

PROPOSALS FOR A HOLISTIC SOLUTION TO THE NIGERIA'S ENERGY PROBLEMS: UPSTREAM, DOWNSTREAM AND MIDSTREAM CHALLENGES

By

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Abstract

The Energy sector in Nigeria is dominated by oil, gas, coal, hydroelectricity and pockets of renewable energy resources. Each of these resources has inherent and man-made challenges. The Nigeria's government had in the past focused attention only on the oil and gas sector to the detriment of other energy sources. Although the policy thrust now is to widen the scope of the Nigeria's energy mix for economic development. Consequently, the Nigeria's petroleum industry has always been in the centre stage of public comments and policy makers and indeed all Nigerians are concerned that the industry has performed below average despite the huge dollar it has attracted to the country. The argument is that the sector has brought huge curse to Nigeria than blessings given the enormous petrodollar it has attracted to the Government. Another argument is that the industry would have performed well but for inherent mismanagement and government interferences in its affairs.

This author found that each of these energy resources has challenges that require peculiar solution. However, one theme that runs through the sectors is poor management and weak regulatory frameworks. This paper aims at examining how best to address some of the challenges facing the energy sectors in Nigeria and this is with some particular focus on the petroleum industry. The methodology adopted here is to holistically consider these challenges from the broad spectrum of some socio-legal and political perspectives. The paper shall make recommendations based on the findings.

Keywords: Energy, Challenges, Solution, Nigeria, and Management

Introduction

The energy sector in Nigeria consists of oil, gas, coal, hydro, and renewable energy sources. Nigeria has national energy policy published by the Energy Commission of Nigeria in 2003 and Renewable Energy Policy in 2005¹. In these policies the potentials, challenges of each energy resource and subsectors and were highlighted. Unfortunately the government has exhibited lack of political will in addressing some of the issues and challenges addressed in the National Energy Policy. As at today only the oil and gas sector is given prominence while other sectors have been relegated to the background. However, this scenario is gradually changing due to the low price of crude oil in the international market and the development of some shale gas and oil in some oil and gas importing nations one sure result of poor industry's governance in Nigeria is energy

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¹ See Energy Commission of Nigeria, "National Energy Policy 2003"; Energy Commission of Nigeria, National Renewable Energy Policy 2005

poverty of about 76million Nigeria² . This dangerous scenario pervades most African hydrocarbon nations ³ A critical examination of the energy sector in Nigeria would reveal some inherent challenges. This author examines these challenges and makes decisive and holistic recommendations on how to address these some of the challenges. The major problems facing the energy sectors are: poor infrastructure development, inadequate regulatory framework, lack of funding, corruption and lack of political will. There are also cases of regulatory capture and government interference in a sector that should be commercialised or left in the hands of the private sector. These problem covers upstream downstream and midstream. The upstream is the part of petroleum industry that deals with seismic and exploratory activities while the midstream deals with production and refining activities. The downstream deals with distribution, pipeline, marketing and sales of products. Although, there are tin lines that run through these streams the challenges facing each stream is peculiar. This paper will consider the common challenges facing all the streams in an aggregate and holistic manner. The next part will critically examines these challenges and will be interspersed each indicator with some commensurate recommendations.

POOR REGULATION.

The issue of inefficient regulatory frameworks is a serious setback to the development of a vibrant energy sector.⁴ For all the energy types in Nigeria, there are no independent regulator without government's appendage and this is a serious hindrance for achieving a robust petroleum industry.⁵ The main regulatory bodies and agencies in Nigeria are not only established , funded and driven by government the government supervises and control their operational strategies .Thus, the Energy Commission of Nigeria, Department of Petroleum Resources, National Coal Regulatory Authority and Nigeria Nuclear Regulatory Agency, just to mention but these few are government -owned regulatory bodies. As a result of the government's involvement in regulating some of these energy industries which it is also an active participant, the vision of government is beclouded sometimes from seeing the need to embark on a robust reform that could transit to either commercialisation, privatization or promote efficiency in the activities of these industries.⁶

² IEA/OECD, *Energy Poverty- How to make modern energy access universal* (OECD/IEA 2010)15.

