiative (NEITI) Act 2007.

and could prosecute and be litigated in its business appellation. NEITI may also procure, grasp and handover detachable and immobile assets in the performance of its roles under the Act.[249]

3.4.4.1 Objectives of NEITI

The objectives of the NEITI are:

(a) To make certain that exact suitably pertinent techniques and limpidity is attained by the entirety of extractive industry companies in the disbursement made to the national administration and constitutional inheritors.
(b) To see to the observing and guarantying of answerability in the derived revenues of the national administration from extractive industry firms.
(c) To jettison all methods of unscrupulous performances in the fortitude, payment, incomes and placement of proceeds accruable to the national administration from extractive industry companies.
(d) To make certain limpidity and answerability in the presentation of funds by management from disbursements expected from extractive industry firms.
(e) To make certain amenability with the principles of extractive industry limpidity initiative.[250]

3.4.4.2 Functions/ Powers of NEITI

The functions of NEITI are:

(a) To advance a structure for limpidity and answerability in the commentary depiction by all extractive industry firms of proceeds due to be furnished to the federal government.
(b) To appraise without bigotry to any momentous contractual responsibilities and or sovereign duties, the undertakings of the entirety of extractive industry firms and government individually as regards procurement of acreages, making financial arrangements, contacting, supplies obtaining and production charges profile in order to guarantee due course, limpidity and answerability;

[249]Section 1 (2) NEITI Act 2007.
[250]Section 2 NEITI Act 2007.

(c) Guarantee limpidity and answerability in the administration of the nation's resources and stock with deference to all extractive industry firms;

(d) Get hold of, as considered indispensable, a precise account of the budget of manufacture and capacity of oil trade, gas or other mineral deposits mined by the concern at any period from any extractive industry company; with a provisor that such material will not be utilised in a way deleterious to the pledged responsibility or exclusive benefits of the extractive business;

(e) Mandate impeccable validation of cash financed through and acknowledged by the company at whichever timeframe is indicated, with a provisor that such evidence will not be utilised in a way detrimental to pledged responsibilities or exclusive benefits of the extractive industry company or self-governing commitments of administration; as returns accruable to the national administration from such company for that period from any concern in the extractive industry, or from any pertinent structure of the national, municipal or indigenous government;

(f) Watch and pledge that all unsettled disbursements to the federal government from all extractive industry companies are duly made, and includes taxes, royalties, dividends, bonuses, penalties, levies;

(g) Pinpoint gaps and embark on procedures that will enhance the capability of any pertinent structure of the national, municipal or indigenous government statutorily chargeable for the scrutiny of returns disbursements by all extractive industry concerns to the federal government;

(h) Proliferation through publication of proceedings, report or otherwise any evidence regarding the returns expected by the national administration from all extractive industry concerns, as it may be deliberated essential;

(i) Support or embark on any other doings correlated to its functions and premeditated to help attain its overall objectives as reckoned in Section 2 of this Act;

(j) Attest that all fiscal apportionments and legitimate disbursements to statutory receivers are duly made, from the federal government.[251]

[251]Section 3 (a) – (j) NEITI Act 2007.

Under the NEITI Act, provision is made for the nomination of assessors and the dissemination of information in each financial year. Independent auditors are to be appointed to audit the total proceeds which accrues to the national administration for that year from extractive industry companies, in order to ascertain the accurateness of disbursements and receipts.[252] The Act further provides that the independent auditors, shall upon completion of an audit, submit the reports together with comments of the extractive industries companies to the NEITI.[253] The reports are to be dispatched to the National Assembly and the Auditor-general of the Federation respectively, after which provision is made for the reports to be published.[254] Bi-annual reports of NEITI activities are to be submitted to the President and National Assembly respectively.[255]

It is NEITI's mission to institutionalise answerability mechanisms and processes directed at creating a notion of limpidity in Nigeria's extractive sector for everyone's advantage.[256] The governing body of the NEITI is the National Stakeholders Working Group (NSWG). This is a multi-sectorial group made up of representatives from the civil society, media, oil companies and government entities. Administration of NEITI is made up of the NSWG and the NEITI secretariat.

The foremost investors within the domain of the government and its supports in the extractive resources on behalf of the government are the coalition of civil society organisations that put pressure on both government and the oil companies to give account of their transactions to the people of Nigeria. The following government agencies in the oil and gas industry are involved in the NEITI process; Department of Petroleum Resources (DPR), Nigeria National Petroleum Corporation (NNPC), Federal Inland Revenue Service (FIRS), Central Bank of Nigeria (CBN), Crude Oil Reconciliation Committee, Petroleum Products Sales Reconciliation Committee, Office of the Accountant-General of the Federation (OAGF); oil companies who are either joint venture partners or non-joint venture partners; and civil society organisations.[257]

[252]Section 4 NEITI Act 2007.
[253]Section 4 (3) NEITI Act 2007.
[254]ibid
[255]Section 4 (4) NEITI Act 2007.
[256]Nigeria Extractive Industries Transparency Initiative (NEITI) Handbook 2013 Op. Cit.
[257]ibid

NEITI Act makes provisions for crimes and punishments under the Act.[258] An extractive industry company is said to commit an offence when untruthful data or report is handed over to the federal government or its agency concerning its range or manufacture, deals and proceeds; tenders fabricated report of description or flops to tender a report of description requisite under the Act to the federal government or its interventions, occasioning the under disbursement or non-disbursement of proceeds accruable to the federal government, or statutory receipts.

Such company would be indictable on verdict to a punishment of at least thirty thousand naira.[259] The Act further provided that when an extractive industry company has been condemned for a felony punishable by section 16 (1), the court will in addition to the punishment recommended thereunder, direct the firm to recompense the definite returns amount accruable to the national administration.[260]

Deferment or refusal to give information or report by an extractive industry company under the NEITI Act is an offence.[261] It is also an offence for such company to consciously or laxly fail to execute its mandate in line with the Act. Where either or both occur, such extractive industry company will be answerable to a minimum fine of thirty thousand (30,000) naira.[262] The Act further provides that the President may, on the endorsement of the NSWG, suspend or revoke the operational license of such extractive industry company, which has failed in its duty.[263] The Act provides that if any extractive industry company commits an offence which contravenes the Act, all the directors or management staff of such company commits such offence and are liable on conviction to not less than two (2) years imprisonment or a fine not less than five (5) million naira, unless such person proves that the offence was committed without his knowledge or consent and that such person applied outstanding assiduousness to forestall the occurrence of such wrongdoing.[264]

[258]Section 16 NEITI Act 2007.
[259]Section 16 (1) NEITI Act 2007.
[260]Section 16 (2) NEITI Act 2007.
[261]Section 16 (3) NEITI Act 2007.
[262]ibid
[263]Section 16 (4) NEITI Act 2007.
[264]Section 16 (5) of NEITI Act 2007.

NEITI has operated for over thirteen (13) years. Before the institution of the initiative, limpidity in the energy segment was implausible. Adegoke[265] assessed NEITI's efforts in limiting corruption in Nigeria's extractive industry for the period 2007-2013. The study revealed that the NEITI Act 2007 did not empower NEITI in any way to probe and take legal action against offenders, which had adversely affected their performance. From the analysis, NEITI was found to be ineffective in restricting exploitation and ensuring limpidity and answerability in the Nigerian extractive industry.

Igwe [266]argued that the objectives of NEITI were highly demanding and problematic to achieve. For instance, Section 2(c) of the Act authorises NEITI to jettison all methods of unscrupulous performances in the fortitude, payment, receipts and placement of revenue accruable to the federal government from extractive industry companies. The clause presented a very wide range of responsibilities. The Act provides for violations and their punishments.[267] They clash with anti-fraud organisations like the Economic and Financial Crimes Commission (EFCC) and Independent Crimes and Corrupt Practices Commission (ICPC). Although NEITI Act stipulates certain sanctions for offences relating to violations of the EITI principles, a lacuna exists in the law, because it did not prescribe the procedure for prosecution and punishment of the violators[268] and furthermore, the sanctions are non-deterrent.

This study contends that EITI, is an intense initiative, which Nigeria has proven her inclination to make the operative. This was evinced by being branded as the trailblazer in the global EITI, that is, being the first country to back up the execution of the EITI with legislation. At the forefront of the initiative is the campaign for due procedure, clarity and purging of corrupt practices by all extractive industry companies operating in Nigeria.

Extractive industry companies are projected to be answerable and devoted nationalists to the extent of truthfully reporting and unveiling all payments pertaining to the acquisition of acreages

[265]Adegoke, K.S. 2015. Assessment of the NEITI in curbing corruption in the Nigerian extractive industry. A dissertation submitted to the School of Postgraduate Studies, Ahmadu Bello University, Zaria in partial fulfillment of the requirements for the award of Master of Science (M.Sc) degree in Public Administration p. 1-136.

[266]Igwe, U. 2011.Making NEITI Act 2007 work. Retrieved on August 6, 2017 from http://www.punchng.com See also NEITI Handbook 2013. Abuja, Yaliam Press Ltd.

[267]Section 16 NEITI Act 2007.

[268]Adegoke Op Cit.

such as taxes, royalties, dividends, bonuses, penalties, levies and others. In the same vein, the principles of the global EITI must be strictly adhered to. However, this study contends that a holistic viewpoint on the objectives and functions of NEITI must be taken. It is necessary to keep in mind, the pivotal role of the rule of law in the governance of the extractive industry companies. It is therefore instructive to note that disregard for the rule of law would lead to the key players in the oil and gas market to remain unsuccessful with the campaign for due process, clarity and purging of unscrupulous practices by all extractive industry companies.

With reference to the oil and gas sector, this study opines that the objectives and functions of NEITI are giant strides which have been taken towards attaining transparency, integrity and objectivity in the quest to ensure that appropriate payments are duly made to the federal government's coffers as at when due. There is however still room for improvement in this aspect. Due procedure, clarity or transparency in the administration of the nation's resources being explored and produced are vital to the smooth running of oil and gas operations and also essential canons of corporate governance in the oil and gas sector.

In the light of the above, NEITI indeed has a duty to ensure that transparency in the oil and gas industry is achieved to a very large extent. The relevant stakeholders should be encouraged to come together and ensure that all IOCs and indigenous companies pay their taxes, levies, penalties, dividends, bonuses, royalties and other revenue as at when due, to achieve sustainable development and protection of the environment.

CHAPTER FOUR

REVIEW OF MARKET-BASED INSTRUMENTS (MBIs)

4.1 Introduction

This chapter highlighted the general techniques of environmental regulation and specifically considered market-based instruments from both the international and domestic perspectives, drawing attention to the remarkable benefits Nigeria would derive from incorporating the market-based framework in the nation's environmental agenda.

Banet[269] and Thornton and Beckwith[270] branded command and control, market-based approach and market friction among the main techniques of environmental regulation. Currently, ecological effluence resulting from gas flaring in Nigeria shows unmistakably that techniques used in the past for gas flaring regulation, have failed in the attempt to yield the anticipated outcome. Squalor of the environment induced by the continuous pollution of the air shows the current strain between environmental regulation and environmental policy in Nigeria.

While endeavoring to consider alternate methods from those presently used, it has become necessary to keep in mind a crucial factor, which is the salutary role of government's intervention in environmental regulation. Government has a statutory duty to maintain the fortification and viable improvement of Nigeria's natural resources as stipulated in the constitution,[271] hence intrusion of government in environmental directive cannot be completely ruled out.

Command and control regulation, also referred to as the traditional means of regulating the environment, has been conclusively regarded by many scholars as being too rigid, incompetent and ineffectual.[272] The traditional regulatory approach's inadequacies have resulted in the credence held by many scholars that it is indispensable for a market-based regulatory framework

[269]Banet, C. 2008. The use of market-based instruments in the transition from a carbon-based economy, *Beyond the Carbon Economy,* Zillman *et al.* (Eds.) Oxford University Press Inc. New York: 207-230.
[270]Thornton, J. and Beckwith, S. 1997. *Environmental Law*. London: Sweet and Maxwell p. 21.
[271]Section 44 (3) Constitution of the Federal Republic of Nigeria 1999 (as amended).
[272]Zhang, B. 2013. Market-based solutions: an appropriate approach to environmental problems. *Chinese Journal of Population Resources and Environment* 11.1: 87-91.

to be entrenched, to guarantee the protection of environmental resources. Market-based pollution control programs are primarily aimed at ensuring efficacy in the ecological outcome and likewise, diminish the fee for conforming to environmental regulations. The market-based regulatory structure sets out to achieve this by ensuring the poisoner and not the watchdog, carefully decide what the most proficient strategy for plummeting pollution would be.[273]

Of a truth, it cannot be gainsaid that market-based regulatory approach is an intelligent design for regulation of the environment by government.[274] For several years, economists have argued that policymakers in the course of designing ecological regulations should cautiously weigh market principles or take them into account before designing same.[275]

With market-based approaches, fiscal inducements are utilised to accomplish ecological objectives at bargained costs. Pigou[276] proposed that appropriate tax on production activities which result in negative externalities should be levied. Dales[277] suggested alternative answers to the problematic externalities, arguing that solving the problem otherwise, would lead to undergoing indistinguishable profits, in a situation where exchangeable rights were apportioned to emitters by way of the overall quantity of such privileges established to be comparable to the total discharges goal.

4.2 International Approach

Use of vestige petroleum and flaring of natural gas causes climate change and emits greenhouse gas (GHG) in the process. The international community has come together to lessen GHG emissions significantly below current levels by the various global attempts to fight climate change. From early 1990's, most urbanised nations and many emerging countries have joined the universal campaign to address temperature variation. Temperature variation-related policies have been implemented in the environmental agenda of several nations. The Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report revealed that GHG emissions could be

[273]Thornton and Beckwith Op Cit. p. 20.
[274]Portney, P.R. 2007. Market based approaches to environmental policy: A 'refresher' course in: Visgilio, G.R. and Whitelaw, D.M. (eds.) *Acid in the Environment*, Boston, M.A: Springer. p. 225-231 at 225.
[275]Gayer, T. and Horowitz, J.K. 2006. *Market based approaches to environmental regulation*, Foundation and Trends in Micro Economics 1.4: 201-326 at 201.
[276]Pigou, C. 1924. *The Economics of Welfare.* 2nd Edition, London: MacMillan. p.161.
[277]Dales, J. H. 1968. *Pollution, property and prices: An Essay in Policy-making and Economics.* Toronto: University of Toronto Press pp. vii, 111.

reduced at relatively low costs through the use of economically efficient market-based policy instruments such as carbon or energy taxes, emission trading and broad participation in assuagement efforts globally.[278]

Giant strides which have been engaged towards attaining enhanced ecological aftermaths are setting a value on GHG discharges through carbon or energy taxes, the exclusion of ecologically disparaging subsidisations, tradable permit schemes and project-based litheness devices of the Kyoto Protocol to the UNFCCC. It is instructive to note that to a very large extent, most OECD countries have practicalised one or more of the above-mentioned instruments.[279]

It should be noted that all OECD countries levy energy taxes to some extent however carbon taxes are enforced by only few of them. Although these taxes are a cost-effective means of reducing GHG emissions; however, the efficacy is refuted when OECD governments offer tax cutbacks or indemnities with reference to energy particularly for the greatest poisoning sectors.[280]

Emission trading arrangement is extensively used in many countries like Europe, Norway, Switzerland, Japan, Australia and Unites States of America (USA). The use of emission trading has rapidly accomplished fame, as more countries have been found to embrace novel criteria for plummeting greenhouse gas (GHG) discharges. Ecologically disparaging subsidisations are those that might circuitously result in intensification of greenhouse gas emissions, therefore the elimination of such subsidies have professed to be an imperative change towards achieving a parsimoniously proficient and environmentally operative climate policy.[281]

In Europe, the 2007 Spring European Council[282] set limits at 20 percent greenhouse gas emission cutbacks by 2020 and the improvement of renewable energy sources with a mandatory target of 20 percent of European Union energy consumption production by 2020 in terms of climate

[278]Organisation for Economic Co-Operation and Development Policy Brief August 2007: 1-7. Retrieved on May 20, 2018 from http://www.oecd.org/publications/policybriefs/
[279]ibid
[280]ibid
[281]ibid
[282]European Council 8/9 March 2007. Presidency Conclusions. Retrieved on May 20, 2018 from http://www.consilium.europa.eu/

change alleviation and energy.[283] The European Commission suggested intensification in the use of market-based instruments since such instruments were already incorporated in secondary legislation.[284] The Council of the European Union opined that the European Union Emission Trading Scheme (EU-ETS) led to emission diminutions in a cost efficient and market- based style and thereby formed a crucial part of an integrated climate and energy policy of the EU-ETS.[285]

4.2.1 UNFCCC 1992

The UNFCCC professed to normalise the absorption of GHG in the stratosphere. Industrialised countries were invigorated to meet controlled objectives of greenhouse gas decline. It was the leading convention to globally ascertain climate change and nudge forward worldwide debate on climate change.

Nigeria was privy to the UNFCCC[286] and ratified the convention in 1994. There has been an evolution of the UNFCCC instrument on climate negotiations over the years. They include machineries for assuagement, implementation, funding, know-how, and aptitude constructing. As a cosigner to the UNFCCC, Nigeria is dedicated to stimulating low carbon development.

Nigeria inaugurated a climate change policy[287] in response to the menace to maintainable improvement and shortage annihilation, in streak with the attainment of vision 20:2020. One of the essential props of vision 20:2020 is directed at ensuring haven in small carbon gases and recyclable energy.[288] The federal government and key stakeholders went aboard the advancement of a national adaptation strategy and plan of action on climate change for Nigeria (NASPA-CNN) upon recognition that the response to climate change necessitates ample planning and that

[283]The European Commission recommended an increase in the use of market- based instruments (MBIs).
[284]European Union Emissions Trading Scheme for GHG Emissions Directive 2003/87/EC; Council Directive 2003/96/EC of 27th October 2003 restructuring the commission framework for the taxation of energy products and electricity.
[285]Council of the European Union, Conclusions on the Review of the European Union Emissions Trading Scheme, 2812th Environment Council meeting, Luxembourg on 28th June, 2007 point 1.
[286]Nigeria became a party to the UNFCCC in 1992 and ratified the convention in 1994. Retrieved on May 20, 2018 from http://www.climatechange.gov.ng/
[287]Nigeria's climate change policy. Retrieved on May 20, 2018 from http://climatechange.gov.ng/climate-knowledge/official-publications/
[288]ibid

revision is fundamental.[289] Nigeria's low carbon policy framework industrialised from international commitments, ingenuities and the prerequisite for reinforcement of new substitutions to power generation.[290]

Nigerian Renewable Energy Master Plan was sponsored by the United Nations Development Programme (UNDP), while the World Bank and Global Environment Facility (GEF) on the other hand, endorsed the Global Gas Flaring Reduction Initiative (GGFRI).[291] The UNFCCC offered inducements for small carbon undertakings.

Nigeria had five (5) projects recorded by the CDM managerial panel as at August 2011. They include the Pan Ocean Gas utilisation (an oil field flaring reduction) project; recovery of associated gas at Kwale oil-gas processing plant (oil field flaring reduction); municipal solid waste composting facility, Lagos, Earth Core Nigeria Ltd (ENL) (landfill gas); recovery and marketing of gas at the Asuokpu/ Umutu marginal field (oil field flaring reduction) and efficient fuel wood stoves for Nigeria (energy efficiency in households).[292] The CDM project however, is to be rounded up in 2020 and so fresh possibilities for emission lessening are being encompassed universally.

4.2.2 Kyoto Protocol 1997

Well-founded agenda for greenhouse gas emission reductions by Annex 1 countries were set out by the Protocol. Well-founded goals were to be encountered within a specified period. The Kyoto protocol is the leading international treaty to establish legally binding emission cuts for urbanised nations. It is also the most widely known protocol succeeding the UNFCCC. It is instructive to note that Nigeria did not domesticate the Kyoto Protocol.[293] This has wedged on

[289]ibid
[290]Eleri, E. O., Onuvae, P. and Ugwu, O. 2012. Can the low-carbon development agenda increase energy access for the poor in Nigeria? International Centre for Energy, Environment and Development (ICEED) International Institute for Environment and Development (IIED) Briefing Paper p. 1-4
[291]ibid
[292]Projects in Nigeria registered by the CDM Executive Board: United Nations Framework Convention on Climate Change (UNFCCC), United Nations Environmental Program (UNEP) Risoe Centre 2011.
[293]Nigeria became a party to the Kyoto Protocol in 2004 without ratifying the convention. Retrieved on May 20, 2018 from http://www.climatechange.gov.ng/

the paybacks which would otherwise have been accessible by the Kyoto Protocol on the utilisation of gas in Nigeria.

In the proposition to control greenhouse gas (GHG) emissions, a restraint was globally imposed by the Kyoto Protocol. The protocol has been implemented by member countries and regions, like the European Union. It is instructive to note that the EU-ETS remains the largest emission allowance market, where apportionment and interchange of emission allowances are done at a global level. The Conference of the Parties to the UNFCCC in 2001 positioned the rules for universal trade in emission allowances.[294]

In line with these directions, a party to the Kyoto Protocol included in Annexe 1, with a pledge inscribed in Annexe B, is eligible to apportion and or grasp emissions units (i.e ERUs, CERs, AAUs or RUMs). It is nevertheless crucial that there be a nationwide system for conjecturing anthropogenic emissions, a national registry and the suggestion of annual catalogue reports.[295]

Article 17 of the Kyoto Protocol fitted out provisions on emission trading. Whichever partaker that leads lawful persons to handover and procure allowances under Article 17 will stay answerable for the gratification of its commitments with deference to the Kyoto Protocol.[296] Trade in allowances may be instigated as soon as a frontier is determined in domestic or regional legislation and the apportionment technique has been selected, in harmony with the structure integrated in Article 17 of the Protocol.[297]

Partakers who do not discharge up to their marked intensities are certified to vend the excess discharge allowances, or AAUs (assigned amount units), to other partakers that require them to accommodate discharges exceeding their limits. Emission trading schemes can be extended to schemes in other jurisdictions; however such handovers must be replicated under the assigned amount accounting rules of the Kyoto Protocol.

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[294]Report of the Conference of the Parties on its 7th session, held at Marrakesh from October 29 to November 10, 2001, Addendum, Part 2, Vol 11: Modalities, rules and guidelines for emission trading under Article 17 of the Kyoto Protocol18/CP.7, 50-54.

[295]Decision 18/CP.7, Annexe, point 2.

[296]Decision 18/CP.7, point 5.

[297]Other Countries with emission trading experiences are UK ETS, New South Wales Abatement Scheme in Australia, California Climate Change Register/ Chicago Climate Exchange (CCX).

The Kyoto Protocol to the UNFCCC was approved in 2002.[298] Under the Protocol, affiliate states were dedicated to diminish their total anthropogenic emissions of greenhouse gases enumerated in Annexe A to the Protocol by 8 percent matched with 1990 levels in the era 2008 to 2012. Consequently, a burden sharing agreement (BSA) was concluded in 2002 and this agreement rearranged the targets among member states, to replicate the purported public solidarity.[299]

The EU-ETS, which became operational on January 1, 2005, is the leading international trading system for carbon dioxide in the world.[300] The fundamental aim of the directive was to promote reductions in emissions in a lucrative and cautiously efficient manner through a greenhouse gas (GHG) discharge allowance interchange structure.[301] The first segment of the EU-ETS was from 2005 to 2007, and the second segment from 2008 to 2012. The first 3-year period was restricted to carbon dioxide, leaving room for other GHG to be included subsequently.

4.2.3 Paris Agreement 2015

The Paris Agreement, a ground-breaking climate treaty, was reached at the twenty-first (21st) Conference of Parties (COP 21). The aim of the pact is to fortify the global retort to temperature variation dangers within the sphere of maintainable enlargement and poverty abolition.

The pact denotes an apparent peculiarity between the Kyoto Protocol and preceding climate parleys chronicled over twenty (20) years. Under the Kyoto Protocol, mandatory emission decline compulsions were included only for urbanised countries, while emerging countries on the other hand, remained without any emission decline vows whatsoever. The discrepancy amongst the urbanised and emerging nations in the Kyoto Protocol stemmed into lethargic advancement at attaining emission diminutions by affiliate countries.

In 2011, the UNFCCC held in Durban, South Africa, embraced the decision to advance, a new permissible implement or protocol, applicable to all parties, and with legal force under the

[298] Council Decision 2002/358/EC, OJL 130, 15th May 2002, 1.
[299] Council Decision 2002/358/EC, OJL 130 of 15th May, 2002.
[300] Preamble 16 of Directive 2003/87/EC mandates that no member state should be barred from establishing national trading schemes which control GHG emission from undertakings excluded from those itemised in Annexe 1 or comprised in the community scheme, or from systems not permanently excluded from the community scheme.
[301] Article 1, Directive 2003/87/EC.

convention, by 2015 in Paris. The Paris Agreement therefore, is a divergence from earlier transnational consultations on climate change. Paris Agreement proclaimed a new policy which comprises countrywide resolute assistances. These aids refer to countrywide objectives and arrangements which ascend from countrywide guidelines. Under this new policy, it is projected that all countries will partake in emission diminutions. A wide range of partaking is projected under the new Paris agreement.

The countrywide resolute assistances are to be evaluated as well as brushed up every single five-year term, with their collective ambitions heightened up at intervals. The new approach under the Paris Agreement promises to be a giant stride towards plummeting climate change threats globally.

Paris agreement provided for varied networks comprising universal carbon marketplaces (through internationally transferred mitigation outcomes- ITMOs), unequivocal elucidation in a resolution that pact on forfeiture and impairment sorts out the non-responsibility of a root for accountability of reimbursement and five-year terms for inventory and improvements of the countrywide unwavering aids.

Article 2 of the Paris Agreement has been echoed as more aspiring and emphasis has been laid on the aim to lessen the universal regular heat intensification beyond the pre-industrial equal to 2 degrees (2^{o}C) and add 1.5 degrees (1.5^{o}C). Article 3 clearly drew attention to the centrality and universality of the countrywide resolute aids' configuration for all parties. Article 4 described limpidity necessities (internal observing, reportage and authentication). All countries are directed to meet the same observing and writing necessities regardless of their status as urbanised or emerging countries. Article 6 drew attention to universal policy connection and its significance regarding the efficacious mistreatment of the groundwork provided by the Paris agreement.

Article 6 of the agreement discussed some market and non-market provisions. According to Paragraph 6.1, a verified code was that parties may freely elect to co-operate in the operation of their countrywide unwavering aids. This paragraph principally entails clear coalition situations under Article 6, but is nevertheless inaudible on authorisation to undertake transfers. It is clear from the provisions of Article 6 that 'cooperation' is essential, but paragraph 6.1 gave the

impression of being inaudible on ‘permission’. Nevertheless, the paragraph recognises the proficiency of parties to initiate handovers.

Paragraphs 6.2 and 6.3 covered parties who were intricate in explicit supportive approaches and offer undertaking international handovers of assuagement consequences between parties, who would in turn, rehearse them en route for their countrywide resolute aids.

It is instructive to mention that paragraphs 6.2 and 6.3 however did not give any details of how assuagement consequences stand to be created. Paragraph 6.2 made use of the word ‘shall’ and this may suggest a higher level of resoluteness than what is implied by the word ‘may’ used in paragraph 6.1. Paragraphs 6.1, 6.2 and 6.3 were characterised by a directive reference to ‘internationally transferred mitigation outcomes (ITMOs) and the use of the handovers to meet countrywide resolute aids without any converter confining the use of the provisions to units/ outcomes emanating from mechanisms/procedures/protocols that were under the range of the conference of parties (COP).

Importantly, it should be noted that these paragraphs did not, by themselves, create a market or a fee for carbon. Instead, facility was made for the capability to form an international market, if any of the parties were desirous of such. In essence, the provisions of Article 6 did not undertake to create markets or carbon pricing, member parties have to specifically yearn for such.

Article 6 largely envisaged two main concepts namely market tactics found in paragraphs 6.4-6.7 and non-market tactics found in paragraphs 6.8-6.9. Paragraphs 6.2 and 6.3 refered to parties that commit and voluntarily engage in internationally transferred mitigation outcomes (ITMOs). Paragraph 6.2 provided that parties engaged in ITMOs would endorse maintainable environment and guarantee ecological reliability. In the context of the Paris agreement, ITMOs refer to transfers. The market approach (access) under the Paris Agreement refers to apparatuses to assuage GHG and offer wherewithal for maintainable improvement (paragraphs 6.4-6.7). The paragraphs inaugurate an appliance to offer endowment for the assuagement of GHG and withstand viable enlargement. The designated appliance may be referred to as sustainable development mechanism (SDM).

The Paris Agreement makes use of the ‘name and shame’ strategy in countrywide resolute aids to become cognisant of acquiescence with CMA accounting guidance. The ‘name and shame’

strategy may be a good initiative; however, the issue of implementation or enforcement may be challenging. This is because the agreement is silent on what follows after the procedure of naming and shaming of the emitters is handled.

4.2.3.1 Carbon Market Provisions under Article 6 of the Paris Agreement 2015

Both market and non-market provisions are contained in article 6 of the Paris Agreement. Article 6 paragraph 1 provided that parties may enthusiastically cooperate in the operation of their countrywide resolute aids. Article 6 contained several cases requiring teamwork, by implication therefore, member parties could cherry-pick and partake freely in the operation of their countrywide resolute aids respectively.

Article 6 paragraphs 2 and 3 provided for modifications of assuagement consequences. The paragraphs recognised the necessity for parties who were concurrently intricate in both specified complaisant tactics and ITMOs, to witness CMA leadership on accounting. It is instructive to note however, that, paragraphs 2 and 3 by themselves do not create a market or a price for carbon. They merely provide the ability to create an international market, as desired by any of the parties respectively. Emphasis was laid on the word "international", as paragraphs 2 and 3 discussed in relation to international modifications amongst parties.

Nigeria is a cosigner to the Paris pact.[302]With respect to this study, and in line with the provisions of article 6, the market provisions inherent therein are to ensure that Nigeria partakes in emission declines. The NDCs are incorporated in Nigeria's environmental agenda and climate change policy.

It is instructive to note however that to achieve operative implementation of NDCs, it is imperative that a complaisant tactic, as enunciated under article 6 of the Paris agreement, be embraced in Nigeria. This involves all oil producing states in the Niger Delta expanse, where IOCs engage in flaring of gas, come together under a regional greenhouse gas reduction initiative

[302]Nigeria signed the Paris agreement in September 2016, ratified it in March 2017 and the ratification was approved by the UNFCCC on 16th May, 2017. The agreement came into force on 15th June, 2017. Retrieved on May 20, 2018 from http://www.climatechange.gov.ng/

proposed in chapter five (5) of this study (to be known as the Niger Delta Regional Greenhouse Gas Reduction Initiative).

4.2.4 Environmental Policy in the United States of America (USA)

The most prominent United States market-based policy is the acid rain trading programme. In order to combat acid rain, a sulphur allowance programme was inaugurated. The programme was trail-blazed in U.S.A to achieve declines in discharges of electric utilities which add to acid rain. Under the programme, allowances were apportioned to older plants to authorise discharge of sulphur oxides. These allowances were however subject to restrictions to ensure ten (10) million-ton reduction in emissions witnessed. There was an apportionment formula guiding the apportionment of allowances to well-known utilities. The programme was innovative in establishing an auction market and equally permitted all interested parties to procure allowances.

The acid rain trading programme is a well- known case of limit and trade system. It is a rights-based market-based instrument (MBI). It was fashioned as a fragment of the Clean Air Act Amendments of 1990 and established in 1995 to control sulfur dioxide emissions. The 1990 Amendments formulated a unique supervisory implement for sulfur dioxide discharges from electric utility power plants. However, it did not alter the command and control requirements and rudimentary interchange in emissions. The CAA Amendment instituted restraints on discharges to be reduced to minimal levels.

Countless features of a market-based approach are evinced in the acid rain programme. Flexibility within each plant is allowed, as the firms are authorised to submit allowances sufficient to cover their sulfur dioxide emissions. Where emissions beyond what it is allowed occur, a firm will be fined US$2,000 per ton of emissions that surpass the permitted allowance. Such excess amounts by the concerned sources or firms are however authorised to be counterbalanced the ensuing year. The Acid rain programme permits litheness in opting for their individual amenability strategies.[303] The trading programme does not institute new emission rate limits or technology criteria, thereby leading to a decline of the total budget of abiding with the programme. Principally, the programme has been distinguished because of its size and

[303]Portney, P.R. 2003. Market-based approaches to environmental policy: A 'refresher' course. *Resources*: 15-18 at 17.

accomplishment rate. Consequently, the sulfur dioxide discharges acknowledged were both grander and speedier than requisite by law.[304]

Carlson *et al.*[305] and Burtraw[306] argued that the inception of the limit and trade program witnessed fee diminutions almost outstandingly as a result of individual firms' litheness on amenability. Ellerman *et al.*[307] observed that there was a feat of far-reaching declines in expulsions during the principal year of the limit and exchange programme. Hahn[308] examined USA's envelopment with limit and exchange and ecological levies. He suggested that environmental taxes were more rampant than tradable permits. He also observed that European policies at that time relied more on taxes. The present reality is however different, as European policies nowadays rely more on tradable permits.

There are different nomenclatures for taxes. However, for the purpose of this study, the taxonomy of taxes referred to as market-based instruments, are environmental taxes. They are also known as environmental fees or charges. For every unit of pollution, the polluter is required to pay a tax or lessen environmental emissions through any accessible machinery for disposal.

Diverse environmental taxes exist in the USA. However, some are more perceptible than others and integrate a proposal of beneficial lessons. The U.S Tax Code[309] defined four levies as environmental taxes namely excise levy on rudimentary oil, excise levies on definite mixtures, excise levies on ingress of chemical elements and excise taxes on ozone-depleting chemicals. A base tax of US$9.85 (as at 2005) was reproduced by the chemical's ozone diminution element.[310]

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[304] ibid

[305] Carlson, C., Burtraw, D., Crapper, M. and Palmer, K. 2000. Sulfur dioxide control by electric utilities: What are the gains from trade? *Journal of Political Economy* 108.6: 1292-1326.

[306] Burtraw, D. 1996. The SO_2 emissions trading programme: Cost savings without allowance trade. *Contemporary Economic Policy* 14.2: 79-94.

[307] Ellerman, A.D., Joskow, P., Schmalensee, R., Montero, J.P. and Bailey, E.M. 2000. *Markets for clean air: The U.S Acid Programme.* Cambridge UK: Cambridge University Press.

[308] Hahn, R.W. 1989. Economic prescriptions for environmental problems: How the patient followed the doctor's orders. *Journal of Economic Perspectives* 3.2: 95-114.

[309] Environmental Protection Agency (EPA) 2001. The US experience with economic incentives for protecting the environment. National Center for Environmental Economics.

[310] ibid

Environmental taxes are statutorily labeled as such because the taxes are assigned to tax revenue, that is, their return is apportioned to a conservational endowment.[311]There are several types of taxes in different states. Some are excise levies, while others are *ad valorem* tolls. New Jersey levies both excise and *ad valorem* taxes. Copious safeguards and unusual provisions exist in taxes of some states.[312]

Oil and natural gas are liable to state severance and *ad valorem* taxes. Presently however, no severance tax on oil and natural gas is centrally placed. Texas levies a 7.5% statewide severance tax and its counties equally levy *ad valorem* taxes. Louisiana levies excise tax extending from 1.3 to 12.2 cents per million cubic feet.[313]

Enforcement mechanism in environmental protection has been defined as whichever machinery that can be used to protect amenability with a lawful duty which meets the expense of environemental fortification.[314] It was mandatory in the U.S.A to review various ecological regulations in response to the growing challenges of ecological squalor after 1990. Environmental Protection Agency (EPA) had the mandate to instigate actions against person(s) who had desecrated ecological regulations directly, without recourse to the Department of Justice. The USA congress saddled EPA with the responsibility of paying a reward of the sum of ten thousand US dollars ($10,000) to any person who delivered valuable facts and figures which would lead to a felonious conviction or civil penalty of such a violator.

4.2.4.1 Emission Trading under the Clean Air Act 1970

The Clean Air Act has the leading supervisory overview of environmental statutes. It clearly offers examples of mixed approach to effluence regulation because it includes both market-based and non-market-based instruments. National Ambient Air Quality Standards underpin the Clean Air Act. The NAAQS set out standards for six major contaminants which are pertinent to air

[311]Gayer *et al*. Op Cit.p. 266-267.
[312]ibid p. 269.
[313]ibid p. 271.
[314]Bell, S. and Mc.Gillivary, D. 2006.The law and policy relation to the protection of the environment, in Ball and Bell *Environmental Law*, London: Blackstone Press Ltd. p. 239.

quality districts within the United States. Primary criteria to protect communal well-being as well as ample boundary of protection without any concern of outlays, is required for the setting of air quality standards. However, some regions are not able to meet the criteria put in place, and as such they are labeled as 'non-attainment areas.'[315]

The states are saddled with the responsibility of meeting air quality standards, nevertheless, the Act mapped out some requisitions which are generally applicable for fresh or improved foundations as against existing sources. These fresh foundations are required to encounter new source performance standards (NSPSs), to meet the 'best technological system of continuous emission reduction' criteria. Firms are required to meet a uniform emission rate known as the lowest achievable emission rate (LAER) before they can get hold of preconstruction permits. Projected emissions are to be counterbalanced by procurement of diminutions from other foundations within the nonattainment areas. States set out best available control technology (BACT) on the basis of individual cases.

Portney[316] opined that in practice, the new source performance standard (NSPS) is most times speculated adequate to meet the BACT or LAER standards. In principle however, the NSPS presumptively functions as a minimal standard, while the BACT and LAER on the other hand, make certain stricter control measures.[317] BACT and LAER and NSPS are prototypal examples of command and control regulations. They require litheness of firms in meeting their emission rate objectives, using certain performance standards. Practice requires that they do with specific control practices.[318]

Some minor aspects of market tactics were introduced in the mid-1970s in order to minimise the cost of meeting the Clean Air Act goals. An example is the counterbalance programme. Emissions are counterbalanced with reductions from obtainable bases in the non-attainment area. The new modified sources purchase diminutions from other sources.[319]

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[315]Gayer *et al.* Op Cit.p. 239.
[316]Portney, P. 2000. 'Air pollution policy' in Portney, P. and Stavins, R. (eds.): *Public Policies for Environmental Protection.* Washington. DC: Resources for the future, 2nd edition.
[317]Gayer *et al.* Op Cit. p. 239-240.
[318]Gayer *et al.* Op Cit.p. 240.
[319]ibid

4.2.4.2 Clean Air Interstate Rule (CAIR)

Since inauguration of the Clean Air Act, amenability within all the districts has been guaranteed and each state has been statutorily concentrated on. Statutorily, the Environmental Protection Agency (EPA) is authorised to guarantee a decline of sulfur dioxide and nitrogen oxide emissions by impudent states. The CAIR was proscribed by EPA, and EPA equally institutes regional limit and exchange schemes for the controlled states in deference to both sulfur dioxide and nitrogen oxides. It is imperative to encounter their responsibilities or partaking necessities under the scheme, states are allowed to develop their implementation strategies after proposing permissible discharges.

Two unconnected nitrogen oxide interchange rules were calculated by EPA as a portion of the CAIR. Some states were predisposed to yearly limits, while others that profoundly bequeathed to the non-accomplishment ozone criteria were predisposed to an ozone season limit. Several states were nonetheless predisposed to both limits.[320]

The achievement of the innovative acid rain programme is closely attributed to the CAIR. With reference to the CAA (which is a form of command and control regulatory approach), through the foundation of the acid rain programme, an essential factor is that a market-based regulation is embedded within it.[321]

4.2.4.3 Tradable Permits

A tradable permit is described as an authorisation which provides an incentive to polluters to internalise externalities.[322] These permits are transferable or tradable. Dales[323] proposed tradable permits which are one of the common types of market-based instruments for regulating the environment. The diminishing of the total amount of effluence in place of absolute recompense of the society for new effluence causes is the target of this instrument. Additionally, guaranteeing proficient enrichment of ecological regulation, consequently allowing firmer parsimoniously

[320]Gayer *et al.* Op Cit. p. 249.
[321]ibid
[322]
[323]Dales, J. 1968. *Pollution, property and prices*: An essay in policy-making and economics. Toronto: University of TorontoPress pp. vii, 111.

viable effluence or ecological criteria, when compared with the traditional regulatory instruments is the sole target of tradable permits[324]

The regulations fixed a limit on the aggregate volume of discharges for a definite geographical area and for a precise category of air effluence under the tradable permit scheme. Tradable emission credits are then allocated to polluters not to exceed the limit for that specific area. Contaminators are permitted to trade the credits they retain to other emitters within the same topographical expanse, equally on the same scheme. This scheme is very lithe as the administrator is not in control of the techniques through which the polluter attains the level of effluence set by the number of credits held. Gayer and Horowitz[325] and Banet[326] in their appraisals revealed that tradable permits unmistakably supersede taxes as the ideal regulatory instrument for emission decline.

Bressers and Huitema[327] relying on the polluter pays principle described tradable permits as enchanted carpets on the path to maintainable improvement. The enchanted carpet is symbolic of getting aboard a journey which would take some time but then requires a short cut. The short cut is projected to guard against traffic jamming. The magnificence of embarking on a journey with this enchanted carpet is that energy is not required, as the enchanted carpet is impelled by unforeseen forces (undoubtedly an undetectable hand). The user reaches his terminus in record time. Bressers and Huitema explained further that similar to an enchanted carpet, fiscal mechanisms do not necessitate the endless meddling of a controller, because reliance is placed on market instruments after the overseers have set intents.

Relating this analogy to the study, therefore, draws attention to the remarkable benefits Nigeria would derive, from incorporating the market-based framework developed and proposed by the study. Tradable permit is indeed the enchanted carpet that Nigeria requires sojourning through the long expedition in the quest for resolving gas flaring. This enchanted carpet would be

[324]Hahn, R.W. and Stavins, R.N. 1991. Incentive-based environmental regulation: A new era from an old idea? *Ecology Law Quarterly* 18: 1 at 5.
[325]Gayer, T. and Horowitz, J.K. 2005. Market based approach to environmental regulation. *Foundations and Trends in Microeconomics* 1.4: 201-326 at 238.
[326]Banet, C. 2008. The use of market-based instruments in the transition from a carbon-based economy. *Beyond the Carbon Economy,* Zillman *et al.* (Eds.) Oxford University Press Inc. New York: 207-230.
[327]Bressers, H.T.A. and Huitema, D.1999. Economic instruments for environmental protection: Can we trust the "magic carpet"? *International Political Science Review* 20.2: 175-196.

impelled by unanticipated forces (market forces) and with reference to this study, substantiating the rationale for adopting it as the appropriate market-based instrument needed to resolve the lingering problem hitherto experienced.

The scholars further discussed regulations that affect the elasticity of tradable permits. They argued that areas which are penetratingly contaminated are burdened with an emphasis of pollution. This could be labeled a likely consequence of tradable permit markets, wherever the entire permits can be procured by firms in a solitary region known as "toxic hot spots." They suggested that a means to preclude the incidence of toxic hot spots is for the mechanisms which encourage government intervention in the market to be incorporated.[328]

4.2.4.4 Subsidies

Subsidy or subvention is a contrary tax which could, in certain instances; result in the same efficient outcome as an effluence tax. Subsidies can apply to several types of policies. However, subvention within the perspective of this study denotes those on discharge decline.

With reference to subventions, policy makers generally have a strong penchant. Howe[329] found that many subventions were foreseen to bring about 'end-of-pipe' practices, instances where effluence is not outlawed but merely sanitised subsequently. Brierly[330] while learning environmental policy in America, found that subventions on emission diminutions, when compared to unswerving regulation, demonstrated sophisticated intensities of cost-effective activity in ecologically contaminating segments.

4.2.5 Environmental Policy in Australia

Australia is highly committed in her efforts to meet her obligations under the Kyoto Protocol, as there have been several regulatory responses to concerns for improved ecological aftermaths. Almost eighty applicable acts that considerably regulate the oil and gas segment were recognised

[328]ibid p.183.
[329]Howe, C.W. 1991. Taxes versus tradable permits: the views from Europe and the United States. Wageningen: LUW p. 7.
[330]Brierly, A.B. 1992. Assessing environmental policy strategies: The effects of pollution control subsidies and regulatory standards on economic growth in the American States., Mimeograph, University of Northern Iowa.

by the Australian Petroleum Production and Exploration Association (APPEA).[331] State legislations and concomitant rules control gas burning appliances. However, the legislation and guidelines differ from one dominion to another. In Queensland for instance, under the Petroleum and Gas Act 2004, prospecting licenses and petroleum leases contain obligatory restrictions on flaring or venting. Gas is capable of only being flared or vented when it cannot be used for commercial or authorised purpose, or is unsafe to use for a safe purpose, or to use or an authorised purpose. In Western Australia, a fuel burning license is required for flaring, based on the mass flow rate of fuel used up, particularly, for fuels with higher sulfur content.[332] Punishments are meted in deference to specific states.[333]

More often than not, the command and control (regulatory) approach has not successfully achieved the set goals, as it has been perceived to be expensive. As a result, government searched out more effective and less expensive means of guaranteeing good ecological practices. Concerted efforts have therefore been made towards achieving higher ecological practices which would be lithe, proficient and operative.

Australian government embraced the use of MBIs in order to manage its natural resources.[334]MBIs have been applied and consequently redefined the environmental agenda in Australia.[335] This has ensured the improvement of the environmental outcomes in the interest of firms and individuals. Command and control approach (regulatory) usually lead to firms reducing their pollution by an identical amount, while MBIs with the same target, achieve

[331]Australian Petroleum Production and Exploration Association Ltd. (APPEA). Retrieved on February 21, 2017 from http://www.appea.com.au Laws such as Offshore Petroleum and Greenhouse Gas Storage Act 2006, Petroleum Act 1984, Petroleum and Gas (Production and Safety) Act 2004, Petroleum Regulations 2004, National Gas (South Australia) Act 2008, Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 etc are applicable to the Australian oil and gas industry.

[332] Smith, A. and King, J. Op.cit.

[333]ibid

[334]Natural Heritage Trust 2004. *Managing our natural resources: Can markets help?* Investigating market-based instruments in NRM, Australian Government.

[335]Whitten, S., Van Bueren, M. and Collins, D. 2003. An overview of market-based instruments and environmental policy in Australia, *Proceedings of the 6th annual AARES National Symposium* : 1-23.

varying reductions in pollution. Australia recorded an increasing number of MBIs which have been implemented in recent years. Organisation for Economic Cooperation and Development 1999,[336] Van Bueren 2002[337] listed examples of Australian MBIs and further identified three (3) main types namely price-based, rights-based and market friction.

Oil and gas resources onshore and offshore are bestowed concurrently throughout the states and the northern territory of Australia.[338] The oil and gas industry funds the Australian economy largely. Australia's oil producing regions include Western Australia, Brass Strait, the Northern territory, the Timor Sea, South Australia and Queensland. Australia has massive natural gas enlargements with roughly 400 trillion cubic feet (tcf) of projected investments.[339]

All through the abstraction or treating of oil and gas, certain greenhouse gases are emitted. The NGERA 2007 and the Clean Energy Act 2011 with its attendant guidelines, the Clean Energy Scheme, made provisions on regulating environmental emissions. Projects involving GHG emissions, energy use or depletion which are greater than the indicated verges, are charged to give an account of their emissions, energy use and production.[340]

A twelve-monthly proceeding and culpability cycle grounded on a fiscal year from July 1 to June 30 of the next year was encompassed in the NGERA 2007 and the Clean Energy Scheme. The Clean Energy scheme was inaugurated on July 1, 2012 and is relevant to greenhouse gas discharges from a wide range of activities in Australia.[341] A fixed-price structure is operated with unrestricted discharges for the first 3 years, after which it would transform to a limit and exchange emissions scheme, with a lithe carbon price. The reportage procedure is intricate and bursting with technicalities. Risk bearing requirements and charge for carbon assuagement procedures were required for project pacts particularly energy and fuel stream pacts.

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[336]Organisation for Economic Cooperation and Development. (1999) *Economic instruments for pollution control and natural resources management in GECD Countries: A Survey.*Paris, OECD.

[337]Van Bueren, M. 2002. *Environmental trading programs and markets: Implications for the Australian minerals and energy sector,* A report for the 2000 AMEEF Travelling Scholarship Award.

[338]Smith, A. and King, J. 2013. Oil and gas regulation in Australia: Overview. Practical Law Energy Energy Guide: 1-14. Retrieved on February 21, 2017 from http://www.uk.practicallaw.com/energy-guide

[339]ibid

[340]ibid p.10

[341]ibid

4.2.5.1 Taxes

Globally, taxes are price-based contrivances used to normalise the environment. They are integrated in Australia's ecological itinerary. Pollution tax under the 'Load-based Licensing Scheme (LBL) in NSW is a widely known price-based MBI. Under the LBL scheme, emitters are charged an amount (fee) which is founded on the quantity and typical effect of the contaminants released. The fee charged is reliant on performance of the said polluters. The LBL fee would reduce if the contaminators achieve decline of their emissions. The NSW EPA, however, requires firms to give in a twelve-monthly return showing specifics of their emissions.

4.2.5.2 Subsidies

Subsidies or subventions are also price-based mechanisms implemented in Australia to achieve greater environmental outcomes. Subventions alter the prices of goods and services thereby temperately disturbing their aftermath. They guarantee inevitability of the outlays involved in attaining results but the overall ecological aftermath is uncertain.[342]

Rights-based MBIs have been extensively used in Australia to limit discharges leading to ecological squalor.[343] Right-based MBIs have similarly been integrated in Australia's environmental agenda for the accomplishment of operative ecological practices, like minor greenhouse gas energy certificates under the tradable renewable energy certificates (RECs) programme.[344]

4.2.5.3 Renewable Energy Certificates RECs)

An ingenuity of the Federal Government to boost electricity generation from renewable sources in Australia is the RECs programme. In April 2001, the Federal Government integrated an obligatory target, which mandated electricity retailers to spawn an additional 9,500 giga-watt hours of electricity from renewable sources by 2010. Firms were independently predisposed to meet their portion of the goal. Electricity retailers purchased their certificates to enhance

[342]Whitten, S., Van Bueren, M. and Collins, D. 2003. An overview of market based instruments and environmental policy in Australia, *Proceedings of the 6th annual AARES National Symposium* : 1-23 at 9.
[343]ibid p.14-15.
[344]ibid

deficiencies in physical purchase of renewable electricity. The certificates were acquired unswervingly from renewable energy makers or procured in the market.[345]

The RECs trading scheme set out to endorse cost-effectiveness in achieving the required environmental outcome. In cases where electricity was expensive, electricity retailers in such regional locations purchased RECs generated in lower cost regions, in order to minimise the cost of meeting their target. These RECs, however, remain valid until they are capitulated to the supervisory establishments concerned. The scheme's provision for failure to comply was embedded in the MBI design. The RECs penalty was set at a fine of US$ 40 per megawatt hour that is not capitulated. The amenability technique was a moderate punishment regime because penalties were convertible when firms attained their amenableness within 3 years.

4.2.5.4 Carbon Tax

A carbon tax is a charge which is pertinent to carbon effluence. A carbon pricing scheme also known as 'carbon tax' was presented by the Australian government through the Clean Energy Act 2011, which came into effect on July 1, 2012. It was an initiative which had the aim of controlling emissions in Australia, whereby contaminators paid a specified amount as tax per tonne of carbon emitted into the atmosphere.[346] There are two types of carbon pricing namely emission trading scheme (ETS) and carbon taxes.

In the structure, prudently picked firms situated obligatorily renunciated their emissions unit for every tonne of carbon dioxide equivalent (CO2-e) produced. Within the first year (2012-2013), carbon units were subscribed from the Clean Energy Regulator (CER) for a fixed price of AUD23 per unit, and in 2013-2014, carbon units were subscribed for AUD24.15 per unit. The firms who failed to renunciate enough units incurred a 'unit shortfall charge'. This charge created an incentive for firms to hand over extra units under the mechanism instead of paying a shortfall charge.[347]

[345]ibid p. 15.
[346]The carbon tax in Australia- Centre for public impact. Retrieved on October 20, 2017 from https://www.centreforpublicimpact.org/
[347]ibid

The Act partially achieved its goals by recording a decline in the nation's GHG discharges by 1.4 percent in the ensuing year when the carbon fee was introduced.[348]It is instructive to note however that the carbon tax was rescinded by the government and Australia no longer has a carbon tax. The carbon levy retraction statute acknowledged the royal assent and the abolishment of carbon tax in Australia resulted in lowering costs for Australian businesses and easing costs of living pressure off households.[349] Australia recorded a 4.3% increase in power emissions which countered Australia's trustworthiness in the prelude to the Paris temperature consultations.[350]

More than a few Australian studies conducted on environmental regulation suggested that market victory is dependent on the cost of delineation and execution of ownership, irrevocability, evidence and fluidness.[351] Guerin opined that both market-based approach and command and control approaches create property rights; silently or expressly, thereby affecting the incentives of those being regulated.[352] Guerin did not endeavor to appraise perhaps market failure existed in the market or not, but his study specifically dealt with how property rights approach can invest in addressing such market failure, while keeping in mind, that the response essentially reveal the original source.[353]

A synopsis of environmental ruling through MBIs in the USA and Australia, revealed that both countries have recorded huge success in emission diminutions, as a result of integrating market instruments in their environmental itinerary. The environmental outcomes they experienced have been both encouraging and rewarding, as the USA qualified considerable efficiency gains from its tradable permit programme for sulfur dioxide. Australia, in turn redefined its environmental itinerary, by applying MBIs. It verified an improvement in its environmental aftermath in the interest of both firms and individuals. The use of market instruments led to firms achieving varying diminutions in effluence through the use of novelty and procedural change.

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[348]Climate change impacts in South Australia, Government of Australia, Department of the Environment and Energy.

[349]Department of the Environment 2014. Repealing the Carbon Tax. Retrieved on October 20, 2017 from http://www.environment.gov.au/government/The carbon tax repeal legislation became law with effect from 1st July, 2014.

[350]Australian Associated Press 2015. Carbon tax repeal sparks jump in Australia's electricity emissions. Retrieved on October 20, 2017 from https://www.theguardian.com/environment/

[351]Guerin, K. 2003. Property rights and environmental policy: A New Zealand perspective. New Zealand Treasury working paper 03/02: 1-42 at 34.

[352]ibid p. 16.

[353]ibid

Many lessons can be learnt from these two countries, especially, by closely modeling Nigeria's environmental itinerary after theirs. Policy makers in Nigeria therefore, need to adopt a more sophisticated and straight-thinking approach to develop and implement effective strategies which would function unswervingly through the market, by hitching market inducements which are intrinsic in currently obtainable forms of regulation.

4.3 Domestic Approach

The federal government has made numerous efforts at maintenance of viable development and environmental fortification and administration, by endorsing copious environmental regulation. Nigeria is however threatened with several ecological defies, such as air and water contamination, climate change problems like flooding and coastal erosion *etc.* These ecological defies are undesirable externalities including gas flaring, which is a classic case in point, the focus of the present study.

In order to present suitable responses to the externality dilemma, there must be internalisation of the externalities. The only plausible means to achieve this is by way of bringing the market approach into practice. This refers to economic instruments such as taxes, subsidies, tradable permits, charges *etc.* From policy implications, government envelopment is requisite and would have a protracted effect in ensuring that market failure is rectified.[354]

Onyeabor and Agu[355] gave a synopsis of ecological squalor publicly declared in the oil and gas sector, while comparing environmental regulation through MBIs with the orthodox command and control approach. They argued and emphasised on the need to henceforth embrace the practice of the economic approach, to address environmental concerns and achieve viable advancement in Nigeria.

The DPR is the petroleum regulatory agency in Nigeria. Environmental Guidelines and Standards for the Petroleum Industry in Nigeria (EGASPIN) were released by DPR, in 2002, in reaction to regulating operations in the Nigerian oil and gas segment. These guiding principles and canons for the petroleum industry will be considered below.

[354]Dahlman, C.J. 1979. The problem of externality. *Journal of Law and Economics* 22: 141-162 at 151.
[355]Onyeabor, E. and Agu, H. 2015. Economic based approach to environmental regulation as a panacea to effective environmental management in Nigeria *Journal of Law, Policy and Globalisation* 42: 8-17 at 15.

4.3.1 Environmental Guidelines and Standards for the Petroleum Industry in Nigeria (EGASPIN)[356]

EGASPIN is an array of codes of practice that were framed by DPR to administer HSE (health, safety and environment) undertakings in the oil and gas industry. Statutorily, the DPR is authorised to validate that the environment is not besmirched while petroleum industry operatives carry out their dealings. Consequently, DPR has been emergent with ecological strategies and canons since 1981. These strategies and canons cover control of effluence attributable to petroleum assessment, manufacture and treating.