³ E J Bala` Overview of African Energy` in World Energy Council (WEC), ,Cleaner Fossil fuels Technologies in Africa :challenges and opportunities (NNPC/WEC 2009)20-21

⁴ Ogu A I, *Regulations: Legal Reform and Economic theory* (Hart Publishing 2004)266, for vrious form of regulations.

⁵ Mark C. Thurber, David R. Hulst and Patrick R.P. Heller, 'Exporting the "Norwegian Model": The Effect of Administrative Design on Oil Sector Performance' (2011) 39(9) Energy Policy, 5376.

See also Emmanuel Nathan and Ebi Bassey Okon, 'Institutional Quality, Petroleum Resources and Economic Growth: A Difference-in-Differences Approach Using Nigeria, Brazil and Canada' (2013) 3(20) IJHSS, 198

⁶ Taverne B, *Petroleum, Industry and Government: An Introduction to Petroleum Regulation, Economic and Government Polices* (2nd ed. Wolters Kluwer Law and Business2006) 205 On how to effectively govern the petroleum industry.

In the case of the oil and gas sector this author relies on the findings of the Oil and Gas Sector Implementation Committee and their recommendation to the President of Nigeria in arguing for the need to ensure a robust regulatory mechanism based on restructuring of the oil and gas sector. The committee stated as follows:⁷

[T]he restructuring also sees to create a deregulated and liberalized industry. The new NNPC will focus on profitable commercial activities as a world class oil and gas company. Under a new restructured industry, with a new orientation as every public institution with a business mindset”⁸

The Committee therefore recommended for a repeal of the present Petroleum Act 1969 as it could not yield itself to a new orientation based on dynamism and liberalization. This paper will similarly recommend not only for its repeal but also for a fresh regulatory framework. The author argues that Nigeria needs an independent regulatory agencies for energy resources and for government to provide enabling environment only the result of this poor regulatory challenges is regulatory capture by the supposed body that is being regulated and the resultant poor service delivery by the regulators. The Department of Petroleum Resources- the industry ombudsman, and the National Oil Spill Detection and Response Agency, which are supposed to regulator the petroleum industry in Niger suffers from this fate.

On vesting of rights and ownership of Petroleum.

Ownership of natural resource is highly unsettled and contentious issue whether in Nigeria or elsewhere. The problem in Sudan, Congo, Angola, Iraq/ USA war are all lined to the question of ownership and control, and management of the petroleum resource. The Nigeria civil war of 1969 was equally partly based on the control of the new found petroleum in the eastern Nigeria. Thus, the question of ownership of petroleum, coal and minerals have generated controversy in Nigeria and this is setback to an efficient oil and gas industry .This author notes that the current practice in Nigeria whereby the ownership and control of natural resource is vested in the government, except in the USA, is a common practice but being revisited in some of these countries ⁹ Some of these countries now have their citizens at hear in adopting managing and controlling natural resources in their countries in line with the United nations Declarations of Permanent Sovereignty.¹⁰ This declaration envisioned the vesting of the benefits of natural resource ownership on the nation and its people rather than any amorphous institution. It is in this way that the challenges confronting the ownership, management and control of natural resources including the issues of national security and resource availability are expected to be addressed by the nation

⁷E Egbogah, ``For the Records, Nigeria Oil and Gas Sector Reform and the Vision` 20:20:20 (2009)2(1) Petroleum Review 12,

⁸Ibid 29

⁹ In Britain for instance, the crown no longer hold tightly the absolute right to petroleum as the Secretary of State has right to grant license to any person without express authority of the crown See The Petroleum Act 1998, UK

¹⁰ See UN Declaration of 1803 of 1962 on permanent Sovereignty

In United Kingdom access to energy and smooth petroleum operation are facilitated by the nature of regulatory mechanism.¹¹ Further, the United Kingdom is atypical common law country which has no security of supply problem in terms of access to reliable supply petroleum products¹²; though the right to petroleum is vested in the crown but exercisable on her behalf by the secretary of state.¹³ However the function of the British crown and the secretary of state, who is like the Minister of petroleum in Nigeria differs. There is also a synergy in both institutions for the promotion of vibrant petroleum industry. Ghana a new hydrocarbon nation, is another country that has its citizens enjoying uncommon access to security of supply than Nigeria¹⁴ Ghana has learnt from the mistake of Nigeria whereby in Ghana, the issue of security of supply of petroleum which create energy crisis in Nigeria, is given prominent attention because this affect the lives of the ordinary Ghanaian citizens.

This paper thus contends that the intendment of the United Nations Declaration on Permanent Sovereignty is to vest ownership of natural resources on the nation's state and the people rather than on an institution such as the Federal Government of Nigeria.¹⁵ This is because in Nigeria, there are three tiers of government namely Federal, State and the local government councils¹⁶. To vest the ownership and control of petroleum on one arm of governmental to the exclusion of the other arms is an aberration in a federation. The consequence of this form of ownership is that the states now go cap in hand to the Federal government to receive monthly oil revenue allocation which is hardly in compliance with the constitutional derivation principle¹⁷. In Norway for instance, the ownership of petroleum lies with the Norwegian people although the king has right to manage the resource.¹⁸ This means that the Norwegian system complies the United Nations Declaration on Permanent Sovereignty in that it vests the ownership of crude oil on the Norwegian people rather than on one institution as it is the case in Nigeria. However, while this author argue that there is a global acceptance of this domanical form of ownership of natural resources- on the sovereign -state, king, queen in line with the UN Resolution on Permanent sovereignty,¹⁹ there is also now an established trend for private ownership of resources in a liberalised world

¹¹ Gordon G and Paterson J and Usenmez E (eds.) *Oil and Gas Law- Current Practice and Emerging Trends* (2ndEd. Dundee University Press 20011)

¹² Ibid ; but see E Usenmez, The UK's Energy Security in G Gordon et al, *Oil and Gas Law Current Practices*pp52,63

¹³ Gordon, `Petroleum Licensing` (n11)`71-72.

¹⁴ L Moller, The Governance of Oil and Gas Operations in hostile but attractive Regions: West Africa (20100 International energy Law Review 120

¹⁵ Section 1 of the Petroleum Act 1969 and the preamble to the Act. See also section44 of the 1999 Constitution

¹⁶ See Sections 2,3, and 4 of the 1999 Constitution.

¹⁷ See section 162 of the 1999 Constitution.

¹⁸ See Petroleum Activities Act 1996 of Norway, Section1-2

¹⁹ E Nwogugu, `Problem of Nigeria off shore jurisdiction` (1973)22(2) TICLQ349.

economy²⁰ This trend is facilitated by the inability of States to provide sustainable development and economic empowerment to all its citizens without the impute of private capital²¹. Accordingly, this author does recognise that the manner of vesting of ownership in the federal Government to the exclusion of the host communities, states that produce the oil is a serious issue that promotes energy problem.

This has consequently given rise to the recurrent agitation by the oil and gas producing region and state and the failure to address their claims has produced sabotage of petroleum industry assets, kidnapping of industry staff and a host of other negative externalities that revolve around resource control by the Niger delta region.²² The draft Petroleum Act also did not change the current position.²³ This means that this challenge will continue to pose greater risk to the industry unless the problem of ownership is addressed.

On Competition and Deregulation or monopoly:

The current practice in the energy sector now is on the need to create a vibrant competitive petroleum industry and deregulation of natural resource management is the modern trend in some hydrocarbon countries. This is due to the inability of most governments to manage energy resource effectively. The UK is an example where the petroleum industry is completely privatised leaving government out of the control of the petroleum sector whether upstream, downstream and midstream. The UK government was able to achieve success in the privatised sector due to the establishment of an independent regulator in the nature of an ombudsman. This was called the department of Energy and Climate change (DECC) and Oil and Gas Regulators²⁴. The UK petroleum sector is one area that attracts huge tax return to the government due to the less government interference in the industry. Consequently, this government was able to provide basic amenities like electricity, good roads and regular water supply and heating systems to the UK citizens.