The objectives of these environmental guidelines and standards are to:

1) Form strategies and templates for the ecological quality control of the petroleum industry bearing in mind existing indigenous settings and premeditated observing programmes.
2) Arrange, in one volume, for the operative and other interested individuals an all-inclusive integrated user-friendly text on effluence diminution expertise, strategies and templates for the Nigerian petroleum sector.
3) Standardise the ecological effluence diminution and observing processes, including the methodical techniques for several considerations.[357]

In 2010, a retreat was held by the Environmental Protection and Safety Department (ESPD) of NAPIMS, for appraisal of the EGASPIN 2002.[358] Management officials of NAPIMS, DPR representatives and representatives of the IOCs attended the retreat. At the retreat, the participants pondered on argumentative concerns in the EGASPIN, purposively for providing harmony for both the operators and the watchdogs. Emphasis was laid on the fact that environmental issues were not traversable and as such, the strategies and templates should be user friendly. Present-day remarkable issues like climate change, CDM, carbon emissions, amongst other things were discussed.

[356]EGASPIN-DPR Nigeria. Retrieved on September 17, 2017 from http://www.dpr.gov.ng/index/egaspin/
[357]NAPIMS-ESPD organises retreat to review the Environmental Guidelines and Standards for the Petroleum Industry in Nigeria (EGASPIN). Retrieved on September 17, 2017 from http://www.napims.nnpcgroup.com/AboutUs/NAP/
[358]ibid

EGASPIN is brushed up every five (5) years due to high-tech advancement and in response to the evolving defies of the IOCs. It arrays undertakings in the oil and gas sector that call for conservational appraisal. They comprise all seismic procedures, oil and gas turf improvement ashore, not shore and subterranean seashore, hydrocarbon treating amenities, erection of waste handling and or discarding facilities.

Very importantly, it is instructive to note that EGASPIN is affable to operatives and as such, IOCs operating in Nigeria should ensure diminution of ecological effluence while carrying out their tasks and not be reluctant in fully embracing and abiding by the laid down strategies and templates set.

With deference to the ongoing concerns for conservational regulation and fortification, it has therefore become necessary for Nigeria to integrate the newly reviewed EGASPIN 2018 as the appraisal is long overdue. The appraisal is expected to inter alia contribute its part toward finding solution to the problem of externalities and on the long run result in groundbreaking change in the petroleum sector.

4.3.2 Policy Framework

4.3.2.1 National Policy on Climate Change and Response Strategy 2014

As a countrywide manuscript, the policy framework subsists in order to accomplish undertakings which are climate change correlated and to observe pecuniary and societal retort of Nigerians to the dreads and endangerments of climate change universally. The federal government became fortified with a framework to combat ecological defies induced by climate change that has been verified by increased floods and rise in sea levels, through the policy. The policy is a compendium of wide-ranging nationwide goals, objectives and schemes aimed at assuaging the magnitudes of climate change.[359] It focuses on adaptation, assuagement, backing and machinery.

As an import of being a Kyoto Protocol cosigner, it is expected that Nigeria's adoption of the policy would undoubtedly enrich her commitment towards discharge decline in the atmosphere.

[359]Nigeria adopts climate change policy document. Retrieved on May 21, 2018 from http://www.iceednigeria.org/nigeria-adopts- climate-change-policy-document See also Nigeria unveils new global climate policy. Retrieved on May 21, 2018 from http://www.nnpcgroup.com/PublicRelations/NNPCinthenews/ tabid/92/articleType/ArticleView/articled/303/Nigeriaunveils-New-Global-Climate-Policy.aspx/

As party to the UNFCCC and its Kyoto Protocol, Nigeria is mandated to assure decline of carbon discharges prompted by anthropological activities to a level that nefarious interfaces with the climate structure will be guarded against. The federal government derived a strategy intended to make Nigeria 'carbon neutral' by 2025, in analysis of the nation's repetitive moves towards finding lasting solutions to ecologically related issues.[360]

4.3.2.2 National Gas Policy 2017

With deference to Nigeria's gas resources accessible in the seven big wins initiative, the national gas policy complements the extant policy goals of the administration[361] advanced by the Ministry of Petroleum Resources and the National Economic Recovery and Growth Plan (ERGP 2017-2020). The Federal Executive Council (FEC) approved the NGP.[362] The policy is the up-to-date one on Nigeria's environmental itinerary for the gas sector, as it expresses the apparition of the national administration, arrays aims, schemes and an enactment design towards the institution of an apt, time-honored, authorised, superintendent and lucrative framework for the gas sector.[363]

Government purposed Nigeria's copious gas resources for coupling between the years 2008 and 2015. This was centred or built on the gas master plan (GMP), that signposted the goals and determination of Nigeria with reference to her aerial endowments. Nevertheless, as a result of negligible investment completed in the gas segment throughout this period, the GMP failed to deliver on the entirely arrayed objectives. As illustration, there is dearth of the indispensable gas arrangement considered essential which remained hitherto, diminutive of its domestic gas supply obligations.

In order to fortify the proficiency of the MPR as a policy making institution, the NGP arrays full-bodied requirements primarily founded on authorised reorganisations in the oil and gas sector. Due to the fact that there is an endowment beyond the current authorities' functions, the federal government purports to institute a single self-regulating petroleum regulatory authority. This new regulatory authority would be saddled with the responsibility of the fiscal and procedural

[360]ibid
[361]Retrieved on August 8, 2017 from http://www.7bigwins.com/
[362]FEC approved the national gas policy (NGP) 2017 on June 28, 2017.
[363]National Gas Policy: Nigerian Government Policy and Actions 2017. Retrieved on August 8, 2017 from http://www.petroleumresources.gov.ng/

direction of the gas sector, such as accrediting, fact-finding, watching, clash conciliation controls and also some new regulatory activities not presently covered. The enlargement of Nigeria's gas assets to attain gas flare-out through gas utilisation schemes amongst other things is intended, while the intent to transport Nigeria from an oil-founded to an oil and gas-founded industrialised economy is a priority.

Globally, it is recognised that domestic gas supply obligations (DGSOs) are archetypal regulatory apparatuses which guarantee availability of gas to domestic markets. However, gas operatives have a proclivity to convey gas to transnational marketplaces as an alternative to the internal gas market in Nigeria. Allure of greater prices in export markets, guaranteed payment discipline in export markets and obtainable groundwork to put gas into the market can be attributed to the preference for delivery of gas to international markets. The policy hence deliberates that it is necessary to foist domestic gas supply obligation on producers; which would attract and facilitate advancement of the domestic market. It is projected that a sensitivity or understanding of the gas producers' obligations would occur, such that it would be considered as part of their offerings to national improvement and commercial investments in Nigeria.

From an overview of the NGP 2017, this study contends that the NGP is not a rehash of earlier gas policies as it introduces new dimensions into the oil and gas segment. Specifically, in relation to the commercial framework, the gas policy intends to bring on board a network code and gas swaps respectively. The network code is to permit admittance to the entire midway services. It would stand on an uncluttered admittance source and a network code to achieve admittance is to be technologically advanced by the industry, with supervisory roles performed by the petroleum governing authority.

The NGP is bringing on board various commercial arrangements to be used by the market actors to expand their market state of affairs, one of such commercial arrangements is the gas swap. The gas policy however does not contain provisions on the swap arrangements and its implementation. There is therefore a need to put issues in proper perspective. The policy states that market players will be permitted to willingly undertake gas swaps. An exception however, given to this general rule, is that market players will only be permitted to undertake gas swaps after the parties have met their DSO. The policy merely states that it is neither in support of nor against swap arrangements, neither does it propose to inspire parties to digress from their DSO

obligations. This is a lacuna in the policy. It is therefore necessary for explicit provisions to be made concerning the gas swap arrangements.

This study argues that in order to compel market actors to meet their domestic supply obligation, the government must out rightly penalise parties who do not propose appropriate penalties that the government can impose on defaulters of DSO. In the absence of legislative backing, the requirement of meeting DSO would remain a mere policy statement. The study recognises the need for a clear definition of the stand of government with deference to the gas swap commercial schedules being introduced.

Government in a bid to ensure good ascendency in the oil and gas segment, has a constitutional duty to protect property rights and effectively regulate its affairs. In the same vein, Government therefore cannot be seen or said to be found sitting on the fence or maintaining a neutral position as regards the new commercial arrangement or the implementation of the domestic gas supply obligations, if effectiveness is to be ensured. When government's position is clearly spelt out, then the issue of implementation would not be a contest.

4.3.2.2.1 Gas Flare Out through Gas Utilisation Projects

There is a scheme on the part of government to heighten utilisation of concomitant gas to be well-maintained for run of the plant to power generation or productiveness under the national gas policy. By implication, this means that as a substitute of profligately flaring associated natural gas, gas producers are to give assurance that the gas would be optimally utilised for generation of power, fertiliser and ammonia creation and general industrial use.[364]

4.3.2.2.2 New Flare Capture Technologies

Government's tactic is to conclusively determine gas flaring through an assortment of dominant high-performance skills. The commercialisation of splayed gas for streaming into the internal marketplace is an extraordinary precedence tactic to realise the national obligation for flare out policy by 2020. Government has however purposed to attain this through the continuing Nigeria Gas Flare Commercialisation Program (NGFCP) initiated by the Minister of Petroleum

[364] ibid

Resources.[365]The newly issued law (Flare Gas Prevention of Wastes and Pollution Regulations 2018) reinforces the enactment of the NGFCP, as gas flare decline is a priority in Nigeria's ecological itinerary.

The NGP endeavors or strives to make certain that splayed gas is utilised in markets. Various steps and measures would be taken by the government to make certain that flare seizure and utilisation schemes are technologically advanced and determined to exert cooperatively with business enlargement allies, suppliers of flare-seizure machineries and third-party stakeholders, devoid of bigotry to the implementation of pertinent endorsements. Similarly, the policy offers that there would be a substantial consideration for gas utilsation over other considerations for treatment of associated gas. The administration proposes to constrain unjustified re-injection of concomitant gas in the non-existence of persuasive practical reasons or a viable outlet for the gas.

4.3.2.2.3 Flare-Out Targets

Government's agenda is to partly create, amongst other things, an industry consultation mechanism as an important measure in ensuring the practicability of flaring targets and realistic regulations. This mechanism is basically to ensure that flare out targets do not end up being futile efforts. Several flare out dates have previously been set by government, the dates have been postponed from time to time. The recent date for flare out in Nigeria is 2020. Nigeria presently through its policy initiative is putting modalities together in place so as to ensure that the flare out target is achieved.[366]

4.3.2.2.4 Gas Flaring Penalties

The penalty for gas flared fixed at ten naira per million standard cubic feet (N10/mmscf) (equivalent to US $ 0.03) of associated gas flared, was excessively low, having been weather-beaten in value over time, and is in the short-term not equipping it as a preventive. This is because the gas flaring penalty or fine in place is not deterrent enough to impede or dampen gas flaring.[367]This penalty has been reviewed recently to N613 for every 1,000scf of gas flared from

[365]ibid
[366]ibid
[367]ibid

a production volume of 10,000 barrels of oil production. Consequently, the low penalty made gas flaring a much low-priced choice for operators compared to the alternatives of marketing or re-injection. In line with the gas policy, government has taken steps to amplify or augment the gas flaring penalty to appropriately and sufficiently de-incentivise the practice of gas flaring whilst introducing other measures to promote proficient utilisation of gas.

The Tax Appeal Tribunal, Lagos Zone (Tribunal) in *Shell Petroleum Development Company v. Federal Inland Revenue Service*[368] fortified the debate that outlays made in deference of gas flaring activities may be included in tax deductions. The questions for resolution before the tribunal were:

i) Whether the outlays made by the applicant to the DPR to flare gas (without a gas flaring certificate) in 2006, 2007 and 2008) establish a punishment.

ii) Whether the applicant is eligible to diverse levy subtractions on the amounts funded for gas flaring undertakings for the accounting period.

iii) Whether or not the defendant was correct to have allotted the extra valuation for the accounting period.

The applicant, Shell Petroleum Development Company, made disbursements to the DPR to flare gas (as gas flaring fee) in respect of the years of assessments (2006, 2007 and 2008). Shell required having the disbursements preserved as deductible expenses in its proceeds for the years of accounting. The respondent, FIRS, disqualified the expenses deducted and allotted extra assessments on the amounts subtracted by the appellant on the ground that the appellant was not allotted the certificate to flare gas by the Minister of Petroleum in accordance with the dictates of the AGRA.

The appellant vied that the gas flaring charge does not qualify as a punishment within the context of the provisions of AGRA. The appellant argued that the penalty prescribed under AGRA is not in the routine of pecuniary disbursements but unmistakably specified in section 4 of AGRA as

[368] *Shell Petroleum Development Company v. Federal Inland Revenue Service* (2013) Consolidated Appeal: Appeal No: TAT/LZ/040/2013; appeal no: TAT/LZ/041/2013; appeal no: TAT/LZ/042/2013). Tax Appeal Tribunal, Lagos Zone delivered judgment on 27th October, 2015 in favour of Shell Petroleum Development Company.

defeat of the franchises granted to him in the specific turf or turfs correlated with where offence was committed and the censorship of all or part of any entitlements of any felonious person toward the cost of accomplishment or execution of a desirable re-injection scheme or the reparation or refurbishment of any reservoir in the field in accordance with good oil-field practice.

The applicant had submitted that it was entitled to make tax deductions on sums incurred as gas flaring fee because the expenses were incurred wholly, exclusively and necessarily for the purpose of petroleum operations in accordance with Section 10 (1) (i) of the Petroleum Profits Tax Act. The applicant placed reliance *inter alia* on Section 13 of the PPTA, which set out expenses that are statutorily not deductible to argue that gas flaring fees are affected by the provision.

The respondent's position was that payments made by the applicant to the DPR in respect of the gas flared by the applicant in the years of assessments were incurred as a penalty because no certificate was issued by the Minister authorising the applicant to flare gas in the years of assessments. The respondent's submission was that although no law recommended a pecuniary punishment for gas flaring, the applicant supposedly paid to flare gas and this is an illegal transaction that the tribunal should not recognise as legal. The tribunal noted that disbursements completed by the appellant to DPR with deference to gas flared by the complainant in the years of assessment do not amount to a penalty, that the complainant is permitted to create levy subtractions of the calculations acquired as disbursements paid for gas flaring activities for the years of assessments and that it was erroneous for the respondent to have apportioned the supplementary calculations for an inordinate length of time for valuations.

The decision reaffirmed the position that tax deductibility of expenses under the PPTA is based on the gratification of the 'wholly, exclusively and necessarily' test set out under Section 10 of PPTA.

4.3.3 National Petroleum Policy 2017

An innovative National Petroleum Policy (NPP) for the country was endorsed by the Federal Executive Council (FEC).[369] This policy arrayed a long-standing itinerary for Nigeria to turn out to be a homeland wherever hydrocarbons are utilised as energy for countrywide pecuniary progression and not merely a basis of earnings. It arrayed tactical policy objectives for the petroleum industry constituents. The long-standing visualisation had hitherto been enunciated in the Ministry of Petroleum Resources (MPR) 7 Big Wins Initiative and the Federal Government of Nigeria's (FGN) Economic Recovery and Growth Plan (EGRP 2017-2020).

The NPP, which is projected to be fulfilled alongside a corresponding NGP and an NPFP, unambiguously makes available the legal and supervisory, authorised, profitable, pecuniary and functioning framework for evolving an unwavering and empowering oil and gas state of affairs where enhanced lucidity, efficacy, cost-effectiveness, eye-catching investment climate and a well sheltered and viable environment are endowed.

The NPP put forward the transition of an innovative statute, the Petroleum Industry Reforms Bill (PIRB). The PIRB is to dialogue sector control and the official structure, fiscal regime, configuration of state-owned initiatives, limpidity, answerability and environmental matters.

The NPP endorses the establishment of a National Petroleum Policy Directorate to serve as practical backing for the Minister. The practical backing will have specialist centres that would include a strategic planning and policy research centre ("SPPR Centre"), and an investment promotion office. The SPPR centre is to be fortified with arduous research constituents capable of advancing knowledge on local and international developments. In the same vein, a single independent regulatory commission will be established.

There will be saddling of the responsibility of all licensing activities across the oil and gas sector, steering inquiries, mediation and abolition of market distortions on the regulatory commission. The policy also seeks to ensure all regulatory and pseudo-regulatory powers reside in the commission and this would eradicate overlapping of regulatory agencies. The regulatory commission, when established, will create a network code, which would subsequently provide

[369]The National Petroleum Policy was approved on July 19, 2017.

non-discriminatory admittance for third parties to basic organisation in the oil and gas industry. The NPP envisages that the commission would regulate effectively due to the inspectoral and investigative powers granted in addition to the legitimate proficiency to partner with law enforcement agencies.

Currently, under the AGFA, it is permissible for associated gas and non-associated gas costs to be recovered from oil income through cross-subsidising of oil projects to gas projects. This new fiscal framework therefore seeks to exterminate the misrepresentations in the AGFA by emplacing a corrective and optimum fiscal regime tagged FRGA. Abolishment of the AGFA (which is codified in Sections 11 and 12 of the PPTA) is the primary purport of the FRGA, but FRGA may not become effective in enforcing the desired separate oil and gas tax regimes until the Petroleum Industry Bill is passed into law. It is instructive to note however, that the FRGA is the channel through which the benefits or pay-backs of the state and that of the investors are codified.

With deference to the FRGA, the question arises as to why the passing of the PIB should be a condition precedent to the implementation of the FRGA. The answer simply lies in the fact that currently, the industry operates a fused oil and gas tax regime. The Petroleum Industry Bill has however proposed separate oil and gas tax regimes. By implication therefore, until this separate oil and gas tax regime is implemented, the FRGA would automatically remain unenforceable and ineffective, as it presently lacks legislative backing. The enactment of the PIB is therefore necessary to give the FRGA the requisite legal backing.

Following international best practices, limpidity would be incorporated in the award process of oil and gas licenses, leases, license renewals and extensions would in turn be duly awarded after following a see-through competitive process. The policy further establishes license renewals or extensions based on the proportion of success or progress of respective license holders in meeting their assessment or manufacture goals. Under this new procedure, license holders who are unable to fulfill their license settings, comprising oil production, gas flare down and gas supply obligations stay at risk of losing their licenses.

This study opines that the limpidity ingenuity is a commendable policy initiative and it is therefore imperative that license holders ensure they meet the conditions of their licenses.

Revocation of license is an appropriate punitive measure which should serve as enough deterrence for respective and even prospective license holders. The burden however tilts more to the federal government to ensure that these international best practices are complied with, rather than remain mere policy statements.

Amongst other things, the NPP reports procedures to be put in place for diminution of ecological destruction and the ecological footprint in the Niger Delta. The federal government being determined to lessen gas flaring in line with the gas flare out programme, put in force pertinent codes of practice and international best practices and closely censored oil spills. The NPP proposed the "name and shame" strategy, whereby details of effluence and the emitters were to be disseminated in transnational means and the "polluter pays principle", wherein the emitters were to pay the complete outlays of assuaging any damage to the affected communities. The polluter pays principle[370] is however, essentially part of our laws but the enforcement has been lax.

It is instructive to note however, that although the 'name and shame' principle is a good policy initiative, and one which was adopted from the Paris Agreement of 2015, it was however fraught with lapses. It should also be noted that the policy provision merely stated that the 'name and shame' principle would be operated and that polluters would be published in international media. Nothing more is said of the principle again. The policy was silent on what was to happen after 'naming and shaming.'

This study contends that the 'name and shame' strategy may not be deterrent enough to prevent or discourage polluters. Merely naming and shaming polluters does not in itself constitute a prohibition of polluting acts. It is therefore necessary for the law to address the failure of the polluter pays principle and the name and shame strategy by introducing stiffer penalties and penal sanctions which can be effectively enforced. Otherwise, the 'name and shame' principle would merely remain a policy statement lacking legislative backing.

[370]One of the international principles of environmental law.

The NESREA Act[371] empowered the Agency to make regulations setting specifications and standards to protect and enhance the quality of Nigeria's air resources, so as to promote the public health or welfare and the natural development and productive capacity of the nation's human, animal, marine or plant life. The Act[372] expressly criminalises the violation of any environmental standards and regulations and provided that any violator shall on conviction be liable to a fine not exceeding #200,000 or to imprisonment for a term not exceeding one year or to both fine and imprisonment and an additional fine of #20,000 for every day the offence subsists. Where a violation is committed by a body corporate, it shall on conviction be liable to a fine not exceeding #2,000,000 and an additional fine of #50,000 for every day the offence subsists.[373]

4.3.4 National Petroleum Fiscal Policy 2017 (NPFP)[374]

The draft of a new fiscal policy and framework proposed for Nigeria's oil and gas industry was of late released by the Ministry of Petroleum Resources. It is ingrained in a detached and analogous national petroleum fiscal policy document. The philosophy of the NPFP is to make available a framework that sets fiscal rules which are flawless, crystal clear, and internationally viable and designated to incentivise all partakers. The fiscal rules amongst other things necessitate that guidelines should be recognised by law and contracts should be published.

A general synopsis of the NPFP gives full-bodied requests on the tax regime in relation to the oil and gas sector. The policy provides that all upstream companies involved in oil and gas operations would be predisposed to Companies Income Tax (CIT). The previous version of the PIRB make known to a reserve duty called the Nigerian hydrocarbon tax (NHT). This NHT was to be charged on the imputable proceeds of upstream firms at the rate of 50 percent for onshore and shallow waters, and 25 percent for bitumen, frontier acreages and deep-water areas. Although the NPFP retains the NHT, there are however some slight amendments. The new rate is 40 percent for onshore areas, 30 percent for shallow waters and 20 percent for deep water

[371]Section 20 (1) NESREA Act No. 25 2007.
[372]Section 20 (3) NESREA Act.
[373]Section 20 (4) NESREA Act.
[374]National Petroleum Fiscal Policy 2017 was approved by the Federal Executive Council (FEC) in September 2017. Draft retrieved on August 8, 2017 from http://www.lawyard.ng/uploads/2017/03

areas. All upstream companies (not only downstream companies) would be liable to Companies Income Tax (CIT).

For both regimes (PIRB and NPFP), the PPTA now in existence would be no more. By implication the current tax rate of 85 percent has been revised to 70 percent (40 percent NHT plus 30 percent CIT) of chargeable profits. Collection of royalties would also be increased. It is instructive to note that the NPFP does not address the issue of gas flaring or gas utilisation in its policy objectives.

4.3.5 Legal Framework

The legal regime which administers ecological fortification and averts degradation of the environment in Nigeria advocates some penalties against violators. These penalties range from disbursement of fines to incarceration. Some suggested fines are very little. For instance, under the Petroleum Refining Regulations, violation of any offence under the regulation involved a fine of one hundred naira (#100).[375]

4.3.5.1 The Flare Penalty System

The flare penalty scheme in Nigeria was established in 1979, with the enactment of the AGRA 1979 by the federal government. A flare-out date of January 1, 1984, prescribed by the Act, made it unlawful for any company to flare gas beyond the flare-out date without the authorisation of the Minister. The AGRA suggested endorsements[376] for letdown to stand by the requirements of the Act, but these were refuted by ensuing guidelines which brought about the monetisation of gas flaring.[377]

The AGR (Continued Flaring of Gas) Regulations 1984 was carefully shadowed by the AGR (Amendment) Decree 1985. Nwanji[378] opined that the Act and the ensuing guidelines did not seek to outlaw gas flaring, rather, that the Act and the regulations purposed to regulate gas flaring to a very large extent. He opined that the resolve of the Act and regulations was revealed

[375]Regulation 45 (1) Petroleum Refining Regulations.
[376]Section 4 (1) Associated Gas Re-Injection (continued flaring of gas) Regulations2004.
[377]A fine of ten naira per 1,000 scf of gas flared was imposed since 1998.
[378]Nwanji, U.E. 2009. Gas flaring: Legal and environmental perspectives. *Nigerian Journal of Petroleum Natural Resources and Environmental Law* 1.1: 26-44 at 32, 33.

both in the draftsman's expression of the provisions of the law and in its application since inception.

This latter legislation allowed continued flaring of gas after January 1 1984 by international oil companies, in fields that the Minister was contented that utilisation or re-injection of the gas created was not practicable, consequently resulting in the issuance of a certificate (known as 'Gas Flaring Certificate' or 'GFC').

The yardstick for the issuance of the gas flaring certificate is distinct. Flaring of gas is allowable where above 75 percent of the gas manufactured is commendably utilised or preserved and where the manufactured gas is comprised of above 15 per cent scums such as: N_2, H_2S, $C0_2$, which brand the gases inapt for industrial purposes. Flaring is similarly allowable where on-going utilisation programs are interjected by equipment failure with the proviso that such failures do not ensue too recurrently, from the Minister's view point, and the period of disruption does not exceed 3 months, and in cases where less than 50,000 standard cubic feet / kilometre is the proportion of gas produced daily, in relation to the expanse of the oil field from adjoining gas lines or possible utilisation points. Flaring is also allowable in applicable circumstances, where subject to the Minister's discretion, orders the manufacture of oil from oil turfs which contravene the state of affairs specified in the guidelines.

With deference to an excess of 75 percent of manufactured gas remaining efficiently utilised, the first question which comes to mind is whether 75 percent of manufactured gas is effectively utilised? Are there any records for this? Essentially, this condition requires that a minimum of 75 percent of the gas manufactured must be efficiently utilised before a gas flaring certificate can be handed out.

From the key informant interviews (KIIs) conducted at the Department of Petroleum Resources (DPR) Headquarters Lagos, this study gathered that the same law (the Associated Gas Re-Injection Act) which allowed permissible flaring of gas outlawed impermissible flaring of gas concurrently. Hitherto, the reality of meeting a minimum of 75 percent utilisation of gas being utilised had remained an air castle. This is because despite the provisions of the AGRA, gas is still routinely being flared in Nigeria.

With respect to the produced gas encompassing excess of 15 percent scums making the gas inappropriate for manufacturing commitments, it is instructive to note that this condition and the requirement for having an excess of 75 percent of manufactured gas being efficiently utilised, can be best described as mere statutory provisions lacking the force of the law. Essentially, the law stipulates these conditions, which are meant to be pre-requisites to the issuance of gas flaring certificates. However, the study gathered, from extensive literature reviewed and the KIIs conducted, that no experimental studies have been conducted, in respect of the exact percentage of gas produced and utilised, specifying whether or not it amounts to 75 percent or whether 15 percent or more impurities have been found to render gas unsuitable for industrial purposes. What is available in the public domain are conflicting statistics on the percentage of gas manufactured and utilised in Nigeria.

On the issue of ongoing utilisation scheme being intermittent for equipment failure, it is widely known in oil and gas practice in Nigeria that one cannot entirely jettison gas flaring; because flaring is permissible for stringent causes such as cases of startup, equipment failure or shut down. This category of flaring gas for stringent causes is known as "offset flare." The proviso which further states that such equipment failure must not be excessively recurrent, or such intermission should not be as much as three months,[379] is somewhat lopsided and unrealistic.

This study described the provision as lopsided and unrealistic because equipment failures occur often times as a result of unforeseen circumstances caused by wear and tear. In reality, equipment failures are emergency cases and the preventive measure which the IOCs and indigenous companies can undertake, is to ensure that their equipment are properly maintained and serviced regularly. This would guard against unnecessary interruption or equipment failure.

Nwanji[380] argued that the AGR (Continued Flaring of Gas) Regulations 1984 made pursuant to the AGRA was a rehash of the earlier legislation, although it further highlighted restrictive provisions which specified when gas flaring may be permissible. He further argued that the provisions of Section 4 (e) dampened the notable provisions of the regulations. He pointed out that subsection (e) stands as a falsification to attaining gas flare out and that the 1984 regulations

[379]Section 4 (1) (b) Associated Gas Re-Injection (Continued Flaring of Gas) Regulations 2004.
[380]Nwanji Op. cit. p. 31.

would have excluded the legislative basis for gas flaring in Nigeria. Arguing further, Nwanji was of the view that it was erroneous for the law to grant the Minister extensively wide and far reaching powers to order production of oil from fields which do not meet up with any of the conditions in the regulations, without specifying a time frame.[381] He argued that this provision completely disparaged the legislation. The law would have been better suited if the regulations imposed pegs or limitations on the wide discretionary powers of the minister.

A gas flaring certificate stipulates the footings and circumstances for the unrelenting flaring of gas and authorises the operator to linger on flaring gas, after the specified fees for every 28.317 standard cubic metres of gas flared have been paid, as the Minister of Petroleum Resources could from time to time recommend.

The Flare Gas (Prevention of Waste and Pollution) Regulations 2018 provide for $2 for every 1,000 scf of gas flared payable by gas producers who account for over 10,000 barrels of oil production daily. However, producers who do not yield up to 10,000 barrels of oil production daily are to pay 50 cents per 1,000 scf of gas flared. A supplementary disbursement of $2.50 for letdown to yield precise flare statistics, make available right of entry to flare sites and append signature on link pacts.

In accordance with the reporting obligations introduced by the regulations, it is mandatory for gas producers to keep, maintain daily record of date, time, duration, rates, volume, gas source and flare type and yield the respective records once a month to DPR. Flare Gas Permit Bid rounds were discussed in detail in the regulations. The regulations cater for attractive punitive measures such as fines, custodial sentences, suspension of operations and or revocation of the functional license or permit.

4.3.5.2 Petroleum Industry Fiscal Bill 2017

The bill resolves to institute a financial framework which will chaperon the preparation and advancement of petroleum resources in a coherent and viable routine for the socio-economic enlargement of Nigeria. The objectives of the bill include the establishment of a progressive investment in the petroleum industry; institution of a forward-looking fiscal framework that is

[381]ibid p. 32.

based on core principles of clarity, dynamism, neutrality, open access and fiscal rules of general application; and provision of a clear distinction between legislative aspects of the fiscal regime and negotiable aspects of contractual obligations.

Provisions for the fiscal terms and instruments (rents, royalties, tax and incentives) for the entire petroleum industry value chain, and stipulation of comprehensive and progressive natural gas fiscal terms and instruments for the development of the abundant natural gas resources in Nigeria amongst other things is provided for by the bill. It provides for improvement in the system of tax administration by the FIRS, in the petroleum industry, by inclusively repealing and re-enacting the Petroleum Profit Tax Act, so that the tax system for the industry would appropriately and commendably administer help to the FIRS. Removal of the misrepresentations in the AGFA from the operative cross subvention of oil to the gas sector what the Bill pursues.

The existing statutes underlying the Nigerian fiscal regime are listed below:

a) Petroleum Profit Tax Act (Cap. 354 Laws of the Federation 1990 (as amended)
b) Petroleum Act 1969 (Laws of the Federation 2004)
c) Deep Offshore and Inland Basin Production Sharing Contracts Act 1999[382]
d) The first Memorandum of Understanding (MOU) signed between industry operators and Government-1986.
e) Finance (Miscellaneous Taxation Provisions) Decrees 1996-1999; and
f) Companies Income Tax Act 2004.[383]

The above-mentioned avail a framework for the Nigerian petroleum tax regime and contractual agreements *inter alia* that offer facts and figures on the inducements made accessible by the federal government to all operatives in the oil and gas sector. The statutes are typically non-operational and would be retracted with the enactment of the Petroleum Industry Fiscal Bill.

Petroleum revenue taxation is overseen by 'Petroleum Profit Tax Act.' Companies intricately engaged in petroleum procedures during an accounting period are charged. Petroleum operation is distinctly the entrancing or locating and conveyance of petroleum or chargeable oil in Nigeria

[382]No. 9 of 1999 (as amended)
[383]Cap. C21Laws of the Federation of Nigeria 2004 (as amended in 2007)

by or on behalf of a company for its own account by any boring, excavating, mining or other like procedures or method, excluding purifying at a plant, while a business is being carried on by the company intricate in certain procedures, and all procedures attendant thereto and whichever trade of or any discarding of chargeable oil on the company's part.[384]

In the case of *Shell Petroleum Development Company (Nigeria) Ltd. v. Federal Inland Revenue Service*[385]the supreme court held that petroleum technique for disbursement of profit tax by companies willingly in petroleum operations comprise but is not restricted to winning or obtaining petroleum oil by boring, excavating etc. and all undertakings correlated to petroleum procedures. By inference, undertakings such as purifying of crude oil, promoting, solid minerals, oilfield facilities etc., are not precarious issues with respect to petroleum profit tax. Rather, these undertakings are subject to companies' income tax under the CITA. PPT is enforced on turnover resultant from petroleum procedures.

The statutory foundation for obligation and disbursement of petroleum profits tax by companies affianced with petroleum procedures in Nigeria is enclosed in Section 8 of the Act. The Act provides for levies on the proceeds of every single transaction period of any establishment involved in petroleum procedures during certain timeframe, while charging, assessing and allocating such taxes in harmony with the requirements of the Act.[386]

4.3.5.3 Petroleum Industry Administration Bill 2017

The bill offers a new legal structure aimed at the controlling of the upstream, midstream and downstream sectors of the Nigerian petroleum industry. It also seeks to provide effective administration of the entire industry and to open up the industry for investment and growth.

The Bill will therefore address the problems in the upstream, midstream and downstream sectors such as the extant scarcity of license and lease administration; the current absence of clear statutory regulations for the administration of midstream petroleum activities; and the present

[384]Section 2 Petroleum Profit Tax Act Cap. P.13 Laws of the Federation of Nigeria 2004.
[385]*Shell Petroleum Development Company (Nigeria) Ltd.v. Federal Inland Revenue Service* (1996) 8 N.W.L.R Pt. 466 p.256.
[386]Section 8 Petroleum Profit Tax Act Cap. P.13 Laws of the Federation of Nigeria 2004.

poorly structured downstream administration system based on regulation of petroleum products prices.

The Bill amongst other things, provides for a new legal structure for upstream petroleum administration comprising of a new network system; apt dimensions of searching and excavating license and lease zones; apposite interval of licenses and leases; proficient effort schemes; flawless rubrics for renewal and relinquishment of licenses and leases; a flawless license award system; apt transfer , unifications and acquirement structure; domestic gas supply obligation; prohibition of gas flaring; effective environmental quality management; and a proper arrangement for abandonment and decommissioning. It additionally sorts requirements for wellbeing, welfare and milieu by providing for delineation of accountability for the milieu, stating the commitments of licensees, lessees and servicers and initiates their obligation to utilise good oil field practices, reestablish the milieu and recompense victims of ecological incidences.

4.3.5.4 Petroleum Industry Governance Bill 2017[387]

The Bill makes endowment for the control and time-honored framework of the petroleum industry and associated matters. The intents of the Act include the creation of proficient and operational leading establishments with flawless and distinct measures for the petroleum industry; inauguration of a structure for the establishment of profitably adapted and revenue motivated petroleum bodies that guarantee worth accumulation and internationalisation of the petroleum industry; to kindle lucidity and culpability in Nigeria's petroleum resources administration; and nurture petroleum industry procedures in a beneficial commercial environment.

The institution of a new Ministry to be known as 'Ministry of Petroleum Incorporated' was conversed in the bill. The reshuffling of the NNPC by doling out the resources and accountabilities of the corporation into two (2) novel lucrative bodies namely the Nigerian Petroleum Assets Management Company (NPAM) and National Petroleum Company (NPC) was projected by the bill. This would consequence *mutatis mutandis* in the retraction of the Nigerian

[387]The Petroleum Industry Governance Bill 2017 was passed by Senate on May 25th, 2017. Retrieved on August 6, 2017 from http://www.petroleumindustrybill.com/2017/05/

National Petroleum Corporation Act,[388] Nigerian National Petroleum Corporation (Projects) Act,[389] and the Nigeria National Petroleum Corporation (Amendment) Act.[390]

The pecuniary requirements and backing are provided in Sections 48 and 58 (d) of the Bill. The new entities would have fiscal self-sufficiency through the reshuffling of the NNPC. The Bill also converses the creation of the Nigeria Petroleum Regulatory Commission (NPRC). The commission would serve as the industry regulator and watchdog. The responsibilities of the NPRC include certifying, observing, administration of petroleum procedures, imposing laws, protocols and criteria transverse the value chain and perform other ancillary roles necessary and beneficial for the working and full discharge of any of its roles under this Act.

4.3.5.5 Gas Flaring (Prohibition and Punishment) Bill 2017

The Bill proscribes the flaring of natural gas in any oil and gas production operations in Nigeria and makes provision for other matters connected therewith. By virtue of Section 1 (3) of the Bill, it is outlawed for any person to uninterruptedly control, authorise or otherwise support, bestow or mandate, any company affianced in oil and gas procedures to flare gas, on condition that the Minister, may possibly award a certification to flare gas in cases of startup, equipment letdown or shut down.

Whoever flares gas without the assent of the Minister in the circumstances mentioned in Section 1 (3), will be liable to pay a fine which will not be less than the cost of gas at the international market. Section 2 (1) (a) stipulated that no license or lease for the production of oil and gas whether ashore or not ashore will be approved to any aspirant unless the application for such license or lease is complemented by an all-inclusive programme for the utilisation of natural gas, both for universal, national (example integrated power plants, industries *etc.*) and export devotions.

Section 2 (1) (b) delivered that no license or lease will be approved to whichever applicant tenders his application, except the Minister is contented with the applicant's gas utilisation programme, in respect of manufacture of oil and gas in Nigeria. Section 2 (1) (c) stated that the

[388]Cap N 123 Laws of the Federation of Nigeria 2004.
[389]Cap N 124 Laws of the Federation of Nigeria 2004.
[390]Cap N 123 Laws of the Federation of Nigeria 2004.

utilisation programme referred to in subsection 1 (a) above, should necessarily be in tune with the NGMP, DGSO and national policies, as may be made in respect of the gas sector from time to time by the Federal Government.

The Bill also provided that if there was any case of gas flaring, such should be reported to the nearest office of the Department of Petroleum Resources, National Oil Spill Detection and Response Agency (NOSDRA) and National Environmental Standards Regulation and Enforcement Agency (NESREA) respectively. It is instructive to note that NESREA Act excludes NESREA from jurisdiction over issues bothering on the oil and gas sector by virtue of the provisions of sections 7 and 8. The implication of the provisions of sections 7 and 8 on reports of gas flared to NESREA, therefore, is that such reports would remain invalid and void *ab initio*. Essentially, NESREA is ousted by law and lacks the jurisdiction to intervene in matters pertaining to the oil and gas sector. The Bill further stipulated that the Minister will on receipt of a gas flare report, issue a shutdown order and ensure actual shut down of such field, groups of fields or facilities involved in gas flaring.

Section 4(4) stated that on condition where a shutdown order will subsequently lead to a punishment as the Minister may by regulation prescribe, so long as such punishment is based on the flare continuing daily in violation of a shutdown order, is divergent from the gas flare penalty suggested under Section 5 of the regulation and is not less than the budget of gas at the international market. Section 5 stated that a person who flares gas contrary to Section 1 (2) of this Bill, commits an offence under the Bill and will be predisposed to a verdict and pay a fine which will be equal to the cost of gas at the international market.

4.4 Market-Based Instruments in Nigerian Legislation

A close review or assessment of legislation in Nigeria reveals that some specific legislations have market-based instruments embedded within. This means that Nigeria has integrated market principles in its environmental itinerary. We shall consider some examples of market-based instruments inherent in Nigeria's environmental itinerary.

4.4.1 Taxes

Replicating the environmental costs of production of goods is the aim of tax, explicitly an MBI. It plays a pivotal role in cajoling producers and consumers to be answerable in matters connected with their use of natural resources.[391] Through tax, a lessor is levied on every unit of either output or input, and the payment of such levy is mandatory.[392] Generally speaking, a tax refers to whichever contribution that is enacted by administration on persons, for usage of state amenity, with diverse appellations corresponding to duty, tribute, subsidy, custom, excise, fee.[393]

The provisions relating to taxation of petroleum operations in Nigeria were contained in the PPTA 1959 and the subsequent amending decrees of 1967, 1970 and 1973. Oil producing companies are mandated to pay rent and royalties to the federal government in respect of the rights or licenses granted them in Nigeria (oil mining leases-OML, oil prospecting license-OPL and oil exploration license-OEL). Under the existing tax regime, firms affianced with downstream undertakings such as decontaminating and vending of crude oil are taxed under CITA 2004. In addition to the tax levied on their profits under these acts, several groupings of tax are levied on companies affianced with gas utilisation.[394]

The Federal Inland Revenue Service (FIRS) formerly known as the Federal Board of Inland Revenue (FBIR) stands answerable for petroleum profit tax. Section 3 of the Petroleum Profit Tax Act bestows the board with the ensuing influences inter alia due management of the Act; acquirement, allotment and discarding of whichever assets taken as refuge for or in gratification of any unpaid verdict liability with deference to any levy; and the service may by notification in the federal gazette instruct that any material, profits or official papers required to be delivered, dispatched or specified to the revenue service be supplied to such other person as the facility

[391]Thornton, J. and Beckwith, S. 1997. *Environmental Law.* London: Sweet and Maxwell p. 62.
[392]Strappazzon, L., Stoneham, G. and Lansdell, N. 2003. Where do market-based mechanisms fit in the policy mix? An economic analysis, Proceedings of the 6th Annual AARES National Symposium p.152- 179 at 169.
[393]What is tax? Retrieved on September 2, 2017 from http://www.thelawdictionary.org/tax
[394]Capital gains tax levied on gains from the disposal of assets, value added tax, education tax, stamp duty and local government rates and levies.

possibly will instruct,[395] insist on intermittently, form of returns, assertions, declaration and notifications under the Act[396]etc.

The FIRS is statutorily authorised to assess and collect tax from companies which fall within the following three (3) categories;

a) Exploration or oil- producing companies which are taxed under the PPTA 2004 (as amended);[397]
b) Oil marketing companies taxed under the CITA 2004; and
c) Contracting and servicing companies to the oil producing companies.

Petroleum profits tax is collected from the proceeds of firms affianced only in upstream petroleum procedures such as excavating, boring and conveying out oil from the ground. These above-mentioned operations are carried out by the three (3) categories of companies named above. The tax rate is 85 percent for JV agreements and 50 percent for PSCs. Separately from PPT, fee is similarly enforced at an advanced frequency of 0 percent in regions beyond 1000 metres water depth to 20 percent in onshore regions of operations.

In the exercise of all duties and powers conferred on the FIRS by the PPTA, the FIRS would be subject to the authority, direction and control of the Federal Minister of Finance,[398] therefore, the Minister may after due consultation with the chairman of the service, issue written directions, orders or instructions to the FIRS.

Petroleum profits tax is categorised into quantifiable proceeds,[399] which remain the adjusted earnings minus acquired damages and imputable earnings,[400] which are the quantifiable proceeds minus the totality of capital allowances (provided for in the 2nd schedule to the Act).

Currently, under the Associated Gas Framework Agreement (AGFA)[401]associated gas and non-associated gas costs can be recovered from oil income. The existing fiscal regime[402] also makes

[395]Section 3 (d) of the Petroleum Profit Tax Act 2004.
[396]Section 6 (2) of the Petroleum Profit Tax Act 2004.
[397]Petroleum Profits Tax Act Cap P13 Laws of the Federation of Nigeria 2004.
[398]Section 3 (1) (f) of the Petroleum Profit Tax Act 2004.
[399]Section 9 (4) of Petroleum Profits Tax Act (PPTA) Cap P13 LFN 2004.
[400]Section 20 PPTA Cap13 LFN 2004.
[401]Codified in Section 11 Petroleum Profits Tax Act Cap P13 LFN 2004.

provision for royalty (early revenue) and hydrocarbon tax (tax on rent). Nigeria LNG (FIGA) Act provides that NLNG will remain the tax theme in the necessities positioned in the CITA.[403]

LNG will estimate its salaries, outlays which may be capital and revenue, remunerations, quantifiable earnings, total earnings and entire aggregates requisite to be added or premeditated by the CITA or any Act, in United States dollars. Particularly, the reference in Section 40 of the CITA, to the tax rate for the company, which said rate, would be conveyed in equivalent amount of cents per dollar as that section articulates the rate in kobo per naira.[404] The import of this provision is that the respective tax rates provided under the CITA have the rates articulated in both naira and the dollar equivalents because IOCs engaged in oil and gas operations in Nigeria are expected to pay the tax sum either in naira or dollars respectively.

The Flare Gas (Prevention of Waste and Pollution) Regulations 2018 out rightly placed sanctions on gas flaring. The regulation which was appropriated by the Federal Government[405] is the statutory instrument designed to implement the Nigerian Gas Flare Commercialisation Programme (NGFCP). According to the report, Mr. Justice Derefaka, the programme manager of the NGFCP, was said to have mentioned that the Federal Government had resolved the plan of the essential facets of the programme namely: transactional, commercial framework and documentation.

4.4.2 Subsidies

A subsidy bargains a disbursement to a lessor for every element of participation or productivity.[406] Subsidies could be described as echo or reflective descriptions of taxes, since they are similar instruments.[407] Detouring unpardonable unscrupulous behavior is attempted

[402]Adapted from the National Gas Policy 2017.
[403]Section 3 NLNG (FIGA) Act Cap 87 No. 39 Laws of the Federation 2004.
[404]Section 4 (2) NLNG (FIGA) Act Cap 87 No. 39 Laws of the Federation 2004.
[405]Eboh, .M. 2018. Federal Government approves law regulating gas flaring. Retrieved on July 30, 2018 from https://www.vanguardngr/2018/07/fg-approves-law--regulating-gas-flaring--2/
[406]Strappazzon, L., Stoneham, G. and Lansdell, N. Op Cit. p.169.
[407]Stavins, R.N. 1998.Market based environmental policies. Retrieved on September 5, 2017 from http://www.rfff.org/documents/RFF-DP-98-26.PDF

through tax payments, while subsidies on the other hand, galvanise decent and complementary behavior.[408]

Energy subsidies can be defined as whichever administrative feat that sinks the energy making rate, elevates the proceeds of energy manufacturers or sinks the amount funded by energy users.[409] There are two (2) main categories or groups of energy subsidies, namely those that are intended to lessen the rate for consuming energy, generally known as 'consumer subsidies' and those targeted at backing up internal manufacture, called 'producer subsidies.'[410]

Asides the requirements of Section 10 of the Industrial Development (Income Tax Relief) Act, provision for levy reprieve will start on the manufacture day of the firm and is meant to linger for an era of ten years. The levy reprieve era is projected to expire on the first anniversary day after the first five years when the collective systematic contract price of liquefied natural gas stretches to US 3 dollars per mmbtu as premeditated in the leading plan to the Act; accordingly, such scheming will purely be arranged yearly.[411]

The NLNG (FIGA) Act[412] makes provision for exclusion from custom duties, such as disbursement of importation obligations, levies and entirely supplementary compulsions, charges, charges and importations of an analogous nature, with deference to all indispensable importations of equipment, machinery, merchandise and resources for use in the erection of, or integration in the plant, jetties, freight, diffusion services and ancillary works used in the company's business, and in respect of any key additional parts, required in the occurrence of a plant failure and well-arranged within two years of contracting that fragment of the plant for which the specific replacement part is arranged, subject to subsection (2) of this section.

[408]Strappazzon, L., Stoneham, G. and Lansdell, N. Op Cit. p.169.
[409]World Bank 2010. Subsidies in the energy sector: An overview. Retrieved on July 25, 2017 from http://www.sieresources.worldbank.org/EXTESC/Resources/Subsidy_background_paper.pdf/See also Organisation for Economic Co-operation and Development 2011. Inventory of estimated budgetary support and tax expenditures for fossil fuels. Paris: OECD.
[410]Ellis, J. 2010. The effects of fossil-fuel subsidy reform: A review of modeling and empirical studies. Retrieved on July 25, 2017 from http://www.iisd.org/gsi/economic-environmental-and-social-effects-subsidy-reform
[411]Section 2 Nigeria Liquefied Natural Gas (Fiscal Incentives Guarantees and Assurances) Act Cap 87 No. 39 Laws of the Federation of Nigeria 2004.
[412]Section 7 (1) Nigeria Liquefied Natural Gas (Fiscal Incentives Guarantees and Assurances) Act Cap 87 No. 39 Laws of the Federation of Nigeria 2004.

The tax relief and exemption from custom duties provided under the NLNG (FIGA) Act are typical examples of subsidies. They belong to the category of 'producer subsidies', as their aim is to support domestic production.

4.4.3 Permits

In Nigeria, during oil and gas survey and manufacture, several permits are acquired from the DPR and the Federal Ministry of Environment. Safety standards and environmental permits for the different stages of operation are to be gotten from the DPR and the FMENV respectively.[413]

Guidelines for oil and gas industry service companies, permits in the form of guidelines and necessities for the request of oil and gas industry services permit (OGISP) are allotted by DPR.[414] The OGISP provides guidance to applicants which apply for service permits under the various classifications. The guidelines are issued pursuant to Petroleum (Drilling and Production) Amendment Regulations of 1988[415]which empower the Director of Petroleum Resources to formulate regulations or guidelines from time to time, for the smooth and safe running of oil and gas industry maneuvers. The Regulations[416] further provide that no company will render or be engaged to render technical services to the oil industry without first being registered and issued a permit to carry out such services by the Director of Petroleum Resources.

In line with this legal framework, any company that operates in the Nigerian oil and gas sector without a service permit contravenes the provisions of the above regulation. The permits are in three categories namely general purpose, major and specialised.[417] It is however instructive to note that the permits mentioned above are not transferable or tradable.

The Flare Gas (Prevention of Waste and Pollution) Regulations 2018 introduces 'Flare Gas Permits.' These permits bestow rights on apposite IOCs and indigenous companies who plan to utilise flare gas for their usage or for auction to third party off takers. The regulations however

[413]Adeniji, G. and Sipasi, S. 2011. *Nigeria* The International Comparative Legal Guide to: Gas Regulation 2011, London: Global Legal Group Ltd. p. 200-206.
[414]Guidelines for oil and gas industry service companies permit 2015 edition.
[415]Section 8 (1) (a) and Section 9 (1)(a) and (h) of the Petroleum (Drilling and Production) Amendment Regulations 2004.
[416]Section 60 A of the Petroleum (Drilling and Production) Amendment Regulations 2004.
[417]ibid

deliver that a company that is granted a flare gas permit will not concurrently hold an OML or a marginal field.[418]

It is mandatory for a gas producer who intends to commercialise flare gas to apply to the Minister in writing.[419] The regulations outlaw owners of flare gas permits from engaging in repetitive flaring of natural gas from amenities activated by the permit owner.

The Flare Gas Regulations also bring 'Reporting Obligations' on board. Pursuant to the obligations, gas producers are required to retain keep up daily record of date, time, interval, rates, volume, gas source or type of flaring and yield yearly reports of all available flare sites to the DPR. The twelve-monthly report will comprise all the flare gas data in respect of individual flare sites.

This study argues that the Flare Gas Regulation is a rehash of earlier legislation on gas flaring in Nigeria. In purpose and intent, this new law lacks strength over the old law except the aspect of the revised penalty for gas flare from #10 to #613 ($2) for every 1,000 scf of gas flared with a supplementary disbursement of $2.50 for letdown to yield precise flare statistics, make available right of entry to flare sites and append signature on link pacts; and the newly imposed reporting obligations. This is because the law had previously prescribed that records of date, time, duration, rate, volume and source or type of flaring should be yielded to DPR or the nearest NESREA or NOSDRA offices. However, there has been zero-compliance with this mandate and the recent increment of the penalty fee to $2 still appears to be non-deterrent.

The 'reporting obligations' differ in purpose or intent from the 'reduction obligations' proposed by the present study. The present study set out to incorporate 'Gas Flaring Reduction Obligation'. This is two steps ahead of the new law, as the study contends that the obligation to report gas flares is a good initiative, but not enough towards discovering long-term resolution to the protracted difficulty of relentless flaring of gas. It is necessary for the DPR to mandate gas producers to reduce gas flaring and consequently obtain gas flaring reduction obligation certificates in the process.

[418]Regulation 8 (3) Flare Gas (Prevention of Waste and Pollution) 2018.
[419]Regulation 3 (2) Flare Gas (Prevention of Waste and Pollution) 2018.

4.5 Effects of the Nigerian Policy and Legal Framework on Gas Flaring

Gas flaring is an offshoot of non utilisation of gas produced in association with oil. By implication therefore, there is a postulation that any policy of gas considering the issue of development and utilisation of gas, openly or circuitously report the issue of gas flaring.

Currently, the NGP 2017 is the principal policy on oil and gas in Nigeria. Gas utilisation will be a significant deliberation over other contemplations for management of associated gas. Several strategies for advancement and utilisation of gas in Nigeria were outlined under the NGP. Various policies existed over the years by the federal government on gas production and utilisation. Example is the AGFA, which was later codified into law in the PPTA. This policy incentivised upstream gas producers who make investments in the midstream for the utilisation of gas produced, by allowing them to recover such costs of midstream investments from their upstream activities.

The Gas Regulations 2008 provided for the Domestic Gas Supply Obligation Policy (DGSOP), a policy initiative of DPR, aimed at making Nigerian gas producers guarantee that a percentage of the gas they have, is produced and dedicated to domestic utilisation, that is, for power generation, fertiliser and ammonia production and general industrial use. This policy, under the NGMP, stood for pulling together Nigeria's abundant gas resources so that natural gas would not be wastefully flared. However, the study gathered that minimal investments were made in the gas sector between 2008 and 2015, resulting in the inability of the gas master plan to deliver on all its set objectives and meet its domestic gas supply obligations.

In order to achieve the national mandate for flare out policy by 2020, the National Gas Policy 2017 introduced commercialisation of flared gas for supply into the domestic market. This has been a strategically great priority focus of the federal government, through the ongoing Nigerian gas flare commercialisation program (NGFCP) initiated by the Minister of Petroleum Resources on December 13, 2016.

Essentially, gas flare legislation and anti-flare penalties are the conventional tools which have been used to discourage gas flaring. The policies however have not exactly discouraged gas flaring. With reference to the policies, this study contends that one cannot talk in terms of

discouragement of gas flaring. The aims of the policies are to phase out gas flaring completely through encouraging gas utilisation projects and to meet the flare out target of 2020.

The National Gas Policy seeks to safeguard that flared gas is put to use in markets. To culminate these efforts, procedures to guarantee that flare capture and utilisation projects are developed and will work cooperatively with business development allies, providers of flare-capture technologies and third-party investors have been taken by government. To a large extent, one can state that they have however considerably resulted in a decline of the volume of gas flaring, hitherto experienced in Nigeria.

AGRA and the regulations made pursuant thereof, are the main legislation which specifically address the issue of gas flaring in Nigeria. Two prominent points which are noteworthy about the AGRA, are that it allowed permissible flaring of gas and fixed a date (Jan 1 1984) for the stoppage of all impermissible gas flaring. With respect to permissible gas flaring, the legislation provided that with the prior approval of the minister through the issuing of a gas flaring certificate, a gas producer may flare gas. While on the other hand, it prohibited the flaring of any kind of gas, devoid of the of the minister's prior acquiescence.

Importantly, it is instructive to note that despite the provisions of the AGRA, gas is still habitually being flared in Nigeria and in lieu of the gas certificate regime; there is an administrative monetary penalty regime in place. Although the law prescribed sanctions and penalties, these have however failed as they have not deterred defaulters. Also, most IOCs and indigenous companies have initiated inexpensive means to pay the fine and flare gas, than invest in gas utilisation infrastructure. In essence therefore, one can say that it has not been as effective as it ought to be perhaps due to the non-adherence in terms of the confines, to the requirements of the law by those answerable to implement it.

Bamisile[420] alluded to the fact that the AGRA was the key legislation which purposed to abate gas flaring, although she opined that the Act had not been fruitful at ending gas flaring in Nigeria. She further considered the provisions of the Petroleum Industry Bill (PIB) 2012 on gas

[420]Bamisile, A. 2015. A critical review of Petroleum Industry Bill 2012 provisions on gas flaring in Nigeria. A dissertation submitted to the Department of Law, Aberdeen Business School, in partial completion of the degree of LL.M Oil and Gas Law: 1-61.

flaring prohibition and retribution to establish the efficacy of the PIB on plummeting gas flaring in Nigeria.

Udok and Akpan[421] examined the legislative procedures necessary for regulating the oil and gas industry. They were however of the view that there is absence of explicit lawful structure barring gas flaring in Nigeria. They opined that the current law, AGRA and regulations made thereunder were not effective as they merely provided monetary penalties for the unrelenting flaring of gas by the IOCs and indigenous companies operating in Nigeria. The authors also argued that presently in Nigeria, the environmental fortification against the effect of gas flaring had no legislative backing, except for the judicial proclamation made in the case of *Jonah Gbemre,* which decision, was later reversed on appeal.

Dimowo[422] argued that the gas re-injection project from late 70s to late 80s was merely a formation which required statutory backing and guarantee on the both the sides of the government and the oil companies. Dimowo drew attention to the provisions of section 3 (1) of the AGRA and opined that this was the toughest provision of the Act as firms affianced in the production of oil and gas were prohibited after January 1st, 1984 from flaring associated gas.[423]

Ayoola[424] examined the hypothetical perspective for gas flaring and its consequence for ecological accounting. The study focused on selected oil and gas companies operating in the upstream and downstream sectors. Evaluation criteria were based on environmental policies, objectives and targets, emission information and negative information and also environmental audits. The study revealed variations in gas flaring disclosure in the Nigerian oil and gas sector, with no legislative support.