This paper shall, on the strength of the advantages of deregulation over monopoly, recommend a competitive petroleum industry anchored on the new Act.²⁵ However, granted that competition takes years to evolve even in developed countries, this author will recommend that the government should not totally disengage from the energy policy making but rather set the enabling standards for the market to thrive without interference and only interfere where the market is distorted. The PIB rightly sets the basis for the operators of the new petroleum

²⁰ See the practice of ownership of petroleum in the USA which allows private ownership of crude oil if found on private lands.

²¹ Seitz, J, *Global Issues: An Introduction* (3rd edn. Blackwell Publishing 2008) 100- 123

²² Ikein A, *The Impact of Oil on Developing Country: the case of Nigeria* (Evans Brothers Nigeria Publishers, Ibadan 1990) See also S Tombofa, 'Politics of Oil and Underdevelopment in the Niger Delta University, *The Nigeria State, Oil industry and the Niger Delta* (Harey Publications Company Nigeria 2008).207--209.

²³ Section 1 of the draft Petroleum Bill 2009, on the fundamental objectives.

²⁴ See Energy Act 2008 UK and Department of Energy and Climate Change, 2012.

²⁵ Seitz n 19 at 14

industry by incorporating clearly in S.3, the principle of sustainable development, and in S. 4, good governance based on NEITI. All these hold good for security of supply of petroleum.

Environmental Protection and Human right abuse.

The oil and gas sector is a major precursor of oil spillage, gas flares and waste water pollution.. The industry is responsible for orgy of environmental pollution and ecosystem despoliation in Nigeria.²⁶The Niger Delta operating environment is not of the orgy of environmental pollution and human rights abuse.²⁷ These challenges are exacerbated by the lack of corporate governance. It could be argued that the licence granted to the international oil Companies does not demand from them a mandatory compliance with corporate social responsibility whereas the citizens in the oil and gas producing areas demand for their compliances. The OICs operating in Nigeria have also leveraged on this reason coupled with the weak regulatory regimes to undermine international best practices and their compliance with domestic laws, thus sparking of conflict with the local communities.²⁸

In addressing pollution challenges this author recommends both legal and economic approaches to pollution control. Accordingly, this author shall recommend: first, the incorporation in the new Petroleum Act, a regimes of laws that will frontally address pollution prevention, control and management. The polluter pays principle and tax on polluter should be fully incorporated into the new law n petroleum.²⁹ This is in keeping with UNEP's reports on the Ogonis of the Niger Delta, an Environmental Restoration Authority and the setting up of a Pollution Compensation Fund Payment Agency, similar to the International fund for Compensation For Oil Pollution Damage (Fund Convention)³⁰ to deal with the payment of compensation arising from pollution, whether caused by sabotage or otherwise.

Second, the new Petroleum Act should also incorporate special capacity development Fund for the training of the staff of the regulatory agency so that they can be scientifically equipped to discharge their functions. Third, Environmental Impact Assessment (EIA), monitoring, audit and reporting should be made compulsory for any petroleum project and, a special agency to handle

²⁶ Ikein A, *The Impact of Oil on Developing Country: the case of Nigeria* (Evans Brothers Nigeria Publishers , Ibadan 1990)

²⁷ J Drimmer, 'Human Rights and the Extractive Industries :litigation and Compliance` (2010)3 2 JWELB125, on human right abuse by SPDC in Nigeria.

²⁸ C Obi, 'Oil Conflict and National Security in Nigeria: Ramifications of the Ecology- Security Nexus for Sub Regional Peace` (1997) ACID Occasional Paper, University of Illinois,14.

²⁹ United Nations Convention on Environment and Development, 1992 on the benefits of the polluter pays principle.

³⁰ 9ILM(1970) 45,in force 19th June 1975 ,amended by the 1976 Protocol now reprinted 16 ILM(1977) 617 in force 8th April 1981 and as fully reproduced in Birnie and Boyle, ` Basic Document(13) 91.

this to be created and made quite different from the regulatory Agency.³¹ This author recommends pre- impact, continuous impact, and post- impact to be carried out on all activity chains in the industry and this to be considered as the fulcrum of any enforcement mechanism of the proposed Act.³² The author recommends the incorporation of strict liability and the polluters pay principles.³³ The next options' should be to criminalise environmental crime as practiced in Brazil.³⁴ The Gas Flaring (Prohibition and Punishment Bill 2009) close to the Brazilian type is yet to be passed by the National Assembly .A Cap and Trade scheme as in Europe³⁵ is also recommended for adoption by established polluters like the major MOCs in Nigeria This emission trading which has succeeded in Europe could mop up the Co₂ from flaring.

The Kyoto Protocol's³⁶ Clean Development mechanism could be transplanted into the domestic Law to address pollution by stating that major MOCs invest in clean energy projects as conditions for doing business. This way, pollution that exacerbates energy insecurity within the operating Niger Delta environment and indeed in the whole Nigeria would be addressed.

Infrastructure Deficit and Diversification.

This paper contends that mainstreaming critical infrastructure is the foundation of security of supply and its absence creates energy insecurity.³⁷ This is because the absence of adequate and functioning pipeline could affect the delivery of gas to the off takers and the ultimate consumers. This will turn affect the return on investment for the country. The inability to undertake functional crude oil drilling test in Nigeria meant that capital flight would be promoted if these test was undertaken in developed western countries. Where, however, due to the absence of major critical infrastructure such as petroleum filling station close to the consumers especially offshore consumers- residing outside the land areas, there would be product scarcity and higher cost of products that the price of the products. The lack of critical energy facilities affects the electricity sector in Nigeria as inadequate pipe line to convey gas from wellhead to ultimate consumers is a serious problem³⁸

³¹I Anago, 'Environmental Impact Assessment as a Tool for Sustainable Development: The Nigerian Experience' (2005) 2(3) EPLR 199 on the Nigeria experience of the EIA.

³² Ibid (n175) at, 209 on challenges of the current EIA.

³³ C Redgwell ,International Energy Security in Barry Barton et al,(eds.),Energy security; *Managing Risk in a Dynamic legal and Regulatory Environment* (Oxford University Press 2008)p.18 at 29.

³⁴ Environmental Crime Act 1998 which was approved by the Brazilian National Congress on 13th February 1998). < http://www.brazil.org.uk/environmental_crime.html>accessed 12thJan, 2 017; See also section 10 and 22 of the Petroleum Act 1998, UK(C. 17)on the application of criminal law in petroleum activities.

³⁵Directive 2003/87/EC of the European Parliament and the Council of 13th October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61. OJL 275,25/10/2003, P.0032-0046

³⁶ Kyoto Protocols to the United Nations framework Convention On Climate Change , Kyoto 11 December 1997,in force 16th February 2005,31ILM (1988) 22,(Arts. 4,5,and 12)

³⁷D Yergin, *Ensuring Energy Security* (2006) Foreign Affairs 75 .

³⁸ P Assiodu, *Developing and supporting Critical Energy Infrastructure for vision 2020:challenges and Prospects* (2008) 4 International Association for Energy Economics 5,on the funding constraints

This also the situation in other countries as noted by the California black out of 2003, the Hurricane Katrina of 2005 in the USA's coast,³⁹ and the recent Bp Gulf of Mexico incident are glaring examples of the importance of critical infrastructure on security of supply.⁴⁰ The continuous monitoring and reporting by way of environmental audit would help to identify critical infrastructure that needs replacement, if enshrined in the Act while concerted efforts should be made to increase investment and funding towards the provision of critical infrastructure. There is also the need to diversify away from a dominant product like crude oil to other renewable energy sources if the energy crisis would be addressed. Diversification contributes to varieties of source and each source contributes to both economic growth and security of supply. Today Nigeria is struggling to diversify away from petroleum as the failure to do so in the past has contributed to energy crisis⁴¹