Ukala[425] maintained that gas flaring eradication was inefficacious because of the failure to implement gas flaring legislation in Nigeria. Ukala noted the first attempt by the federal

[421]Udok, U. and Akpan, E.B. 2017. Gas flaring in Nigeria: Problems and prospects. *Global Journal of Politics and Law Research* 5.1:16-28.
[422]Dimowo, F. 2008. The Liquefied Natural Gas Act and 2004 Gas Flaring Deadline in Nigeria Oil Industry. *Nigeria Education Law Journal* 9.1: 189-204 at196.
[423]ibid p. 192.
[424]Ayoola, T.J. 2011.Gas flaring and its implication for environmental accounting in Nigeria. *Journal of Sustainable Development* 4.5: 244-250.
[425]Ukala, E. 2011. Gas flaring in Nigeria's Niger Delta: Failed promises and reviving community voices. *Washington and Lee Journal of Energy, Climate and Environment* 2: 97-126.

government around 1979, to explicitly tackle the issue of gas flaring, by articulating the AGRA. It was argued that the courts have a salutary role to play in the determination of peoples' rights and resolution of disputes. Various theories on the role of courts especially those that pertain to resolving gas flaring issues in the Niger Delta, were assessed. Professor Jules Lobel's theory was among the theories discussed, which theory, postulated that the courts can be used as a medium of disapprovals. Ukala further explained that the Lobelian model permits the court to arbitrate arguments on societal impartiality concerns such as temperature variation and conservational law matters. It is instructive to note that Ukala suggested that customary adjudication approach appeared to be a more operative tool to putting an end to gas flaring in Nigeria. It was argued that customary arbitrators were free from the undue influence of the IOCs, and hitherto, had a strong bias and determination to stop gas flaring in Nigeria.

Gas utilisation schemes have been encouraged and promoted. With the need to attain the national mandate for flare out by 2020, Nigeria has prioritised the commercialisation of gas flared towards streaming to the internal marketplace through the ongoing NGFCP initiated by the Minister of Petroleum Resources.

The study while aligning with previous studies, also contends, that the AGRA and Regulations made pursuant thereto, the main legislation which addresses gas flaring in Nigeria, did not effectually tackle gas flaring in Nigeria. This study suggests that the problem may be attributed to the approach of government at the time. The approach taken by government was warped and there was a lack of foresight on the prospects of the natural gas market in Nigeria. This is because at the onset of oil operations in Nigeria, oil was the main focus and natural gas was discovered coincidentally in the process, moreover, 'zero flare regime' did not exist and the utilisation of gas was not a condition of the licences of the IOCs at the time of the grant of such licences. Subsequently, attempts to impose a 'zero flare regime' have proven difficult and have been faced with much resistance from the IOCs who prefer to pay the fine than comply with the 'zero flare policy.'

4.6 Distribution of Questionnaires

The sample frame was drawn from private practitioners of some consulting firms namely Advisory Legal Consults, Lekki; Century Energy Ltd. Lekki; AELEX Legal Practitioners and Arbitrators, Ikoyi, Templars, Victoria Island and Streamsowers and Kohns Legal Practitioners and Administrators, Victoria Island respectively. The private practitioners represented 65.0% of the respondents while the remaining (35.0%) were public servants in the management cadre of the Department of Petroleum Resources (DPR) and National Oil Corporation (Nigeria National Petroleum Corporation) Abuja.

A total of twenty-six questionnaires were administered to the respective respondents. Twenty (20) questionnaires were duly filled and returned. This represents 76.9% of the total number of questionnaires administered. (Table 4.6). The responses from those interviewed complemented those obtained from the questionnaire.

Table 4.6 Distribution of Questionnaires

Questionnaires	**Frequency**	**Percentage**
Number of Questionnaires Completed and Retrieved from Respondents	20	76.9%
Number of Unfilled or Unretrieved Questionnaires	6	23.1%
Number of Questionnaires Administered	26	100.0%

Source: Researcher's Questionnaire, 2017.

4.6.1 Demographic characteristics of Respondents

The first section of the questionnaire required the respondents to provide demographic information such as gender, age, occupation, level of educational qualification, place of work, rank and years of involvement in the oil and gas industry. Table 4.6.1 presents the demographic characteristics of the respondents.

The result shows that majority (50.0%) of the respondents were male while the remaining (50.0%) were female. The result could indicate an equal representation in employment opportunities.

Age as a function of years of experience was used to explore the differences in the knowledge of the respondents on gas flaring regulation in the oil and gas sector in Nigeria. The result shows that majority (70.0%) of the respondents were within 30 to 49 years; while those within 20 to 29 years were 15.0% and 15.0% were within 50 to 59 years. Thus, most of the respondents were within the economically active age group while few relatively elderly persons were consulted.

The defendants were mandated to point out their place of work. All the respondents were legal practitioners who practiced either as private practitioners or public servants. Also, majority, comprised of sixty per cent (65.0%) of the respondents were private practitioners who consulted on oil and gas matters.

Education plays a pivotal role in examining the policy and legal framework for regulating gas flaring. The respondents indicated their level of educational qualification. Their qualifications ranged from those with bachelor of law degree and had been called to the Nigerian Bar as barristers and solicitors of the Supreme Court of Nigeria (LL. B/B.L) (25.0%). Majority (60.0%) had master of laws degree (LL.M) while 5.0% had a Ph.D. degree. Others (5.0%) had qualifications such as masters of philosophy (M.Phil) and 5.0% had chartered secretary and administrator certification (ACIS).

The respondents had various ranks like management cadre, legal consultants, intermediate cadre, to junior cadre respectively. Majority (50.0%) were legal consultants, while 25.0% belonged to the management cadre. Furthermore, only few of the respondents were in the intermediate (10.0%) and junior cadre (15.0%) levels respectively.

The respondents had varied years of experience categorised into 0 to 5 years, 6 to10 years, 11 to15 years, 16 to 20 years, 21 to 25 years and 26 years and above respectively. The result shows that most (35.0%) of the respondents were at both the entry level (0 to 5 years) and 6 to 10 years respectively. Also, 10.0% had years of experience of within 11 to 15 and 16 to 20 years respectively. Lastly, 5.0% had both 21 to 25 years and above 26 years of relevant experience in the oil and gas industry.

Table 4.6.1: Demographic Characteristics of Respondents

Variables	Frequency	Percentage
Gender		
Male	10	50.0
Female	10	50.0
Total	**20**	**100.0**
Age (years)		
20-29	4	20.0
30-49	14	70.0
50-59	2	10.0
Total	**20**	**100.0**
Years of Experience		
0-5	7	35.0
6-10	7	35.0
11-15	2	10.0
16-20	2	10.0
21-25	1	5.0
26 and Above	1	5.0
Total	**20**	**100.0**
Highest Qualification		
LL.B/ BL	5	25.0
LL.M	12	60.0
PHD.	1	5.0
Others	2	10.0
Total	**20**	**100.0**
Place of Work		
Private Practitioner	13	65.0
Public/Civil servant	7	35.0
Total	**20**	**100.0**
Rank of Respondent		
Management	5	25.0
Consultant	10	50.0
Intermediate	2	10.0
Junior cadre	3	15.0
Total	**20**	**100.0**

4.6.2 The Awareness of Gas Flaring Policies

The policy framework for gas flaring regulation in Nigeria is one of the major factors that could enhance effective regulatory control with respect to gas flaring reduction in Nigeria. The policies make provisions on regulating the Nigerian oil and gas sector, with the primary goals of ensuring utilisation of gas and abatement of gas flaring.

4.6.2.1 Level of Awareness of Gas Flaring Policies

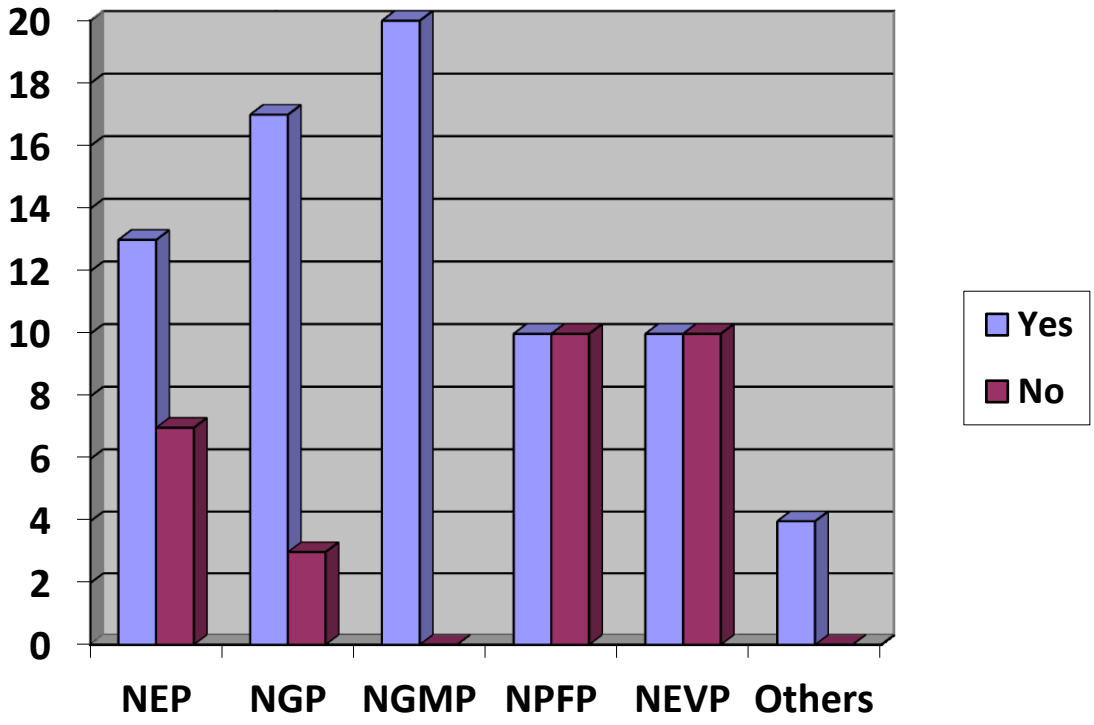
Fig 4.9.3 shows that 65.0% of the respondents were aware of the National Energy Policy 2003, while 35.0% of the respondents were not. Eighty-five (85.0%) of the respondents were cognisant of the National Gas Policy 2017, while 15.0% were not. All the respondents were aware of the National Gas Master Plan 2008. Fifty (50.0%) of the respondents were cognisant of the Nigerian Petroleum Fiscal Policy 2015, while 50.0% were not. Fifty (50.0%) of the respondents were cognisant of Nigerian Environmental Policy 2017, while 50.0% were not cognisant of the policy.

In response to the ways the policies have discouraged gas flaring in Nigeria, one of the Management Officials interviewed at the Department of Petroleum Resources (DPR) Headquarters, Lagos stated that:

> The policies have not discouraged gas flaring in Nigeria. With reference to the policies, you cannot talk in terms of discouragement. The aims of the policies are to reduce gas flaring. To a large extent, they have significantly reduced the amount of gas flaring hitherto experienced in Nigeria.

However, another interviewee, a Principal Consultant at one of the oil and gas advisory firms visited said: “The policies have discouraged gas flaring basically by seeking to phase out gas flaring completely through encouraging gas utilisation projects and ensuring total flare out target is met by 2020.”

There was also a general consensus among the interviewees that the National Gas Policy (NGP) 2017 is the current/ most recent policy on gas in Nigeria. Those interviewed were of the opinion that the National Gas Policy (NGP) 2017 is a comprehensive update on oil and gas policies in the last ten (10) years. With respect to consistency of the policies of government on oil and gas concerns over the years, this study confirmed, that there has been some consistency to a very large extent. For instance, the policy provisions of the National Gas Master Plan (NGMP) 2008 specifically on Domestic Gas Supply Obligation (DGSO) which were not fully met under the NGMP, have been fully incorporated into the recent National Gas Policy (NGP) 2017. Figure 4.6.2 shows the respondents' awareness of gas flaring policies.



NEP: National Energy Policy 2003

NGP: National Gas Policy 2017

NGMP: National Gas Master Plan 2008

NPFP: Nigerian Petroleum Fiscal Policy 2017

NEVP: Nigerian Environmental Policy 2017

Others: National Petroleum Policy 2017

Fig 4.6.2 Awareness of Gas Flaring Policies

Source: **Author (2017)**

4.6.3 Awareness of Legislation regulating Gas Flaring in Nigeria

The respondents' opinions were sought on whether they were cognisant of gas flaring legislation in Nigeria. They were further required to indicate other legislation not included among the options before them. It was a yes/no type of question. The responses of the respondents are indicated below:

All the respondents were cognisant of legislation regulating gas flaring in Nigeria. Some respondents and interviewees indicated Gas Regulations 2008 among legislation not listed in the options listed in the questionnaire.

Speaking on the Gas Regulations 2008, one of the senior management officials interviewed at The Department of Petroleum Resources (DPR) Headquarters, Lagos said: "The Gas Regulations 2008 provided for domestic supply obligation. It was a policy initiative of the Department of Petroleum Resources (DPR) . It was an obligation to supply certain volume of gas to domestic market." Another management official interviewed at the Department of Petroleum Resources (DPR) Headquarters, Lagos said: "The domestic gas obligation policy was aimed at making the producers of gas in Nigeria to ensure that the percentage of the gas they have is produced and dedicated to domestic utilisation, that is for power generation, fertiliser and ammonia, production and general industrial use."

4.6.4 Adequacy of the Laws in tackling Gas Flaring

The respondents' opinions were sought on whether the laws were adequate in tackling gas flaring in Nigeria. It was a yes/no type of question. The responses of the respondents are indicated below:

Table 4.6.4 shows the responses on the adequacy of the laws in tackling gas flaring. Seventy five percent (75.0%) of the respondents did not answer affirmatively, they were of the view that the laws were not adequate to tackle the lingering problem of gas flaring in Nigeria.

This is in line with the present study as it buttresses the fact that there is indeed a need for the market-based legal framework proposed by this study. It is instructive to note that there was a general consensus among all the interviewees that the Associated Gas Re-Injection Act is the only law which really addresses gas flaring in Nigeria.

On the ways the laws have discouraged gas flaring, one of the senior management officials interviewed at the Department of Petroleum Resources (DPR) Headquarters, Lagos said: " The Associated Gas Re-Injection Act discouraged gas flaring. The prohibition date for flaring gas was 1984. It was later shifted to several times and the latest flare out date is 2020. However, although the Act itself provides for stiff penalty for flaring of gas without exemption certificate, we have not been able to enforce that penalty. The Act further provided for forfeiture of lease."

The respondent further said:

> Lack of political will to enforce the law is another issue. To get exemption certificates, the law would charge some money. The Associated Gas Re-Injection Act prescribed ten (10) naira per 1,000 scf of gas flared, for exemption certificates. This was however not prohibitive enough as most international oil companies (IOCs) prefer to flare and pay the fine rather than stop the flaring. We tried to increase it to $3.50 by government policies, but this move faced a lot of resistance from the international oil companies. Government was not consistent and the will to enforce was absent, those are some of the reasons why gas flaring has not stopped all this while. When licenses were issued, there were not enough clear programs for gas utilisation because the interest then was in oil. Then we had licenses granted from 1960s downward. For example, the case of Shell and other international oil companies (IOCs), wherein it was initially not a condition of their license that they must utilise gas. The idea of utilisation of the gas was very recent and to get them to utilise gas was very difficult.

In discussing other means of discouraging gas flaring, he further said:

> The law prescribed sanctions and penalties. These have however failed as they have not deterred defaulters. Alternatively, we are now looking at a commercial arrangement (currently in place), whereby someone else can take the gas on behalf of the government to utilise and turn it to money.

On the efficacy of the AGRA, one of the management officials interviewed at The Department of Petroleum Resources (DPR) Headquarters, Lagos said:

> I am not aware if there is any study, report or assessment of the legislation discussing the efficacy of the AGRA. However, two very important points to note about the AGRA are that it allowed permissible gas flaring and secondly,

> it set a date (Jan 1 1984) for the stoppage of all impermissible gas flaring. What is permissible gas flaring?? With respect to permissible gas flaring, the legislation provides that with the prior approval of the minister through the issuing of a gas flaring certificate, a gas producer may flare gas. While on the other hand, it prohibited the flaring of any kind of gas, without the prior permission of the minister. Secondly and importantly, note that despite this Act however, gas is still routinely being flared in Nigeria and in lieu of the gas certificate regime, there is in place an administrative monetary penalty regime in place. In essence, it has therefore not been as effective as it ought to be perhaps due to the non-adherence in terms of the limitations, to the provisions of the law by those responsible to enforce it.

The respondent concluded by saying: "Obviously, no, the law has not been able to adequately regulate gas flaring in Nigeria as already mentioned." A principal consultant at one of the oil and gas advisory firms visited in Lagos said: "No, the laws have not been able to meritoriously control gas flaring in Nigeria. The law does not say much and is not exactly targeted at penalising gas flaring, even at that, the government has not really been able to effectively and satisfactorily regulate gas flaring in Nigeria."

Table 4.6.4 Adequacy of the laws in tackling gas flaring.

Adequacy of the laws	Frequency	Percentage
Yes	5	25.0%
No	15	75.0%
Total	20	100.0%

Source: Researcher's Questionnaire, 2017.

4.6.5 Perception on the Flaws inherent in the Laws regulating gas flaring in Nigeria

There was a general consensus among the respondents that the AGRA is the foremost and only legislation geared towards reducing or eliminating gas flaring in Nigeria. Most of the respondents were of the view that the Associated Gas Re-Injection Act is the locus classicus on gas flaring in Nigeria.

Some of the inherent flaws enumerated by the respondents are; meager gas infrastructure or derisory endowment to embolden investment because the fiscal terms relating to gas utilisation are not full-bodied enough for the licensees to put in the requisite resources needed to utilise gas; the historic fusion of oil and gas production has hindered gas production and as a result, gas flaring has been difficult to curtail because it is a consequence of oil production; dearth of penalties ample to dissuade flaring; lack of clear and concise provisions for the utilisation of gas to encourage utilisation and discourage flaring; under development of local gas market; lack of inducements to utilise gas; poor monitoring and implementation of the extant laws to ensure maximum compliance and absence of political resolve on the part of the federal government through the regulatory bodies in ensuring compliance with the existing laws.

Those interviewed held a general view that there is an absence of political resolve on the Federal Government's part to implement the gas flaring certificate regime and enforce the penalty regime. This absence of political resolve on the part of government, they believed, was partly responsible for the lingering gas flaring issue in Nigeria.

The myth "government lacks the political resolve to stop gas flaring in Nigeria" was a theme which recurred among scholars who had delved into the realm of seeking better environmental outcomes for oil and gas regulation in Nigeria. Several studies had been conducted on gas flaring in Nigeria; however most of the studies conducted drew attention to the need for better

regulation and management of the gas sector,[426] which, by implication, would address the lingering problem of gas flaring.

The study engaged with many studies which traced the history of oil and gas and the gas flare trend, especially within the Nigerian context. This study, however, contends that none of the studies, hitherto conducted in Nigeria, had been able to appropriately demystify the myth "government lacks the political will to stop gas flaring in Nigeria." From the first-hand information gathered during the course of this study, the myth "lack of political will to stop gas flaring in Nigeria" has been demystified. In demystifying the myth, it is necessary to consider the phenomenon of gas flaring from the roots. At the forefront, a salient and noteworthy point is that, in reality, gas flaring appears to be a process that cannot be totally eliminated. This is because gas flaring is allowed for technical reasons, and this process is known as "technical flare."

It seems Government's "lack of political will to stop gas flaring in Nigeria" is therefore arguable. One may argue, that the approach of government at the inception of oil and gas exploration and production in Nigeria, was warped. The study found that the root of the problem was embedded in the faulty licence conditions of IOCs. At the commencement of oil and gas operations, it was not a condition of their licence, at the time of the grant, to regulate gas flaring. This therefore made subsequent attempts to regulate gas flaring a very demanding task.

Another argument revealing the seeming absence of political resolve by Government to abate gas flaring was that Government's action was for the sake of national interest. Oil at the time, was the main source of Government revenue. The prescribed penalty for international oil companies (IOCs) who engaged in gas flaring, was the revocation of their licence or shut down of any of the gas fields, within which flaring constantly occurred. Government therefore, simply for the sake of national interest, that is attracting more revenue, could not in the same vein be seen to have revoked the licences of the companies who engaged in constant flaring of gas neither were any

[426]Oluduro and Oluduro 2015 Op cit.; Nwanji 2009 Op. cit.; Aghalino 2009 Op cit.; Oyewunmi and Oyewunmi 2016 Op cit. and Udok and Akpan 2017 Op cit.

gas fields shut down. Closely linked to the above stated, is the fact that there was no zero-flare regime at the onset of oil and gas exploration and production operations in Nigeria.

One of the management staff of Nigeria National Petroleum Corporation (NNPC) Abuja said:

> In my opinion, the major challenge faced with stopping gas flaring is the lack of infrastructure necessary for monetisation or utilisation of gas particularly for the domestic gas market. The control of the production of gas by the international oil companies who have a bias for export of gas predominantly in the form of liquified natural gas (LNG) has restricted the entrance of new players as most of the gas resources are currently within existing oil mining leases held by the international oil companies (IOCs). Perhaps a provision in the Petroleum Industry bill for gas mining leases, separate from oil mining leases would be helpful particularly for the large volumes of non-associated gas lying in situ within existing oil mining leases.

A management official at the Department of Petroleum Resources (DPR) Lagos said: "Initially, there was no zero flare. It was not part of the condition of their license at the time of grant to regulate gas flaring. So trying to regulate now is difficult. Secondly, the sanctions are not adequate." An intermediate cadre private practitioner of one of the firms visited said:

> In my opinion, the Associated Gas Re-Injection Act is grossly insufficient to address the problem of gas flaring in Nigeria. It creates a duty for implementa tion of the re-injection of all associated gas by a certain date. The penalty is for revocation of concessions granted to the companies. It is however, a notorious fact that the cut-off date for implementation has continued to be shifted and the penaltie have never been implemented against any offenders, yet companies operating in the oil and gas sector continue to flare gas.

A principal consultant in one of the firms visited in Lagos said: "The weakness inherent in Associated Gas Re-Injection Act is that it does not say much about flaring. It merely talks about permission of the Minister and then offenders who flare without prior permission of the Minister. If you look at other jurisdictions, they are a lot more specific in their laws. We need more specific provisions of the law. The law also does not specifically address venting. It only specifies gas flaring."

In relation to whether or not international oil companies (IOCs) obtain exemption certificates, a senior management official of the Department of Petroleum Resources (DPR) Lagos said: "The problem is that initially, some companies were obtaining the exemption certificates and paying ten (10) naira, later they were no longer obtaining the exemption certificates. At that point, the issuing of exemption certificates stopped. In most cases, if you don't have the exemption certificates and you flare gas, what we introduced is the monetary penalty. The law provides that either you pay it or forfeit the lease."

It is instructive to note from the above statements, that penalties not being implemented against any offenders and failure to compel international oil companies (IOCs) to obtain exemption certificates reveals the lack of political will on the part of government to put an end to gas flaring in Nigeria. When there is a failure on the part of the international oil companies (IOCs) to obtain exemption certificates, that automatically implies that implementing penalties against offenders would be an herculean task for the regulatory bodies.

4.6.6 Perception of the Challenges of Gas Flaring Policies in Nigeria

The respondents' opinions were sought on the policy challenges encountered in the quest to reduce gas flaring in Nigeria. This section contained likert type responses, where the respondents were required to choose from one of the following options: (A) Strongly Agreed (B) Agreed (C) Neutral (D) Disagreed and (E) Strongly disagreed. The responses of the respondents are indicated below:

Table 4.6.6 shows that 75.0% of the respondents agreed on the inability of the gas flaring policies to enhance and promote gas utilisation in Nigeria, while 20.0% were neutral in their opinion. On the other hand, no respondent disagreed, while 5.0% respondents strongly disagreed. On the lack of consistency in the policies, 50.0% of the respondents agreed, while 35.0% of them were neutral and 15.0% of them disagreed. On the current gas regime not discouraging gas flaring, 55.0% of the respondents agreed, 20.0% of them were neutral and 25.0% of them disagreed. On the lack of infrastructural development in the gas sector, 80.0% of the respondents agreed while 15.0% of them were neutral and 15.0% disagreed. On the need for stiffer penalty to discourage gas flaring, 65.0% of the respondents agreed while 10.0% were neutral and 25.0% disagreed. On the absence of provision for revocation of license of companies engaging in gas

flaring, 55.0% of the respondents agreed; 15.0% were neutral and 30.0% disagreed. On inadequate provision to address venting and monitoring of gas flaring, 55.0% of the respondents agreed, 35.0% were neutral while 10.0% disagreed. On inconsistency with global best practices, 45.0% of the respondents agreed; 40.0% were neutral while 15.0% disagreed. On inadequate compensation for the communities, 65.0% of the respondents agreed; 25.0% were neutral; 5.0% disagreed while 5.0% strongly disagreed.

Table 4.6.6 Perception of Respondents on the challenges of Gas Flaring Policies in Nigeria

S/N	Items	(A)Strongly Agreed f (%)	(B)Agreed f (%)	(C)Neutral f (%)	(D)Disagreed f (%)	(E)Strongly Disagreed f (%)
1.	Inability to enhance and promote gas utilisation in Nigeria	9 (45.0)	6 (30.0)	4 (20.0)	Nil	1 (5.0)
2.	Lack of consistency in the policies	6 (30.0)	4 (20.0)	7 (35.0)	3 (15.0)	Nil
3.	Current gas regime does not discourage gas flaring	8 (40.0)	3 (15.0)	4 (20.0)	5 (25.0)	Nil
4.	Lack: infrastructural development in the gas sector	14 (70.0)	2 (10.0)	3 (15.0)	1 (5.0)	Nil
5.	Need for stiffer penalty to discourage gas flaring	9 (45.0)	4 (20.0)	2 (10.0)	5 (25.0)	Nil
6	No provision for revocation of license of companies engaging in gas flaring	5 (25.0)	6 (30.0)	3 (1.0)	6 (30.0)	Nil
7	Inadequate provision to address venting and monitoring of gas flaring	7 (35.0)	4 (20.0)	7 (35.0)	2 (10.0)	Nil
8	Inconsistency with global best practices	6 (30.0)	3 (15.0)	8 (40.0)	3 (15.0)	Nil
9	Inadequate compensation for the communities	9 (45.0)	4 (20.0)	5 (25.0)	1 (5.0)	1(5.0)

Source: Researcher's Questionnaire, 2017.

4.6.7 Legal Challenges in the Quest to Reduce Gas Flaring

This present study while counting, amongst other things, on the theory of environmental justice in the bid to regulate gas flaring, agrees with Udok and Akpan who referred to environmental rights issues in their study. They argued that with respect to environmental rights issues, the AGRA was futile with barring gas flaring, which act constituted a desecration of the important mortal privileges and conservational privileges of Nigerian citizens residing in the communities situated within flare locations in the Niger Delta region.[427]

From the unstructured or key informant interviews (KII) conducted at the Department of Petroleum Resources (DPR) Headquarters, Lagos, it was gathered that gas producers in Nigeria lacked the inclination to belligerently pursue and implement gas utilisation projects for domestic or export purposes. This is mainly because it was not made a part of the condition of their licenses, to regulate gas flaring, at the time of the grant of such licenses. Subsequent attempts to regulate gas flaring thereafter were confronted with great difficulty.

Oyewunmi and Oyewunmi[428] criticised gas flaring regulation in Nigeria, referring to the structure of the present JVA between government and the IOCs engaged in oil and gas operations in Nigeria. The authors drew attention to the method of construction of joint venture agreements, explaining that NNPC had a grander responsibility pertaining to gas re-injection or utilisation. They were also of the opinion that if NNPC was not saddled with a grander obligation, then regulation of gas flaring would have been more efficacious. The authors further drew attention to the seeming disconnect in Nigeria between environmental regulations and the fortification of citizens' fundamental rights. They opined that this disconnect steered the IOCs to exploit the status quo, which has in turn resulted in many years of undiminished gas flaring.

Ite *et al*[429] examined the implications of historical and existing IOCs and the efforts of the Nigerian government towards ecological regulation. The authors argued that there was a track

[427]Udok and Akpan. Op.Cit p.20-21.
[428]Oyewunmi, O.A. and Oyewunmi, A.E. 2016. Managing gas flaring and allied issues in the oil and gas industry: Reflections on Nigeria. *Mediterranean Journal of Social Sciences* 7.4: 643-648 at 646.
[429]Ite, A.E., Ibok, U.J., Ite, M.U. and Petters, S.W. 2013. Petroleum exploration and production: Past and present environmental issues in the Nigeria's Niger Delta. *American Journal of Environmental Protection* 1.4: 78-90 at 79, 80.

record of some of the IOCs operating in the Niger Delta region, who failed to observe international best practices on environmental regulation and protection.

Undue reliance on the Nigerian oil and gas industry for government revenue posed a major challenge to reducing gas flaring. Oyewunmi and Oyewunmi[430] drew attention to Nigeria's excessive reliance on the oil and gas sector for government revenue and the purported compulsion to maintain the high revenue derived from oil and gas procedures, which hitherto, led to the advanced annihilation of the need to enforce a zero-flare regime. Anichie[431] alluded to the excessive dependence on oil returns attributable to non-variation of the Nigerian budget which presents a difficulty in Nigerian government risking proceeds loss that would likely be caused by rigid and radical gas flaring elimination measures. Anichie's study focused on examining the role of the Nigerian government in implementing zero flaring policy. He argued that the federal government was unsuccessful with implementing the flare out cutoff date on IOCs.[432]

Lack of a domestic gas market has been a challenge in tackling gas flaring in Nigeria. Nigeria has few gas utilisation projects and lacks the necessary gas infrastructure to trail these gas utilisation projects. However, with belligerent quest of gas utilisation projects, provision of the requisite infrastructure and a development of our local market, tackling gas flaring would become history in Nigeria. Ubani and Onyejekwe[433] reported that Nigeria flares half of her total associated gas produced, estimated to about 850 billion cubic feet per year (bcf/y) as a result of an undeveloped gas market, while detecting several gas flare locations and diverse samples at numerous vicinities from the gas flare localities were obtained.

Lack of the requisite infrastructure for gas production and utilisation is another task faced with tackling gas flaring in Nigeria. Ohunakin[434] alluded that gas flaring condensed the optimal impact of natural gas to the overall energy depletion mixture notwithstanding the vast gas

[430]ibid
[431]Anichie, E.T. 2015. An assessment of the role of the Nigerian state in enforcing zero-gas flare regime, 1979-2012: The imperatives of environmental diplomacy. *Civil and Environmental Research* 7.12: 29-45 at 38.
[432]ibid p. 30 at 37.
[433]Ubani, E.C. and Onyejekwe, I.M. 2013. Environmental impact analyses of gas flaring in the Niger Delta region of Nigeria *American Journal of Scientific and Industrial Research* 4. 2:246-252 at 247.
[434]Ohunakin, O.O. 2010. Energy utilisation and renewable energy sources in Nigeria, *Journal of Engineering and Applied Sciences* 5.2: 171-177 at 172.

resources available in the country. He further explained that most oil fields lack the necessary infrastructure for gas production.

Elenwo and Akankali[435] contended that challenges such as inefficiency of the regulators caused by inadequate logistics, dearth of equipment, non-existence of a definite specialised organisation legally recognised to standardise professional run-through of environmental administration, poor environmental data base that is, lowly inquiry and records of investigation outcomes, replication and overlap of regulatory roles are several defies encountered in Nigeria's bid to reduce gas flaring in Nigeria. Elenwo and Akankali conducted a survey in some oil producing local government areas of Delta State in order to establish the measure of admittance to ecological contamination facts and figures.

Raji and Abejide[436] investigated the glitches of amenability to oil guidelines formulated by the government, which led to increased ecological effluence and gas flaring in the Niger Delta region. The scholars contended that there were significant connections between the skirmishes in the Niger Delta and non-amenability with the oil regulations meant for clean and safer environment.

Ukala[437] contended that the Niger Delta communities with inhabitants within the flare locations had not been fruitful in using the court as an apparatus for social change, as she observed that it had been somewhat impossible for the courts to device and superintend constitutional policy. Ukala therefore opined that the *Gbemre case* revealed a consistent attempt to use the court as an apparatus for social change. She argued that the attempt however failed because of the absence of a self-governing judiciary. The scholar further opined that the federal government's high level of deference towards Shell was likely to have resulted in the delay to ending gas flaring in Nigeria. Government was accused of excessive reliance on the oil companies' conditions, hence making the attainment of societal change tremendously problematic.

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[435]Elenwo, E.I and Akankali, J.A. 2014. Environmental policies and strategies in Nigeria's oil and gas industry: Gains, challenges and prospects. *Natural Resources* 5: 884-896 at 884.

[436]Raji, A.O.Y. and Abejide, T.S. 2014. Compliance with oil and gas regulations in the Niger Delta Region, Nigeria, 1960- 2000: An assessment. *Arabian Journal of Business and Management Review (OMAN Chapter)* 3.8: 35-47.

[437]Ukala, E. 2011. Gas flaring in Nigeria's Niger Delta: Failed promises and reviving community voices. *Washington and Lee Journal of Energy, Climate and Environment* 2: 97-126.

Nigeria's regulatory authorities are confronted by two-tailed weak enforcement. This has been largely connected to non-amenability on the part of IOCs and indigenous companies engaged in oil and gas production in Nigeria, who have botched in their resoluteness to the postulated guidelines on gas flaring reduction while the flare penalty regime has also not been implemented.

In order to reduce gas flaring, a flare penalty was introduced. However, the sanctions were clearly inadequate and also not deterrent enough. Initially, the penalty started at one (# 1) naira per 1,000 standard cubic feet (scf) of gas. It was thereafter increased to ten (#10) naira. There was an attempt to increase the fine to US dollars three and fifty cents ($ 3.50) by government policy, but this move faced a lot of resistance from the affected companies. There was obviously no moral justification to increase the penalty and government was not consistent with the attempt to eradicate gas flaring. Under the flare penalty regime, industry operators are required to individually evaluate their respective flare penalties. This voluntary evaluation has however not been verified to be ideal, in the face of the current realities, where input variables for assessing and paying the flare penalty are inconsistently applied by the operators. Some have been found to pay less than the required amounts due while others pay excessively.

An intersection of functions exists between some of the regulatory agencies and the occasioning conflict in authority leads to upheaval in efforts to address gas flaring activities within the oil and gas industry in Nigeria. In order to prevent clash of functions, clearly indicated functions for each regulatory agency connected with oil and gas operations, is very imperative.

Poor reporting and monitoring of flared gas have posed a major challenge to tackling gas flaring in Nigeria. This information on poor reporting and monitoring of flared gas was gathered during the unstructured interviews conducted. The practice in the industry is, that DPR, has the fiat to track and measure the volume of gas flared in order to impose proportionate fines. It is therefore imperative that DPR has the requisite material and human capacity to independently report and monitor gas flares.

Onyeabor and Agu[438] argued that current legal mechanisms had failed to provide adequate economic incentives to curtail environmental pollution and further advocated for an archetype shift to economic based regulation which would result in optimal environmental protection in Nigeria.

In relation to the challenges encountered with regulating gas flaring in Nigeria, a management official of the Department of Petroleum Resources (DPR) Lagos said:

> First, is the lack of willingness on the part of gas producers to aggressively pursue and implement gas utilisation projects, either for domestic or export purpose. Secondly, there is the lack of political will on the part of government to enforce the provisions of the law, which is the implementation of the gas flaring certificate regime and the enforcement of the penalty regime in the law, which provides for the revocation of the gas field(s) from which unauthorised gas isflared. Concerning monetary penalty for gas flaring in Nigeria, the issue to note is that there is no legislative basis for any kind of monetary penalty in Nigeria because the existing legislation did not provide for monetary penalty. Rather it provided for the forfeiture of field(s) from which the unauthorised flaring is carried out.

A senior management official of the Department of Petroleum Resources (DPR) Lagos said:

> It was not made part of the condition of their licenses at the time of the grant to regulate gas flaring. So, trying to now regulate it subsequently becomes difficult. It should have been a condition of their license at the time of the grant, that they should provide a utilisation plan in case they find gas. There was clearly a lack of foresight on the part of government at the initial stage. The sanctions are not adequate, that is not deterrent enough. Initially it started with one (1) naira per 1,000 scf and then it was later increased to ten (10) naira. There was also no moral justification to increase the penalty. 2) Lack of political will of the government to regulate gas flaring. To me, that $ 3.50 is enough to serve as a punitive measure. If you cannot pay then shut down and stop production. This would unfortunately affect government revenue. Probably its too high and so we look at the economics. We would invariably force them out of business.

The interviewee added: "Implementation is one thing. Maybe the law has not taken the right approach. The law did not take into account or consider the business environment of the

[438]Onyeabor, E. and Agu, H. 2015. Economic based approach to environmental regulation as a panacea to effective environmental management in Nigeria, *Journal of Law, Policy and Globalisation* 42: 8-17.

licensees. Rather than provide for forfeiture of concession, it should have been market oriented. The law should make provision for what we can really enforce. The law's approach was wrong. However, I believe the gas commercialisation programme presently been worked out by the government, would address the lingering problem."

In conclusion, the interviewee said: "I would say that lack of adequate infrastructure, no gas market and lack of political will of the government, are the major challenges encountered with regulation of gas flaring in Nigeria so far." Another respondent, a principal consultant in one of the firms visited in Lagos said: "The challenges are; poor reporting and monitoring; low penalties; lack of a domestic gas market hence few gas projects utilising gas and lack of gas infrastructure."

From the above-mentioned challenges, it is obvious that due to the fact that regulating gas flaring was not made a part of the condition of the licenses granted to the IOCs initially, it therefore would have been very difficult for the IOCs to belligerently trail and implement gas utilisation projects in the first place. The federal government did not envisage the necessity for this at the initial stage when they were granted the licenses. The case, would however, have been different, if regulating gas flaring was a condition given earlier. It has indeed evidenced the lack of proactiveness of the federal government at the time. Government did not judge correctly, predict or plan for what will happen or be needed in the future.

4.6.8 Quantity of Gas Flared in Nigeria

On the exact quantity of gas flared in Nigeria, about thirteen respondents, representing 65.0% of the respondents, were unable to give specific figures as they were of the view that there is a lot of conflicting data on this issue. One of the respondents however stated that the quantity flared is 331 billion standard cubic feet (bscf) (2015 estimate).

4.6.8.1 Penalty for Gas Flared without Permission

Gas flaring without permission is forfeiture of lease. However, most of the respondents were unable to give specific figures for the penalty prescribed for flaring gas. A few of the respondents stated that to obtain the exemption certificate, you are required to pay ten (10) naira per 1,000 standard cubic feet (scf). A principal consultant in one of the firms visited in Lagos said: "I understand its ten (#10) naira per 1,000 standard cubic feet of gas flared. However, there was an attempt to increase it to three dollars and fifty cents ($3.50), but this had no legislative backing or basis."

The interviewees were of the view that there is no legislative backing for any kind of monetary penalty because the existing legislation does not provide for monetary penalty. There was also a general consensus among the interviewees that the attempt by government to increase the penalty to U.S dollars $3.50 per 1,000 standard cubic feet of gas flared, had no legislative backing or basis. Moreover, the move to increase the penalty to $3.50 faced a lot of resistance from the international oil companies (IOCs). Some of those interviewed were of the view that Government had been inconsistent, and this was probably one of the reasons why gas flaring had not stopped in Nigeria till date.[439]

There was a common erroneous belief among some of those interviewed that penalties imposed for flaring of gas were the MBIs incorporated in Nigerian legislation. This study, is however, of the view that penalties are not MBIs. Penalties can be best described as punitive measures or sanctions put in place to correct or address non-compliance with laid down rules and stipulated regulations. Market-based instruments, on the other hand, signify facets of the law or regulations which encourage optimistic outlooks towards ecological fortification. Government policy is for safety regulations which include comprehensive penalties for breach of regulations and safety standards.

4.6.8.2 Changes in the Volume of Gas Flared in Nigeria

On whether there have been changes in the volume of gas flared in Nigeria, half of the respondents, representing 50.0% gave no response. There was however a general consensus

[439] Adapted from the KIIs conducted with two management officials of the DPR.

among the remaining respondents that Nigeria had witnessed or recorded significant reduction in the volume of gas flared. Some respondents ascribed the significant reduction in the volume of gas flared to the national drive towards gas monetisation. A management official of the Department of Petroleum Resources (DPR) Lagos said: "there have been changes in the volume of gas flared in Nigeria. From the inception of gas flaring around 1979, gas flaring has significantly reduced as the government has embarked on several attempts to accomplish this." One of the Consultants interviewed at one of the firms visited in Lagos, however, had a divergent opinion as the respondent said: "Government has reported that gas flaring has significantly reduced, but I cannot say that."

With respect to the actual changes, most respondents were unable to give specific responses. However, one of the Consultants from one of the firms visited in Lagos, opined, that the volume of gas flared had significantly reduced in recent years. The respondent noted that on the global gas flaring chart, Nigeria had plummeted from the position of second (2^{nd}) to the fifth (5^{th}) highest gas flaring country in the world (according to Cedigaz and Organisation of Petroleum Exporting Countries (OPEC) or seventh (7^{th}) position (according to Global Gas Flaring Reductions (GGFR) 2016).

Table 4.6.8.2 Changes in the volume of gas flared in Nigeria

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	7	35.0	77.8	77.8
	No	2	10.0	22.2	100.0
	Total	9	45.0	100.0	
Missing	System	11	55.0		
Total		20	100.0		

Source: Author (2017)

4.6.8.3 Awareness of Recent Cases of Companies charged for Flaring Gas

None of the respondents were aware of any recent cases involving companies charged for flaring gas. One of the Consultants interviewed at one of the firms visited in Lagos said: "No, I am not aware of any recent cases of companies charged for gas flaring. In Nigeria, its not that gas is not flared or that flaring is not allowed, it is just that one must obtain an exemption certificate."

From the foregoing, several scholars have delved into the realm of putting gas flaring in Nigeria in proper perspective by finding out what policy and legal challenges have been encountered with the quest to control gas flaring in Nigeria. A common theme found in the literature reviewed concerning the challenges encountered point to the lack of technical capacity, weak monitoring and enforcement practices, corruption, disregard for the rule of law, lack of the requisite infrastructure needed and absence of skilled or trained staff. Identifying the challenges encountered so far is a giant stride towards finding lasting solution to the problem of externalities (gas flaring) in Nigeria. This study aligns with the arguments of the above referenced scholars who have compendiously enumerated the challenges encountered in the quest to control gas flaring in Nigeria.

Research questions numbers one and two were answered in chapter four. With reference to the policy framework, the study revealed that one could not talk in terms of discouraging gas flaring in Nigeria. This is because most oil and gas policies are known to address the problem of gas utilisation and flaring and moreover, the current fiscal regime is a fused regime. The study revealed that the existing policies on gas flaring, have primarily, been consistent with the drive to tackle gas flaring in Nigeria, to a very large extent, by encouraging gas utilisation projects. The policies considerably condensed the amount of gas flaring hitherto experienced in Nigeria.

The findings of the study, showed that the legal framework partly discouraged gas flaring, as the aim of the AGRA was to phase out gas flaring. However, the law failed to effectively phase out gas flaring. The findings showed that AGRA failed to provide incentives to stop gas flaring. It is also instructive to note that the AGRA allowed permissible and impermissible flaring of gas concurrently.

Section 1 (a) – (e) of the AGRA regulations highlighted circumstances within which gas flaring would be tolerable by the Minister of Petroleum Resources. The study found that subsection (a) - (d) were provisions which were apparently unenforceable and could be best described as 'mere statutory provisions lacking enforceability.' Subsection (e) on the other hand, conferred wide discretionary powers on the Minister. The provision of subsection (e) has been widely criticised for making a disdain of the total jurisdictive endeavor in the preceding subsections. The study also found that several policy and legal challenges were encountered in the quest to tackle gas flaring in Nigeria. The study compendiously highlighted the challenges.

The interviews conducted drew attention to the major challenges encountered with regulation of gas flaring in Nigeria namely lack of inclination on the part of gas producers to aggressively pursue gas utilisation projects, lack of adequate gas infrastructure, lack of a domestic gas market, lack of political will of the government to stop gas flaring, non-deterrent sanctions or low penalties, poor reporting and monitoring and ineffectual implementation of the law.

CHAPTER FIVE

DEVELOPING A FRAMEWORK FOR TRADABLE PERMITS IN NIGERIA

5.1 Introduction

Environmental cognisance and growing trepidation for worthy ecological practices is a worldwide phenomenon. Every government, within the international community, following one arrangement or the other, participates in diverse environmental practices to accomplish the best conceivable environmental outcome. Traditionally, government's response has been the adoption of 'command and control' regulation in Nigeria.

Market-based regulation, on the other hand, is a comprehensive deviation from the 'command and control' which is a rigid form of regulation. Market-based environmental regulations have shown tremendous benefits, flexibility and certainty in achieving good environmental outcomes in the countries where they have been adopted.[440] This study has therefore developed and proposed a framework for tradable permits, an appropriate market-based instrument apt for regulating gas flaring in Nigeria.

5.2 Proposed Framework For Amenability

Greenhouse gas emissions have uninterruptedly been a recurring decimal globally.[441] In recent times however, there have been giant strides in market-based solutions, high-tech improvement and international law. Worldwide, seventeen (17) greenhouse gas (GHG) emissions trading schemes have been recognised and proven, with presence in thirty five countries, twelve states and seven cities where the global schemes function in.[442] The apportionment or procurement of emissions allowances from a central authority or the procurement of emission credits from market participants has steered the control of GHG discharges through the emission trading

[440]Countries such as United States of America (USA), Australia, New Zealand and Canada.
[441]Navigating greenhouse gas emissions schemes worldwide. Retrieved on March 5, 2018 from https://www.whitecase.com/publications/insight/greenhouse-gas-emissions-trading-schemes-global-perspective/
[442]ibid

schedules and temperance of the properties of climate change by placing a confinement on the volume of GHG expulsions.

This study has proposed an emission trading agenda for ecological regulation in Nigeria to be known as "Gas Flaring Reduction Market Mechanism". A very vital prerequisite for any MBI is a well-defined property right. In an ideal setting, where property rights are well delineated, one can present a good procedure for ecological regulation. Mostly, property rights over many assets are not defined. This study however recognises the dire need for well-defined property rights, and with reference to this study, 'a gas flaring reduction obligation certificate'. When property rights are well defined, there would be an optimal solution in resolving the problem of externalities.

Pigou[443] spoke of market failure and the need for government to tweak the markets, through the market -based instruments such as tax, which can be imposed on polluters. Coase[444] on the other hand, did not speak of market failure, but rather proposed a surveillance of the markets for the solution to externalities. He opined that where transaction costs are little and property rights are clearly apportioned, it would in turn lead to good ecological outcomes. Nigeria's ecological agenda had consistently been patterned after command and control regulation. Coase in his study however, antagonised or defied command and control regulation.

Under the gas flaring reduction market mechanism, emission trading is distinguished as one of the valuable and beneficial means through which emitters respond to the requirement to reduce emissions. This is because it is a means of environmental regulation which offers litheness in arriving at emission diminutions of polluting firms or IOCs as the case may be. The litheness lies in the fact that emitters can buy and sell emission allowances. Consequently, those who find it more expensive to abate flaring of gas in Nigeria can bargain for emission allowances from the IOCs who find it inexpensive to abate same.

[443]Pigou, A.C. 1924. *The Economics of Welfare,* 2nd Edition, London: Macmillan p. 161.
[444]Coase, R. H. 1960. The Problem of Social Cost. *Journal of Law and Economics* 3: 1-44.

Examples from the United States of America (USA) involvement with emission trading, reveal, that compliance to meet a specified standard costs much less than would be, if the traditional 'command and control' approach were adopted.

5.2.1 Factors to be considered before implementing Emission Trading in Nigeria

Prior to integrating and executing emission trading scheme in Nigeria, it's appropriate to emphasise that no contractual template for the tradable emission scheme to regulate gas flaring exists in Nigeria. The starting point therefore would be to develop a contractual template for tradable emission scheme in Nigeria. Furthermore, there is a need to consider the following factors namely; whether it would be better than other policy instrument options available; if so should baseline and credit or limit and vend be used; the scope of its application should be determined, that is, to what extent should the emission trading arrangement be applied; what units should be traded over what period; how should allowances be allocated and to whom; how should amenability be censored and enforced?

5.2.1.1 Choice of Instrument

A first step in integrating an appropriate MBI in the nation's environmental agenda is that of selection. Generally, when the emissions have the same magnitude regardless of their source or location, emission trading is designated and considered apt.[445]This is a unique characteristic of GHG. In Nigeria, there are many gas flaring sites situated in different locations. Taxes are usually difficult to introduce when compared with emission trading. However, an emission tax of the same amount as the emission allowance price may ultimately attain comparable inducements.

In contemplation of the most suitable instrument, considering national interest and the contract system operational in Nigeria, this study proposes emission trading (a rights-based market instrument) as a preferred option while bearing in mind an apt market mechanism. In some other climes, price-based market instruments such as carbon taxes are deemed apt. For instance, the European Union in the 1990s was not fruitful in the attempt to acquaint with a carbon energy tax.

[445]Navigating greenhouse gas emissions schemes worldwide. Retrieved on March 5, 2018 from https://www.whitecase.com/publications/insight/greenhouse-gas-emissions-trading-schemes-global-perspective/

With respect to this study, bearing in mind that greenhouse gases are emitted when gas is flared; and also, that the study from the onset, expressly informed that useful lessons learnt would be adopted from foreign jurisdictions, particularly United States of America (USA) and Australia, who have recorded remarkable success at emission diminutions simply by implementing MBIs in their environmental agenda; frameworks which this study has attempted to emulate. From the foregoing, and having discussed the benefits of emission trading earlier (chapter 4 of this study), this study therefore contends that emission trading is the instrument deemed most appropriate in Nigeria.

The proposed framework for amenability refers to an ideal setting where the regulatory body in Nigeria, the Ministry of Petroleum Resources through the DPR is able to ensure amenability with the laid down procedure for ensuring that operative ecological regulation is implemented. In this proposed framework, the DPR is to create an obligation for gas flaring decline in Nigeria, namely Gas Flaring Reduction Obligation (GFRO). This implies that gas flaring decline is mandatory and not optional. Therefore, all IOCs and indigenous oil companies operative in Nigeria are to be bound by the gas flaring reduction obligation.

5.2.1.2 Rate based or Cap and Trade

Emission trading is generally categorised into two forms; namely rate-based or cap and trade. In determining whether the instrument would be rate based or cap and trade, the most important consideration should ideally be whether or not specific targets would be met and if the structure can guarantee good ecological outcomes. In practice, the rate-based model does not usually warranty that a specific target will be met, hence limit and vend is mostly the preferred option for meeting specific targets. Additionally, scheming, setting up and overseeing a rate-based model, is generally intricate and time consuming. From the foregoing, cap and trade is preferable to rate based model as this study sets out to achieve specific targets in ensuring emission reductions.

5.2.1.3 Scope

In relation to scope, this study discusses which emissions would be covered by the scheme and also the geographical area that the scheme would cover. It is instructive to note that the emissions to be covered are known as “greenhouse gases.” With respect to the geographical area,

the states within the Niger Delta region, where flaring sites are located are to be considered. These states include Akwa Ibom, Bayelsa, Cross Rivers, Delta, Edo, Rivers State.

These respective states are enjoined to come together to jointly operate a regional greenhouse gas initiative (to be known as the Niger Delta Regional Greenhouse Gas Initiative), similar to the regional greenhouse gas initiative operated in the United States of America, the first US mandatory tradable emissions programme for greenhouse gases (GHG).

Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island and Vermont are nine states in the United States of America, which jointly operated a regional greenhouse gas initiative (RGGI).[446] California operates one of the most active GHG trading markets worldwide. The California cap and trade rules came into effect in 2013.[447] Together, these RGGI states set a limit for total emissions of carbon dioxide emissions from flare sites within the region. An implementation of the programme by each state through emission caps in the individual RGGI-member states, occurred with emission caps equivalent to those of the regional emission limit.

Essentially, the states within the Niger Delta region of Nigeria respectively can come together under a proposed 'Niger Delta Regional Greenhouse Gas Initiative' to operate a tradable emissions programme for greenhouse gases emitted from gas flare sites located within the Niger Delta region.

5.2.1.4 Units and Periods

The general aim of regulation is to control pollution unswervingly through control on emissions or circuitously through control on inputs.[448] A market-based approach typically would levy a tax per unit of emissions or issue a fixed quantity of transferable permits.[449]

Transferable or tradable permits have been implemented in foreign jurisdictions and which implementations, have allowed and recorded remarkable diminutions in emissions. These

[446]Navigating greenhouse gas emissions schemes worldwide. Retrieved on March 5, 2018 from https://www.whitecase.com/publications/insight/greenhouse-gas-emissions-trading-schemes-global-perspective/
[447]ibid
[448]Guerin, K. 2003. Property rights and environmental policy: A New Zealand perspective. New Zealand Treasury working paper 03/02: 1-42 at 34.
[449]ibid

emission diminutions were done efficiently, while on the other hand, those who were unable to achieve diminutions were able to purchase emission rights from others.[450] The unit cost of transferable or tradable permits can be resolved by the market based on accessible technology.

5.2.1.5 Allocations and Allowances

Previously, the Nigerian environment was regulated through command and control approaches.[451]These approaches can be costly and difficult to enforce. Such inducements may be in form of subvention reforms, taxes to increase prices to reflect social costs, or the establishment of new markets in which pollution permits can be traded.

Presently, market-based instruments have been incorporated to achieve remarkable environmental outcomes. With reference to this study, new markets would be established for the trading of pollution permits. IOCs within the Niger Delta regional greenhouse gas initiative (NDRGGI) must obtain an allowance for each ton of carbon dioxide (CO2) emitted annually. The Niger Delta regional greenhouse gas initiative would set out to auction allowances instead of allocating them for free.

International oil companies and indigenous companies engaged in oil and gas exploratory activities within the Niger Delta region of Nigeria are enjoined to comply by purchasing allowances at quarterly auctions, purchasing allowances from other companies within the region that have excess allowances.

Hagem and Westskog[452] suggested an allocation rule for tradable permits which could achieve cost effectiveness and ensure that specific requirements are met for cost distribution across various agents. Fare, Grosskopf and Parsurka Jnr.[453]discussed factors which result in unrealised gains from trade, that is, failure of a tradable permit program to equalise marginal abatement costs. The study addressed whether tradable permit programmes realised the predicted potential

[450]Cole, D.H. 1999. New form of private property: property rights in environmental goods. In B. Bouckaert and G. De Geest (eds.) *Encyclopedia of Law and Economics.* Cheltenham: Edward Elgar. Retrieved on March 5, 2018 from http://www.encyclo.findlaw.com/1910book.pdf

[451]Amokaye, O.G. 2012.Environmental Pollution and Challenges of Environmental Governance in Nigeria *British Journal of Arts and Social Sciences* 10.1:26-41.

[452]Hagem, .C and Westskog, .H 2009. Allocating tradable permits on the basis of market price to achieve cost effectiveness. *Environmental and Resource Economics* 42: 139-149 at 139.

[453]Fare, R, Grosskopf, S and Parsurka, Jnr. C.A. 2013.Tradable permits and unrealised gains from trade. *Energy Economics* 40: 416-424.

gains from trade from a sample of coal US fired power plants over the 1995-2005 period. The study found that the market performed effectively.

5.2.1.6 Monitoring, Amenability and Enforcement

In foreign climes, emission trading is a well-known policy instrument utilised with the main purpose of attaining emissions diminutions or other ecological outcomes at minimal cost.[454] Experience has shown that emission trading is an efficient instrument if emissions and permit trades are monitored and appropriated and especially if amenability is enforced by those running the programs.[455] Non-amenability could lead to impediments in the attainment of fiscal, societal and conservational intentions irrespective of the premeditated style of the permit.

With respect to monitoring and amenability, it is instructive to note, first and foremost, that the requisite techniques, devices, instruments and methods necessary for monitoring should be provided, in order to be able to measure or give estimates of emissions released into the environment. These estimated or measured emissions would in turn be subsequently reported to the appropriate regulatory authority.

In Nigeria, the regulatory authority saddled with the responsibility of monitoring greenhouse gas emissions from gas flared is the DPR. It is mandatory for participants of emission trading to have their permits issued by the regulatory authority, and the participants in turn are allowed to trade with other participants.

It is very imperative for the regulatory body to keep record of the permits issued in order to ensure amenability by the participants. A register may be created for the purpose of reporting all trades. The regulatory authority (DPR) must however ensure that the emissions of every participant do not exceed the allowance limit by closely monitoring the number of permits that each participant holds. In order to ensure amenability and enforceability under the trading scheme, the regulatory authority (DPR) must criminalise the behavior of non-complying

[454]Peterson, S. 2004. Monitoring, accounting and enforcement in emissions trading regimes in *GHG emissions trading and project-based mechanisms: OECD Global Forum on Sustainable Development*, Emissions trading, CATEP Country Forum, Paris. OECD: 189-205.
[455]ibid

participants by penalising participants who fail to report their emissions accurately or emit beyond their allowance limit.

Boemare and Quirion[456] established a model for monitoring, accounting and enforcement in tradable permit regimes. The model proposed that compliance in a permit system is dependent on the technical capacity for detection of violations and the legal ability to deal with such violations. Peterson[457] showcased the relationship which exists between emitting firms, the actual or measured emissions, registry of the regulatory authority and how effective monitoring and accounting can be attained. Peterson summarised different findings to ultimately give a robust image of requirements for total amenability in emission trading regimes and possibly point out any specific problems.

Stranlund *et al* [458]argued that regulating emission trading regime is more multifaceted compared to emission taxes because the regulators not only have to pay attention to emissions but they also concern themselves with the peculiarities of the participants, that is, by monitoring their involvement in the emission permit market. The regulatory authorities have to make sure that every participant's emissions do not exceed the level allowed by the number of permits the participant holds.

Boemare and Quirion[459] reviewed ten (10) emission trading regimes which had either executed or were at the brink of completing operation of their emission schemes. They concluded that reporting and registration of trades were crucial amenability mechanisms. Their study recognised the importance of registration as obligatory and necessary for proper accounting for the permit trading activities and also to assess amenability.

[456]Boemare, C. and Quirion, P. 2001. Implementing greenhouse gas trading in Europe: Lessons from economic theory and international experiences. Paper presented at the 1st CATEP workshop on Linking industry, local/ regional, national and international emissions trading schemes, Fondazione Eni Enrico Mattei, Venedig, 3-4 December 2001.
[457]Peterson Op.Cit. p. 4 and 5.
[458]Stranlund, J.K, Carlos, A.C and Barry, C.F. 2002. Enforcing emissions trading programmes: Theory, practice and performance. Paper presented at the 2nd CATEP workshop on the design and integration of national tradable permit schemes for environmental protection, University College, London, 25-26 March 2002.
[459]Boemare, C. and Quirion Op.Cit..

Stranlund *et al* [460] directed their study on attaining an ideal level of penalties. A simple model for compliance was created wherein every firm would be audited with a definite prospect. Another method was for those found violating emissions to be levied per unit and for under-reported emissions to be fined per unit. Firms were permitted to choose how much they will emit, how much they will report and how many permits each of them was to hold in order to minimise their expected costs. Emission controls costs, receipts or expenditures from permit trades and expected penalties from reporting and emission violations are collectively referred to as the expected costs. Where accurate reporting without excess emissions is anticipated, the expected overall penalties are meant to be higher than the permit price, in order to ensure overall amenability.

Stranlund *et al* hauled out a few directorial codes for adoption and these principles analysed instances of more or less amenability recorded with reference to the SO_2 and RECLAIM trading programmes. The codes stated *interalia* that unit penalties should be unswervingly tied to prevailing permit prices and those penalties should be considerably higher than existing permit prices. Boemare and Quirion[461] set up a guideline which postulated that the smaller the probability of control is, the higher the non-amenability penalty would be and vice-versa. This study is of the view that Boemare and Quirion's guideline is in line and agrees with the model set up by Stranlund *et al.*

5.2.1.7 Amenability in Universal Interchange Systems: Obligation Era Backup

Studies conducted have shown that local and national emission interchange systems are uncomplicated, straightforward and trouble-free in terms of imposing amenability, compared to universal interchange systems which involve a lot of complication in the bid to enforce amenability, due to their tedious nature.[462] In local and national interchange systems, a solitary regulatory authority is able to impose sanctions on non-amenable participants. Haites and Missfeldt[463] argued that in emission interchange systems where it is mandatory to account for

[460]Stranlund *et al.* Op. Cit.
[461]Boemare and Quirion Op. Cit.
[462]Peterson Op. Cit. p. 14.
[463]Haites, E. and Missfeldt, F. 2002. Liquidity implications of a commitment period reserve at national and global levels. Paper presented at the 3rd CATEP workshop on global trading, Kiel Institute for world economics, 30th September- 1st October 2002.

emissions and permits, the prevalence of non-amenability is likely to be more than if the emissions were under an obligation era without exchange.

Considerations of having an extremely weak enforcement system under the Kyoto Protocol led to several proposals known as "liability proposals." The aim of these so-called liability proposals is to abate overvaluing or hyping of permits by limiting or curbing the sale of permits. Haites and Missfeldt[464] evaluated fourteen different liability proposals by making use of a highly aggregated model with a single Annex B buyer, a single Annex B seller and a single non-annex B seller. They found that several liability proposals were evasive of non-compliance at minimal costs. However, after further considerations, Haites and Missfeldt[465] proposed the "commitment period reserve" and this was duly labeled as the best mechanism to avoid abuse of international permit trading. The obligation era backup proposal required each annex B party to set aside a portion of their 2008-2012 allowable emissions in a reserve. Typically, this proposal allowed prospective sellers of emission permits to have more assigned units than emissions. It is instructive to note that the obligation era of 2008-2012 covers a period of 5 years and consequently the inventory records an estimate for the total emissions in the obligation era. One hiccup with the obligation era backup that limited sales was that it affected the liquidity of the permit market, as it reduced the flow of buying and selling of permits.

5.2.2 Gas Flaring Reduction Obligation (GFRO)

The gas flaring reduction obligation (GFRO) makes it mandatory for all IOCs engaged in oil and gas operations in Nigeria, to lessen gas flaring in Nigeria in line with the gas flare out target of 2020. This envisages a situation where all IOCs are mandated to reduce gas flaring, without exempting any company from meeting up with this obligation. As a consequence of fulfilling the gas flaring reduction mandate, gas flaring reduction certificates are to be issued to IOCs operating in Nigeria.

[464]Haites, E. and Missfeldt, F. 2001a. Limiting overselling in international emissions trading regimes I: Cost and environmental impacts of alternative proposals. Working paper 10, UNEP collaborating centre on energy and the environment.

[465]Haites, E. and Missfeldt, F. 2001b. Limiting overselling in international emissions trading regimes II: Analysis of a commitment period reserve at national and global levels. Working paper 11, UNEP collaborating centre on energy and the environment.

The obligation makes it mandatory for all IOCs and indigenous oil companies to attain minimal gas flaring rates. It would not suffice for companies operating within Nigeria to merely reduce the amount of gas they flare. The GFRO drives a stage or two ahead of these IOCs and indigenous companies by ensuring that the mandate is implemented.

5.2.3 Gas Flaring Reduction Obligation Certificate (GFROC)

GFROC is a certificate to be issued by the DPR to all IOCs engaged in oil and gas operations within Nigeria. The DPR would compel all IOCs to obtain the gas flaring reduction obligation certificate (GFROC). The introduction of the GFROC signals or proposes the creation of a property right. The GFROC is a property right, which is properly defined and to be clearly assigned to all IOCs engaged in oil and gas operations in Nigeria respectively.

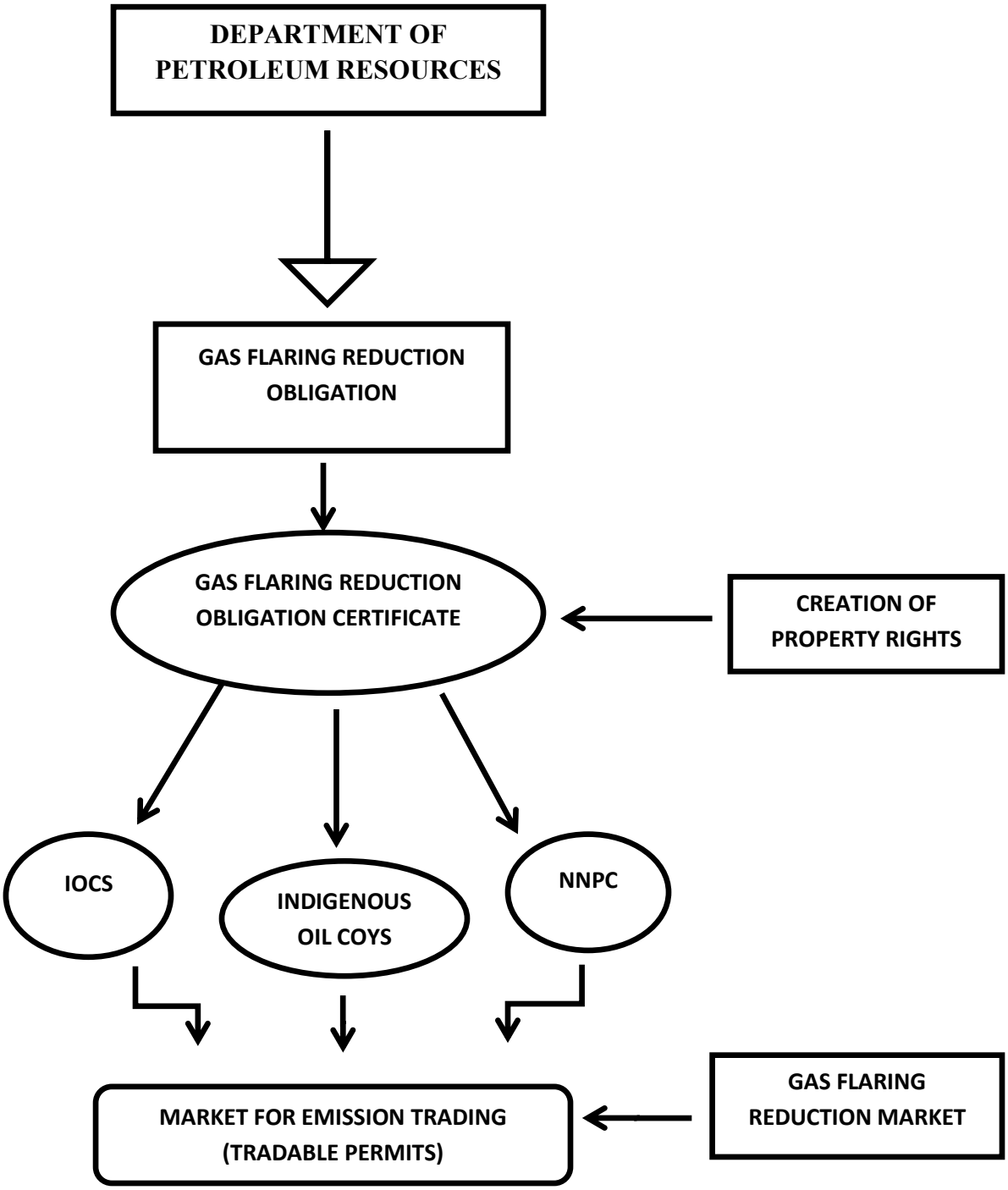

Fig. 5.2 Gas Flaring Reduction Market Mechanism

***IOCS - International Oil Companies**

***NNPC- Nigeria National Petroleum Corporation**

Source: Author (2017)

5.2.4 Interchange in the Certificates (creating markets)

The State of California in the United States of America operates one of the most active greenhouse gas interchange markets globally.[466] California's programme is the second largest in size, next to that of European Union's Emission Trading System (EU-ETS)/ California's emission rules became effective in 2013.[467] With reference to this study, the proposed market is to serve as a mechanism for exchange of information whereby IOCs and not the government, would make the decision to lessen environmental degradation based on the marginal cost of lessening. Many IOCs would be able to minimise environmental damage in very cost-effective ways and by emission interchange.

The market to be created for interchange in the emissions creates a market of services. In reality, no market exists without an exchange in one form or another, be it in goods or services. The market being referred to under the 'gas flaring reduction market mechanism' is a market for services, and what is exchanged is known as property right.

In contemplation of markets to be created for emission interchange, there are generally certain characteristics which property rights should possess. Productivity Commission[468] captured and gave insight into desirable property rights characteristics for creating markets for emission interchange. The characteristics include clarity in definition, verifiability, enforceability, valuability, transferability, low methodical insecurity, and low independent risk.

Viable markets for environmental outcomes do not spontaneously spring up. It is a notorious fact that effective MBIs are developed from good design processes that include a regulatory and enforcement framework. In relation to regulation of gas flaring in Nigeria, good governance is therefore necessary for creating and supporting effective MBIs.

From the foregoing therefore, it is necessary to consider property rights' characteristics for creating markets for emission interchange and ensure that the property rights developed by this

[466]Navigating greenhouse gas emissions schemes worldwide. Retrieved on March 5, 2018 from https://www.whitecase.com/publications/insight/greenhouse-gas-emissions-trading-schemes-global-perspective/
[467]ibid
[468]Productivity Commission PC 2002. Creating markets for ecosystem services. Staff Research Paper, Productivity, Canberra.

study, under the proposed framework for regulating gas flaring in Nigeria, the gas flaring reduction obligation certificate, possesses the above-mentioned property rights characteristics. This would ensure compliance with global best practices on emission interchange.

5.2.5 Characteristics of Property Rights

a) Clearly Defined

Property rights must be precisely definite. There should not be any form of ambiguity with reference to property right concerns. Ellerman[469] alluded to the need for a clear definition of property rights when he distinguished between the three types of emission interchange and the incentives presented by each of them. He identified credit-based, allowance-based and averaging-based interchange as the three types of emission interchange. Property rights (especially in the case proposed in this study, GFROC) should specify the legitimate conditions that a facility must meet if it is to continue to operate legally.

b) Verifiable

When property rights are put to use, the intended environmental outcomes can be measured in terms of corresponding performance levels of such instrument, to ascertain the cost effectiveness of such instrument.

c) Enforceable

Property rights can be imposed at minimal costs. This would be occasioned by the regulatory authorities ensuring amenability of all IOCs and indigenous companies engaged in oil and gas operations in Nigeria, with the stipulated regulations.

d) Valuable

Property rights are valuable as it is mandatory for the holders to pay a specified sum of money in order to obtain them. With reference to this study, tradable permits target pollution abatement at optimal costs.

[469]Ellerman, A.D. 2005. US Experience with Emissions Trading: Lessons for CO_2Emissions Trading, in *Emissions Trading for Climate Policy: US and European Perspectives.* Cambridge: Cambridge University Press.

e) Transferable

The control of emissions requires that transfers are possible between the discharge points within the same firm or between different firms or facilities. It is however a pre-requisite that the firms or companies involved with the transfer of property rights meet pre-determined conditions, designed to ensure that good environmental outcomes are achieved and the consequential environmental impact is advantageous.

Table 5.2.5 Desirable Property Rights Characteristics for Creating Markets

Characteristics of Property Rights	Description
1) Clearly defined	Unambiguity of the property right.
2) Verifiable	Property right occasions judicious costs.
3) Enforceable	Ownership of the property right can be judiciously enforced
4) Valuable	The property right can be purchased by parties.
5) Transferable	There can be transfer of ownership of the property right from one party to another.
6) Low methodical insecurity	Property right use has a perfect connection with environmental services.
7) Low independent risk	Imminent government decisions doubtful to considerably diminish the value of the property right.

Source: Productivity Commission (2002)

5.2.6 Institutional Design

The regulatory role is to be performed by the federal government through the DPR. The DPR is the regulatory body saddled with the responsibility of setting standards for amenability by IOCs and implementation of the obligations placed on the IOCs.

In regulating gas flaring, which is a negative externality and an offshoot of market failure, a central authority is required to fine-tune the markets. Fine-tuning the market would involve government's intervention, through the DPR clearly assigning property rights, the proposed GFROC to the IOCs.

5.2.7 Awareness of Market-Based Instruments (MBIs) among the Respondents

An assessment of the respondents' knowledge of market -based instruments (MBI) revealed that most of them were not aware of MBIs for environmental regulation in Nigeria. Out of the twenty (20) respondents who filled the questionnaires, only nine (9) of the respondents were aware of MBIs. Those respondents who were not aware of MBIs, were therefore not in a position to respond to the questions which were MBI-inclined.

Table 5.2.7 shows the MBIs generally known by the respondents. The table shows that 15.0% of the respondents, represented by a valid percent of 33.3%, were cognisant of tradable permits. Five per cent (5.0%) of the respondents, represented by a valid percent of 11.1%, were cognisant of charges. Twenty-five per cent (25.0%) of the respondents, represented by a valid percent of 55.6%, were cognisant of subsidies. Missing system indicated in the table showed that 55.0% of the respondents were not cognisant of MBIs, as this category of respondents left the section of the questionnaire on MBIs unanswered. This means there was neither an affirmative nor non-affirmative response to the options provided in that question on MBIs.

Table 5.2.7 Awareness of Market-based instruments (MBIs)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Tradable permits	3	15.0	33.3	33.3
	Charges	1	5.0	11.1	44.4
	Subsidies	5	25.0	55.6	100.0
	Total	9	45.0	100.0	
Missing	System	11	55.0		
Total		20	100.0		

Source: Researcher's Questionnaire, 2017

5.3 Assessment of Market-Based Instruments on Addressing Gas Flaring in Nigeria

In the course of this study, an assessment of the environmental policy and legislative framework within the Nigerian context with respect to gas flaring was conducted. It is instructive to note that traditionally, government's response had mainly been the adoption of 'command and control' regulation in Nigeria. Effective MBIs are developed from good design processes that include a regulatory and enforcement framework. In relation to regulation of gas flaring in Nigeria, good governance is necessary for creating and supporting effective MBIs.

At the policy level, it appears that the National Gas Policy (NGP) 2017, the National Petroleum Policy (NPP) 2017 and the National Petroleum Fiscal Policy (NPFP) 2017 respectively have some aspects of market-based instruments integrated therein. The National Petroleum Policy is to be implemented in conjunction with the National Gas Policy and the National Petroleum Fiscal Policy respectively. The NPP provides the legal, regulatory, institutional, commercial, fiscal and operational framework for the oil and gas sector.

This study contends that the NGP is not a rehash of earlier gas policies, as it introduces new dimensions into the regulation of oil and gas operations in Nigeria. With reference to the commercial framework, the NGP seeks to bring on board a network code and gas swaps respectively. The network code would allow access to all midstream facilities.

With reference to the laws regulating gas flaring in Nigeria, the Associated Gas Re-Injection Act (AGRA) and the regulations pursuant thereof, demonstrated the government's legislative intervention to prohibit gas flaring and recently, to be in line with global best practices. However, the law failed to stop gas flaring as the Act itself and regulations were unenforceable *ab initio.* This is because the AGRA made provision for permissible and impermissible gas flaring concurrently. Furthermore, the AGRA regulations 1984 provided for conditions for allowing gas to be flared, in which case, gas flaring certificates would be issued by the Minister of Petroleum Resources upon due satisfaction that the said conditions have been complied with. Section 4e of the AGRA regulations however granted excessive discretionary powers to the Minister.

This study contends that Section 4 (a) – (d) can be best described as 'mere legislative expressions' which lack the capacity of enforceability. This is because they were provisions which were really not enforceable *ab initio.* The findings from the purposively selected sample frame, especially the management officials of the DPR, indicated that these provisions were mere provisions that were unenforceable *ab initio.*

The market-based approach to regulation of gas flaring entails establishing appropriate taxes and charges on petroleum operations. The fiscal regime of the petroleum sector caters for inducements which aim at encouraging amenability with emission reduction among the IOCs engaged in oil and gas operations.

Section 10 (1) (a) – (m) of the Petroleum Profits Tax Act is a typical example of MBIs embedded in Nigerian legislation. The section provides for specific deductions in the computation of the adjusted profit of such companies. Some expenses are tax deductible and this is through interests on company loans obtained under the terms prevailing in the open market.

Another example of MBIs embedded within Nigerian legislation is the Companies Income Tax Act (CITA) 1990. Sections 39 and 40 of the CITA have MBIs inherent therein. Section 39 provides for gas utilisation (downstream) operations. Section 39 (1) provides that a company engaged in gas utilisation (downstream operations) will be allowed inducements such as an initial tax-free period of 3 years which may, subject to acceptable business routine, be reintroduced for an extra period of 2 years, an investment allowance of 35% and accelerated capital allowances after the tax-free period.

Subsection (e) provides for interest payable on any loan obtained with the prior approval of the Minister for a gas project, shall be deductible. Subsection 2 provides that the tax free period of a company shall start on the day the company commences production as certified by the Minister of Petroleum Resources.

Subsection (3) describes gas utilisation as the marketing and dissemination of natural gas for profit-making resolves. This comprises control plant, liquefied natural gas, gas to liquid plant, fertiliser plant, gas dispersion and dissemination conduits.

Section 40 provides for rates of tax. It further provides for levies for each year of assessment in respect of the total profits of every company and a special levy of fifteen percent on excess profits of every company.

In the case of *Nigeria Agip Oil Company Limited v. Federal Inland Revenue Service (FIRS)*[470] the Tax Appeal Tribunal, Lagos Zone while permitting the merged appeals, delivered the verdict in Agip's favour. FIRS' petroleum profit tax and education tax notice of assessment was set aside. FIRS was mandated to issue new assessment notices which permit interest deductions on inter-company loans when such transactions are at length.

Agip had gotten credits from Eni Coordination Centre S.A (Eni) from 2001 to 2011. Agip and Eni fit in the same group of companies. In the petroleum profits tax returns from 2006 to 2011, Agip subtracted loan benefits. FIRS handled audits and rejected the interest deductions and issued two notices of additional assessment covering 2006 to 2011. Agip was disgruntled and demanded alterations to be made by FIRS. FIRS declined and Agip subsequently filed two (2) combined petitions.

FIRS argued that it rejected the tax deductions relying on Section 13 (2) Petroleum Profits Tax Act. Section 13 prohibits tax reductions in respect of sums incurred by way of interest where the taxpayer lends money from an allied company. In PPTA's application and modification history, section 13 (2) was endorsed earlier than section 10 (1) (g). Agip drew attention to section 10 (1) (g) which renders interests on company loans tax deductible if the loan was made under open market terms.

Section 8 of PPTA enforces tax on the proceeds of each accounting period of any company engaged in petroleum operations. Section 10 (1) (a)-(m) of the Act provides for certain diminutions in the computation of the accustomed proceeds of such companies. Section 10 (1)

[470] *Nigeria Agip Oil Company Ltd. v Federal Inland Revenue Service* (2014) Consolidated appeals TAT/LZ/015/2014 & TAT/LZ/016/2014 delivered on 18th September, 2014.

(g) on which Agip relied falls within the category of tax of outgoings and expenses that are tax deductible. Agip deducted sums incurred by way of interest on inter-company loans obtained under terms prevailing in the open market.

From the foregoing, it is instructive to note that Sections 8 and 10 of the PPTA provide for taxes which are MBIs with the overall aim of ensuring enhanced environmental outcomes in oil and gas operations in Nigeria. It is also evident that the inducements and tax rates prescribed in Sections 39 and 40 of the Companies Income Tax Act respectively are MBIs, as they are meant to actualise changes in the behavior of people towards value-added ecological outcomes in oil and gas operations.

It is also instructive to note that the Petroleum Industry Bill 2017 provides for a new tax called "Nigerian hydrocarbon tax (NHT)". With the passage of the PIB, the PPT and the CIT of companies engaged in oil and gas operations, would be repealed and replaced by the NHT.

5.4 How Market-Based Instruments (MBIs) would regulate Gas Flaring in Nigeria

As a consequence of embracing the most cost-effective means of complying with environmental policy goals with reference to emission reduction and control, gas flaring would be regulated through the use of MBIs. The use of MBIs would encourage innovation to explore cheaper and more efficient environmentally sustainable alternatives which ensure cost reduction in terms of costs imposed on the IOCs who typically would have to pay pollution charges or taxes.

MBIs make use of market forces to regulate the environment by harnessing price signals and economic inducements to actualise changes in the behavior of people towards enhanced environmental outcomes and environmental justice. The Nigerian Gas Flare Commercialisation Programme (NGFCP) recently initiated in Nigeria by the federal government is a typical market instrument. Through the programme, the federal government intends to regulate or control gas flaring by commercialising the gas. Another market instrument proposed by the federal government is the 'gas swap' arrangement under the National Gas Policy 2017. The commercial arrangement is between the federal government and the IOCs engaged in oil and gas operations in Nigeria. This commercial arrangement would encourage market performers to advance their

market positions. However, only market performers who have handled their domestic gas obligations (DSO) would be allowed to engage in the commercial gas swap arrangement.

5.5 Likely Legal Challenges and Solutions for the Proposed Framework

This study proposed a framework for regulating gas flaring in Nigeria called "the gas flaring reduction market mechanism (GFRMM)." Largely, from interactions with few management cadre officials of the Department of Petroleum Resources and some private practitioners, who have been involved in the negotiation of oil and gas deals and the drafting of oil and gas policies, the attention of this study was drawn to the likely challenges for the framework proposed by this study.

There is lack of a comprehensive empirical basis for pinpointing and rectifying market failure. Several studies have been conducted in Nigeria which referred to market failure and its rectification especially concerning environmental regulation in Nigeria.[471] However, there is a lack of comprehensive empirical data which pinpoints and rectifies market failure with respect to gas flaring in Nigeria. Ologunorisa[472] alluded that empirical studies on the impact of gas flaring on the physical, chemical, soil, biological, atmospheric and social environment have not been appropriately acknowledged.

Under the proposed framework for regulating gas flaring, DPR would be the regulatory body saddled with the responsibility of creating the gas flaring reduction obligation (GFRO). This obligation is a statutory one which all market performers must strictly comply with. Creation of the obligation is one thing, guaranteeing amenability with the said obligation, however, is another thing to be reflected.

This study therefore argues that a possible solution to ensuring compliance with the proposed gas flaring reduction obligation is to make 'zero gas flare' a condition at the time of the grant of the licence of concerned international oil companies (IOCs). In essence, this means that IOCs must be aware of the obligation imposed on them to reduce gas flaring right from the onset, that is, at the time their licences are being granted.

[471]Bamisile 2015 Op. Cit; Amokaye 2012 Op. Cit.
[472]Ologunorisa, T.E. 2001. A review of the effects of gas flaring on the Niger Delta environment. *International Journal of Sustainable Development and World Ecology* 8.3:249-255.

Creating a market for emission trading in Nigeria may be a challenge. This is because this proposed market is a new scheme and is predisposed to mistakes before getting things right. It may be difficult for representatives of indigenous companies or IOCs to physically meet at a pre-determined place to engage in emission interchange from time to time. The market for interchange in emissions may however be successfully created where the concerned IOCs have a proper understanding of the way emission interchange works.

There is a strong likelihood of arbitrary reallocation of rights or resources occurring within the MBIs if due care is not taken. The solution to this is for property rights to be clearly and properly assigned.

There is a high risk that emission trading programme may be poorly designed and that environmental targets may be set by the federal government of Nigeria without conducting a robust assessment of the costs and benefits involved in ensuring that good environmental outcome is attained. The solution therefore, is to ensure, that a robust assessment of the costs and benefits involved is carried out before proceeding with the setting of environmental targets and designing of the emission trading scheme. Adelegan[473] identified some challenges encountered with the adoption of market-based approach in Nigeria, namely; the need for an accurate monitoring network, limpidity, a robust legal framework and a workable inducement system to trade, few trained or competent personnel with market-based expertise, lack of the requisite equipment for monitoring data collection and unreliable data. Adelegan further enumerated other confines such as high administrative and transaction costs and inaccurate approximations of polluting substances emitted. He however rationalised his argument for the integration of MBIs in environmental regulation in Nigeria.

Although Adelegan's study differs from this study, in the sense that his work examined the potential of mixed environmental policies involving the use of MBIs to complement the command and control approach in the general regulation of water pollution in Nigeria, this study considers a market-based legal framework for regulating gas flaring in Nigeria and furthermore, developed and proposed a framework for a 'gas flaring reduction market mechanism.' This study

[473] Adelegan, J.A. 2004. The history of environmental policy and pollution of water sources in Nigeria (1960-2004): The way forward. Retrieved on March 9, 2018 from http://web.fuberlin.de/ffu/akumwelt/bc2004download/adelegan_f.pdf/

agrees with Adelegan and aligns with his study, as the crux of the study bothers on the use of market-based approach for attaining greater environmental efficiency and outcomes in Nigeria's environmental agenda. Amokaye[474] on the other hand considered environmental regulation generally. In justifying the need for regulating the Nigerian environment, he prodded forward the debate on the need to regulate the environment through the use of market-based approaches.

Although Amokaye considered the challenges with environmental regulation in Nigeria and the need for the incorporation of market-based regulation, he however did not discuss the likely challenges to be encountered with the incorporation of market-based approach in environmental regulation in Nigeria. He *inter alia* discussed the inadequacies of Nigerian regulatory agencies and the rule of law being a necessary tool for environmental regulation or protection and sustainable development. This study moves the debate which was prodded forward by specifically addressing gas flaring regulation in Nigeria through the market-based legal framework proposed in the study.

From the foregoing, the framework proposed by this study signals advanced technological infrastructure. There is therefore a need for the regulatory body to ensure that there are competent personnel who are trained and skillful in the operation of the equipment for monitoring gas flares and equipped to perform other ancillary responsibilities they may be required to do. Furthermore, relevant stakeholders must be willing to partner with government to ensure that the operation of the proposed tradable emission scheme is open, transparent and free of manipulation.

Research questions numbers three and four were answered in chapter five, having conducted a review of market-based instruments from the domestic and international dimensions in chapter four. The study in chapter five gave insight to how reduction of emissions through a tradable emissions programme could effectively address gas flaring in Nigeria. The study revealed that tradable MBIs could address gas flaring in Nigeria, through the reliance on market mechanisms, after intended environmental outcomes to be met, have been duly proposed, by the regulatory

[474]Amokaye Op. Cit. p. 27 at 37.

bodies. Tradable MBIs are impelled by invisible forces, which allow the holder to engage in good environmental practices and ensure environmental sustainability.

A market-based framework known as the 'Gas Flaring Reduction Market Mechanism' to address gas flaring was developed and proposed. The study further examined the likely legal challenges and solutions to the use of the proposed framework for regulating gas flaring in Nigeria.

CHAPTER SIX

SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

This chapter is devoted to the summary, conclusion and recommendations. It outlines the summary of the study under designated sub-heads, followed by the conclusion and recommendations.

6.2 Summary

6.2.1 Property Rights

The study revealed the urgent need for the recognition and assignment of property rights with respect to environmental regulation; specifically, gas flaring in Nigeria. In line with Ronald Coase's proposal, this study showed that where property rights are appropriately assigned, the problem of negative externalities, (gas flaring) would be a thing of the past.

The study having recognised the need for appropriately assigned property rights, contends that a rights-based market instrument would be a solution to the problem of externalities (gas flaring), hence the need for the rights-based market framework developed and proposed by this study to regulate gas flaring in Nigeria known as "the Gas Flaring Reduction Market Mechanism." The gas flaring reduction obligation certificate (GFROC) signifies the creation of a property right. Assigning the GFROC in Nigeria will therefore result in effective regulation of gas flaring, due to the fact that a value is attached to it as an incentive for not flaring gas, while a penalty for non-compliance is imposed.

The study found that property rights are approbatory in nature; that is prerogative approval is given to certain properties. It is instructive to note, essentially, that property rights bestow on the holders of such rights, endorsement to hold, use and handover property from one party to another. With reference to this study, the proposed GFROC embodies approbation.

6.2.2 Licensing Conditions of Oil and Gas Companies

The study revealed that the licensing conditions of the IOCs and indigenous companies at the commencement of oil and gas operations in Nigeria were faulty. It was not a condition, at the time of the grant of the said licenses to IOCs, to regulate gas flaring. This made the attempts to regulate gas flaring thereafter very difficult.

The Group Managing Director NNPC, Dr. Maikanti Baru illuminated on some tactics recently embraced by NNPC, one of which, is to guarantee the non-submission of field development plans (FDPs) to DPR, to be attained with a practicable and realistic gas utilisation plan, which is to guarantee that existing and upcoming projects do not record any fresh flares.[475]

6.2.3 Gas Flaring Regulation

Right from the initiation of oil and gas operations in Nigeria in the 1950's, the Federal Government had principally and consistently relied on command and control laws. These command and control laws required government to set uniform national standards to regulate operations and control pollution in the petroleum industry. The DPR established the EGASPIN, whose guidelines and standards were applicable to operations in the oil and gas industry. The EGASPIN is meant to be revised frequently in order to keep abreast of changes in the industry and international oil and gas best practices.

The study found that the traditional command and control approach to regulating gas flaring had not prevented environmental injustice in Nigeria. This finding therefore justified the need for the market-based framework developed and proposed by this study.

The study revealed that there was no 'zero flare regime' at the commencement of oil and gas operations in Nigeria. IOCs have undertaken routine gas flaring for over four decades. Recently, attempts were made to implement 'zero flare regime' with the 'gas flare out policy' which arrayed deadlines for ending gas flaring in Nigeria. However, the deadlines have never been attained, as the government had shifted the dates over and again. There was, initially, a deadline of 2004, later shifted to 2008, and then 2012. The most recent flare out date is 2020.

[475]Akintayo, O. 2018. Nigeria reduces gas flaring to 10%-Sweet crude reports. Retrieved on September 7, 2018 from http://www.sweetcrudereports.com-2018-05-10-nigeria-reduces-gas-flaring-to-10/

Foreign climes like Norway for instance successfully implemented a 'zero flare regime' from the onset; therefore gas flaring has been adequately controlled therein. Absence of a 'zero flare regime' in Nigeria initially, was found to be one of the contributory factors to the lingering problem of gas flaring in Nigeria.

In the course of the study, attention was drawn to certain factors which have affected the regulation of gas flaring on the part of government. The law prescribed revocation of license of the producing blocks as the penalty for gas flaring. However, national interest is a major factor which needs to be considered, as revocation of some licenses would lead to decline of government revenue. The implication is that it would be difficult for the government to finance the nation's annual budget if licenses of oil and gas companies were actually revoked, as the oil and gas exploration and production sites would have to be shut down.

There are many flaring sites in Nigeria and therefore shutting them down, or revoking the licenses of the market performers is not feasible. In the light of the foregoing, this study revealed that the provision of the law was really not enforceable *abinitio* irrespective of the fact that the law made provision for gas flaring exemption certificates.

Penalties have not been implemented against any offenders and there has been a failure to compel IOCs to obtain exemption certificates. Failure to implement penalties against any offenders and compel IOCs to obtain exemption certificates, does reveal the lack of political will on the part of government to put an end to flaring of gas in Nigeria. When there is a failure on the part of the IOCs to obtain exemption certificates, it is not feasible for the regulatory bodies to carry out their respective obligations. This automatically implies that implementing any penalties against offenders would be a herculean task for the regulatory bodies.

The study found that the National Petroleum Policy 2017 proposed the "name and shame" strategy, whereby details of pollution and the polluters would be published via the international media and the "polluter pays principle," whereby the polluters are mandated to pay the full costs of assuaging any damage to the affected communities.

This study however contends that although the "name and shame" strategy is a good policy initiative, and one which was adopted from the Paris Agreement of 2015, actual implementation or enforcement may be challenging. The "name and shame" strategy might not be deterrent enough to prevent or discourage polluters.

6.2.4 Market-based Instruments

Market-based pollution control programmes are meant to encourage polluters reduce their pollution in cost-effective ways. In line with Pigou's and Coase's arguments, theoretically, it is possible for market-based approaches to achieve the same level of pollution reduction as command and control approaches, but even so, at much reduced costs. Command and control approach requires government intervention and even though Coase in his argument criticised command and control approach, he however, in his final analysis, concluded that in ensuring effective environmental regulation, government intervention cannot be ruled out, hence there's the need to fine tune the markets.

The study demonstrated the significant relationship which exists between price-based market instruments and rights-based market instruments while regulating flaring of gas in Nigeria. As earlier discussed, taxes are price-based market instruments and examples in Nigeria's environmental agenda are the PPT and CIT. On the other hand, tradable permit which was proposed by the study is a rights-based market instrument. It is instructive to note however that the permits which exist in Nigeria's environmental itinerary for environmental regulation are not tradable.

The study discovered that many of the respondents, irrespective of their levels of qualification, rank (cadre) or years of experience were not aware of MBIs for environmental regulation. The few who were aware of MBIs comprised mainly of the private practitioners. In essence, the aforementioned infers that private practitioners involved in oil and gas practice in Nigeria appeared to be more conversant with market-based approaches to environmental regulation in Nigeria, when compared with public servants. This study argues that government that is indirectly involved in the problem of negative externalities, should be conversant with market approaches to regulating the environment.

Putting this in proper perspective, this means that government itself should be meticulous with government directives, as it is the first point of call when the issue of environmental regulation comes up. There is, therefore, an urgent need for government institutions to embrace fully, more alternative means of environmental regulation, specifically market-based, as against the regulatory approach (command and control) which had hitherto majorly been adopted in Nigeria.

The study revealed that MBIs were subtly incorporated in Nigerian policy and legal framework. A review of the policies and laws regulating the oil and gas sector, showed that the Companies Income Tax Act, the Petroleum Profits Tax Act *inter alia* and policies such as the National Gas Policy 2017 and the National Petroleum Fiscal Policy 2017 had market-based instruments subtly integrated within them.

6.2.5 Externalities

The "Polluter Pays Principle" is a veritable tool for environmental protection and control of negative externalities. This principle however underpins the theories of market failure and environmental justice which this study strongly relies on. Under a pollution trading programme, government grants the polluters the right to emit a specific amount of polluting gases and at the same time, allows the polluters to buy and sell their pollution rights in markets created for this purpose, just as proposed by the present study, in the framework proposed.

This study drew attention to another bird's eye view of Pigou and Coase's analysis on externalities, which relates to environmental justice and pollution control, from the command and control and market-based outlook. Literature reviewed in the course of the study, demonstrated, that it is the minority and low-income communities located within the Niger Delta region of Nigeria, who are injudiciously exposed to and also bear the brunt of ecological effluence through gas flaring, under the traditional command and control approach to ecological regulation in Nigeria. Several studies conducted alluded to the nefarious air quality violations and harmful flaring of gas within the Niger Delta regions.

Economists such as Pigou, Coase, Stavins and Gayer, whose works were reviewed inter alia in the study, defended the market-based approaches by arguing that market failure can be attributed to the fact that resources are not judiciously distributed or efficiently allocated. This in turn led to

the advancement of environmental laws, aimed at addressing the concerns raised over the distribution and efficient allocation of natural resources.

Coase proposed looking to the market for solution to the problem of externalities and further argued that in regulating the environment effectively, it was necessary to appropriately define and assign property rights, so that unnecessary costs would not be imposed on citizens. This study aligns with Coase argument. In order to find lasting solution to negative externalities (gas flaring), the proposed incorporation of the gas flaring reduction market mechanism, is deemed necessary, as the fusion of the traditional command and control approach (major) and market-based approach (minor) hitherto in force in Nigeria, did not record remarkable benefits and environmental outcomes in terms of pollution control.

6.3 Conclusion

Nigeria has a hybrid approach which combines the command and control approach and a bit of the market-based approach, as the study unveiled that asides the command and control approach, MBIs were subtly incorporated in Nigeria's environmental agenda. Notwithstanding the hybrid approach, the study is of the view that there should be an exemplar shift, more towards the market-based approach, to arrive at good environmental outcomes and carry on with the campaign for environmental justice.

It is commonplace that intermittently, property rights do not exist. This study, has however recognised the significance of appropriately assigned property rights in the use, control and protection of natural resources and specifically, with respect to this study, regulation of gas flaring.

The findings from the purposively selected sample frame revealed that the approach adopted by the federal government to resolve the problem of gas flaring from the inception of oil and gas operations in Nigeria was warped. Penalties not implemented against offenders, the failure of the international oil companies (IOCs) to obtain exemption certificates and the absence of a zero-flare regime at the inception of oil and gas operations amongst other things, have adversely affected the regulation of gas flaring in Nigeria.

The results indicated that the laws had not adequately addressed gas flaring in Nigeria, moreover, the current policy and legal framework on gas flaring, although appear robust and promising to serve as a legislative relief to end gas flaring, have not been implemented in Nigeria. The results also indicated that market-based regulation is an intelligent means of regulation which promises to be more efficient and cost effective, if fully incorporated in Nigeria's environmental agenda for regulating gas flaring in Nigeria. However, a robust assessment of the costs and benefits involved must be conducted before setting environmental targets and designing emission trading program in Nigeria.

Government intervention is one of the numerous approaches that can be adopted to arrive at environmental sustainability and certainty of environmental justice. However, the rule of law is paramount and it is only when the rule of law is integrated that the salutary role of government would be clear. In essence therefore, government intervention cannot be jettisoned on environmental matters. This study adds to the existing literature on regulating gas flaring by developing and proposing a market-based framework in Nigeria, which seeks to bring on board tradable permits to regulate and considerably reduce gas flaring in Nigeria.

6.4 Recommendations

1. Government should adopt a forthright approach and there should be an exemplar shift in the way natural resources are managed and protected. The shift should be away from the traditional command and control regulations, more towards market-based approaches. Intense environmental assessment of the costs and benefits involved in ensuring good environmental outcomes are very indispensable and must therefore be piloted before setting environmental targets.

2. Property rights should be clearly defined, appropriately assigned and protected so that arbitrary reallocation of such rights does not occur. Relevant stakeholders must therefore recognise the gas flaring reduction obligation certificate (GFROC) as a form of property which can be held and traded within the country. Relevant stakeholders should partner with government to ensure that the operation of the proposed 'gas flaring reduction market mechanism' is open and transparent, without any form of influence.

3. There is an urgent need to develop a contractual template for the tradable emission scheme developed and proposed by this study, as no contractual template for this purpose exists. The said template should expressly address how contracts involving the sale of GFROC can be formed, what is expected to be sold under the contract and who is legally entitled to the GFROCs.

4. It is recommended that the contractual template should clearly define the nature of emissions that can be traded under the proposed scheme. The contractual agreement should also inaugurate the regulatory authority and define the scope of their authority, the objectives, organisational structure, roles and mode of operation.

5. There should be provision of appropriate rules which would direct the interchange, discussion and businesses between the regulatory body and relevant stakeholders. Enforceable regulations and rules to direct emission trading must therefore be put in place.

6. As the Fiscal Rules of General Application (FRGA) would support the framework developed and proposed, the study therefore recommends the speedy passage of the Petroleum Industry Bill (PIB) which is closely tied to the implementation of the FRGA.

7. Merely naming and shaming polluters does not in itself constitute a prohibition of polluting acts. The 'name and shame' strategy introduced by the Paris Agreement and similarly proposed by the National Petroleum Policy (NPP) 2017, would merely remain policy statements lacking legislative backing, if the law which expressly criminalises the violation of environmental standards and regulations is not enforced.

8. It is therefore recommended that, as the concerns for finding solutions to externalities nationally and internationally increase, there is an urgent need for Nigeria to be proactive and keep abreast of developments within the international community, so that it can energetically partake in the plan and execution of unmistakable and precisely stated market-based instruments (MBIs).

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APPENDIX 1

INTERVIEW GUIDE

Department of Jurisprudence and International Law,

University of Ibadan,

Ibadan.

Dear Respondent Sir/Ma,

1. **Introduction:**

My name is JOLAOSHO, Temilade and I am a doctoral student of the Faculty of Law, University of Ibadan. I am carrying out a study which would examine the policy and legal framework for gas flaring regulation in Nigeria, by developing a framework that would incorporate the use of market-based instruments (MBIs) to address environmental pollution from gas flaring. I will appreciate your participation in the research. Participation in the study is voluntary.

If a person agrees to be interviewed, it will be conducted at a private location (if not already in one). Information about date and venue of the interview, age and gender of the interviewee, name of interviewer would be noted in an exercise book or writing pad. The interviewee is hereby informed that i intend to use a tape recorder. Every question that the interviewer asks would be recorded and also everything that the interviewee says would be recorded.

2. **Begin KI interview.**

Questions:

1. Can you please mention the Nigerian policies that address gas flaring?
2. Please describe the ways each of these policies has discouraged gas flaring in Nigeria.
3. Please mention the Nigerian legislation which address the problem of gas flaring.
4. Kindly elaborate on the means through which each of these laws has discouraged gas flaring in Nigeria.
5. In your opinion, what are the hurdles or challenges encountered with the reduction of gas flaring in Nigeria?
6. Have there been any changes in the volume of gas flared in Nigeria?

7. What are the changes? Kindly mention them.
8. In your opinion, can you say that these laws have been able to adequately regulate gas flaring in Nigeria?
9. Are you aware of market-based instruments (MBIs) applicable to environmental protection?
10. Kindly discuss the MBIs implemented in Nigeria's legal framework on gas to address the problem of gas flaring.
11. In your view, what are the weaknesses inherent in these laws?
12. What role can the law play in the development of MBIs to control gas flaring in Nigeria?
13. Are you aware of any country that has implemented a good model of MBIs?
14. What are the likely challenges to be encountered in the use of MBIs in Nigeria?
15. In your opinion, what are the possible solutions to address the challenges?

3. **End KI interview.**
4. Thank the person and leave.

UNIVERSITY OF IBADAN, IBADAN, NIGERIA

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INFORMED CONSENT FORM

IRB RESEARCH APPROVAL NUMBER:
This approval will elapse on: / /

TITLE OF RESEARCH: ASSESSMENT OF POLICY AND LEGAL FRAMEWORK ON GAS FLARING REGULATION IN NIGERIA

Name and Affiliation of Researcher
This study is being conducted by Temilade Jolaosho, a doctoral student of the Faculty of Law, University of Ibadan.

Sponsor of Research
The study is self sponsored.

Purpose of Research
The purpose of the study is to examine the market based legal framework for gas flaring in Nigeria, by developing a framework that would incorporate the use of market based instruments (MBIs) to address gas flaring in Nigeria.

Procedure of Research
To obtain this information, we are discussing with key stakeholders from oil companies, particularly those under joint venture arrangements with NNPC and Officials in the Department of Petroleum Resources and legal experts that have been involved in the formulation of gas policies, and negotiation of gas utilisation projects and deals. A total of about twenty five (25) participants comprised of both public and private legal practitioners engaged in the oil and gas industry, would be purposively selected through the aid of a legal search engine-*hg. org*.

Expected Duration of Research and Participants' Involvement
The participants are expected to be involved in this research for three (3) months. Each interview or filling of questionnaires will take about 30-40 minutes.

Risk(s)
The study does not envisage any risks likely to be involved as the identity of the respondents would remain undisclosed.

Costs to the Participants involved in the Study
Participation in this study would not cost you anything.

SUB DEAN (UNDERGRADUATE)
Dr. Afolasade A. Adewumi LL.B, LL.M (Ib.) Ph.D, BL
E-mail: sade_abidemi@yahoo.com

SUB DEAN (POSTGRADUATE)
Dr. A. A. Aina LL.B, LL.M (Lagos) Ph.D (Ib) BL
Email: kunlaaina@hotmail.com
Tel: 08023228861

Benefits
The aim of the study is to examine the existing legal and policy framework for regulating gas flaring in Nigeria and to further propose and develop a framework which would incorporate the use of market-based instruments in addressing gas flaring.

Confidentiality
All information collected in this study would be accorded codes and no names will be recorded. You are assured that all information provided and the recordings will be kept very confidential. The information elicited cannot be linked to you in any way, neither would your name appear in any publication or reports from this study.

Voluntariness
Your participation in this research is entirely voluntary.

Consequences of Participants' decision to withdraw from research
You have a choice to withdraw from the research at any time. Please note however that the researcher promises to conduct the study in good faith and in compliance with your wishes as much as possible.

What happens to research participants on completion of the study
The researcher will inform you of the outcome of the research through electronic mail.

Potential conflict of Interest
The researcher is not aware of any information that may result in conflict of interest, thereby preventing the researcher from performing expected obligations without fear or favour.

Statement of Person obtaining informed Consent
I have fully explained this research to……and have furnished adequate information, including the risks and benefits, to make an informed decision.

Name:

Signature and Date:

Statement of person giving consent
Now that the study has been explained to me and I fully understand the contents, risks and benefits of the study, I understand that my participation is voluntary and I am free to stop at any time, I am willing to take part in the study. I have received a copy of this consent form and an additional sheet to keep for myself.

Name:

Signature and Date:

Detailed information including contact address, telephone, fax, e-mail and any other contact information of researcher(s), institutional HREC and head of the institution:

This research has been approved by the ethics committee of the University of Ibadan and the Chairman of this Committee can be contacted at Department of Sociology, Faculty of Social Sciences, University of Ibadan. E-mail: sayjegede@yahoo.com
In addition, in case you have any question about your participation in this research, you can contact the principal investigator,
Name…….
Department…….
Phone……
Email…….
You can also contact the Head of the University of Ibadan at…….

PLEASE KEEP A COPY OF THE SIGNED INFORMED CONSENT

UNIVERSITY OF IBADAN, IBADAN, NIGERIA

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TO WHOM IT MAY CONCERN

LETTER OF INTRODUCTION

This is to introduce JOLAOSHO, Temilade Olufunto, an M.Phil/Ph.D student of the Faculty of Law, University of Ibadan.

She is currently on the field for her Ph.D research in Oil and Gas and would like to conduct an interview with legal experts in the sector.

Kindly oblige her with necessary assistance.

Thank you.

Professor A.I. Olatunbosun

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NOTICE OF FULL APPROVAL AFTER FULL COMMITTEE REVIEW

Re: Market Based Legal Framework For Gas Flaring Regulation In Nigeria

UI/Social Sciences Ethics committee assigned number: UI/SSHREC/2018/00016

Name of Principal Investigator: **Jolaosho, Temilade O.**
Address of Principal Investigator: Faculty of Law
University of Ibadan
Date of receipt of valid application: 20/06/2018
Date of meeting when final determination on ethical approval was made: 04/07/2018

This is to inform you that the research described in the submitted protocol, the consent forms, and other participant information materials have been reviewed and given full approval by the SSHREC Committee.

The approval dates from **04/07/2017 to 03/07/2019.** If there is delay in starting the research, please inform the SSHRE Committee so that dates of approval can be adjusted accordingly. Note that no participant accrual or activity related to this research may be conducted outside of these dates. All informed consent forms used in this study must carry the SSHE Committee assigned number and duration of SSHE Committee approval of the study. It is expected that you submit your annual request for the project renewal to the SSHE Committee early in order to obtain renewal of your approval to avoid disruption of your research.

Note: the National code for research ethics requires you to comply with all institutional guidelines, rules and regulations and with the tenets of the Code including ensuring that all adverse events are reported promptly to the SSHEC. No changes are permitted in the research without prior approval by the SSHEC except in circumstances outlined in the Code. The SSHE reserves the right to conduct compliance visit to your research site without previous notification.

Prof. A.S. Jegede

APPENDIX V
DEPARTMENT OF JURISPRUDENCE AND INTERNATIONAL LAW
FACULTY OF LAW,
UNIVERSITY OF IBADAN, IBADAN, NIGERIA.

QUESTIONNAIRE ON
ASSESSMENT OF POLICY AND LEGAL FRAMEWORK ON GAS FLARING REGULATION IN NIGERIA (QPLFGFR)

INTRODUCTION
Dear Respondent**,**
This instrument is designed to assess your knowledge on the policy and legal framework for gas flaring regulation in Nigeria. Please respond appropriately to all the items in each section. Your response will form part of a research effort to make recommendations on effective application of market-based instruments in gas flaring policies.

All responses shall be treated with utmost confidentiality.

Thank you.
Please indicate your response with a tick (√).

SECTION I: DEMOGRAPHIC INFORMATION

1. Gender: Male ☐ Female ☐

2. Age category as at last birthday.

20-29years ☐ 30-49years ☐ 50-59 ☐ 60years and above ☐

3. What is your occupation?.....

4. What is your highest level of qualification?

LL. B/BL ☐ LL.M. B.S ☐ ☐

M.Sc ☐ Ph.D ☐ Others (Specify)…….

5. Please choose the most suitable from the options below. You are
(a) a private practitioner
(b) a public servant
(c) an oil company employee
(d) a non-governmental organisation (NGO) staff
(e) others (specify)…….

6. What is your rank?
(a) Management cadre ☐
(b) Consultant (Legal) ☐
(c) Consultant ☐
(d) Intermediate cadre ☐
(e) Junior cadre ☐

7. How long have you been in the oil and gas industry?
0 to 5 years ☐ 6 to 10 years ☐ 11 to 15 years ☐
16 to 20 years ☐ 21 to 25 years ☐ 26 years and above ☐

SECTION II CHALLENGES OF GAS FLARING POLICIES

8. There exist certain policy formulations that relate to gas utilisation, which amongst other things, have been directed at tackling gas flaring in Nigeria. Which of the policies below listed do you know? Please Tick (√) Yes or No.

POLICIES	YES	NO
National Energy Policy (2003)		
National Gas Policy (2017)		
National Gas Master Plan (2008)		
National Petroleum Fiscal Policy (2017)		
Nigerian Environmental Policy (2017)		

Kindly list other related policies which you are aware of but not listed above
……..
……..
…….

9. Please indicate your perception on the following issues about gas flaring policies. Tick (√)
(A) Strongly Agreed (B) Agreed (C) Neutral (D) Disagreed (E) Strongly Disageed.

	CHALLENGES	A	B	C	D	E
	Inability to enhance and promote gas utilisation in Nigeria					
	Lack of consistency in the policies					
	Current gas regime does not discourage gas flaring					
	Lack of infrastructural development in the gas sector					
	Need for stiffer penalty to discourage gas flaring					
	No provision for revocation of license of companies engaging in gas flaring					
	Inadequate provision to address venting and monitoring of gas flaring					

	Inconsistency with global best practices					
	Inadequate compensation for host communities					

SECTION III: ASSESSMENT OF LAWS REGULATING GAS FLARING

10. Are you aware of legislation regulating gas flaring in Nigeria?

YES ☐ NO ☐

11. If yes, then choose the main objective of these laws from the alternatives below.
(a) To phase out gas flaring in Nigeria.
(b) To prevent exploitation of human or natural resources.
(c) To effectively utilise gas.
(d) To prohibit gas flaring in any oil and gas production

12. Which of these gas legislations do you know? Please tick

(a) Associated Gas Re-Injection Act LFN 2004
(b) Environmental Impact Assessment Act LFN 2004
(c) Nigeria National Petroleum Corporation Act 2004
(d) Nigeria Liquefied Natural Gas (Fiscal Incentives Guarantees and Assurance) Act LFN 2004
(e) Petroleum Act and Petroleum (Drilling and Production) Regulations LFN 2004
(f) Gas Flaring (Prohibition) Bill 2017
(g) Petroleum Industry (Governance) Bill 2017
List other gas regulations which you are aware of but not listed above
……
……
……
13. Are these laws adequate to tackle issues of gas flaring? Yes No

14. In your opinion what are the flaws inherent in them?
……
……
……
……
……
……
15. Are you aware of market-based instruments (MBIs) for regulating the environment?
Yes No

16. Of these market-based instruments (MBIS), please tick the ones you know

(a) Taxes

(b) Tradable permits or cap-and-trade system

(c) Charges

(d) Deposit refund system

(e) Subsidies

17. Please indicate the MBIS embedded in Nigeria policy framework which you know.

POLICIES	MBIS INCORPORATED
National Energy Policy (2003)	
National Gas Policy (2017)	
National Gas Master Plan (2008) National Petroleum Fiscal Policy (2017)	
Nigerian Environmental Policy (2017)	

Kindly list other MBI's which are not listed above

……

……

18. Presently, what quantity of gas is being flared in Nigeria?.....

19. The penalty (amount) for gas flared without permission is…….

20. Have there been any changes in the volume of gas flared?.....

21. What are the changes? Kindly mention them. ……..

……

……

22. Which MBIs are incorporated in these laws?

Laws regulating gas flaring	Market-Based Instrument incorporated within
Associated Gas Re-Injection Act LFN 2004	
Environmental Impact Assessment Act LFN 2004	
Nigeria National Petroleum Corporation Act 2004	
Nigeria Liquefied Natural Gas (Fiscal	

Incentives Guarantees and Assurance) Act LFN 2004	
Petroleum Act and Petroleum (Drilling and Production) Regulations LFN 2004 Gas Flaring (Prohibition) Bill 2017 Petroleum Industry (Governance) Bill 2017	

SECTION IV THE FOLLOWING ARE VERY IMPORTANT FACTORS TO BE CONSIDERED BEFORE IMPLEMENTING MARKET-BASED INSTRUMENTS (MBIS).

	Please Tick the Appropriate Response	**YES**	**NO**	**NO RESPONSE**
	Tenure			
	Available data			
	Intended environmental outcome			
	Efficiency gains			
	Timing			
	Flexibility			
	Administrative feasibility and costs			
	Transaction costs			
	Compliance costs			
	Effective monitoring			

Thank you for participating in this study. Please indicate your willingness to subsequently grant a 30minute interview at your convenience. Kindly indicate your phone number if 'Yes'.