Promoting Energy efficiency and Conservation practices

Deploying energy and conserving available energy would promote robust energy culture and efficiency in the sector and this would contribute in reducing energy crisis. Energy efficiency envisions the way energy is used at homes, industries. As at today renewable energy sources such as energy from the sun (solar energy) from wind (wind energy), from water (hydro energy), from the rock (geothermal energy) are considered as the most sustainable way to ensure security energy availability and one sure way to reduce energy crisis This is because of the varieties and iniquitousness.⁴² However, these energy source are capital intensive and very expensive to bring into the market. In Nigeria renewable energy sources contribute less than 0.5% person to the Nigerian energy mix it is yet to make any commercial inroad into the economic development⁴³ of supply for which upstream measures alone could not address⁴⁴. The present Act concentrated on pollution prevention at the upstream petroleum explorations without addressing the impact of EF on security of supply⁴⁵. The paper argues that incorporating the downstream energy- use efficiency, such as emission tax on polluting companies,⁴⁶ efficient transport system with fuel and vehicle tax, could reduce car ownership and improve security of supply. The Petroleum Act could complement government's

³⁹ Yergin, (n35) 75.

⁴⁰ BP Statistical Review of World Energy June 2010 www.bp.com/statisticalreview accessed Dec.2017.

⁴¹ I O Ogundai, A S Momodu and J B Akaraki, Kerosene Scarcity and Oil Deregulation Policy Development in Nigeria in A I wayemi, W Iledare, A Adenikinju, *Energy Environment and Economic development in Nigeria Association of Energy Economics 2011*1011-112

⁴² The renewable energy resources are found everywhere in nearly all the countries of the globe although some are seasonal.

⁴³ Energy Commission of Nigeria 2003 (National Energy Policy)

⁴⁴ B Barton, The law of 'Energy Efficiency' in Donald Zillman, C Redgwell, Y Omorogbe, L:Barrera-Hernandez, B Barton, *Beyond the Carbon: Energy Law in Transition* (OUP 2008) p 61at 62.

⁴⁵ A Sambo, 'Energy and Environmental interactions for Sustainable Development' In A Iwayemi et al, *Energy, Environment and Economic Growth* (Book merit Publishers 2011)21

⁴⁶ Climate Change Act 2008 UK (c 32-)Act, Part 1 and 16 on Emission Trading; DECC, *Confronting the Greatest Threat :Climate Change and Energy* (DECC 2004)chapter 4

policy on Energy efficiency if this exist as practiced in the UK and other developed countries⁴⁷. Similarly, reducing the act of flaring precious gas will also promote energy efficiency in Nigeria.

Similarly, temporary disruption of supplies could be addressed by adapting the EU's⁴⁸ stock piling obligation to members states under the International Energy Agency's Coordinated Emergency Response measures (CERM),⁴⁹ such as information sharing and cooperation between the industry and government. Nigeria could maintain stocks for up to 120 days to prevent perennial shortages of fuels during turn around maintenance if included in the Act. Sadly the Petroleum Act provides for the maintenance of stock for only 30 days in a country that has 180 million people. This is insecurity of supply with its attendant energy crisis will continue unless this situation is reversed.

Handling Niger Delta crisis and geopolitical issues

This author contends that geopolitical issues and host communities concern are serious factors militating against achieving a crisis-free energy sector development in Nigeria. The Nigeria Delta oil producing areas is a pollution laden geopolitical entity, with severe poverty and underdevelopment as indicators of the lives of an average Niger deltas⁵⁰. The failure to address the problem of this are in the past has contributed to energy crises following acts of sabotage on companies' infrastructure, illegal bunkering or refineries and, kidnapping of personnel of oil workers.⁵¹ This author hereby recommends an all-inclusive Petroleum Act which incorporates the indigenous communities' active participation in the Industry. This author found that most of the conflicts between the stake holders were based on lack of adequate information, low capacity development and failure of corporate governance⁵² The author thus recommends freedom of information sharing among the government, MOCs, citizens and the civil society.⁵³ The benefits of the citizens active participation and information sharing have been incorporated in the draft Petroleum Industry Bill 2009 as part of the new orientation based in line with the recently passed Freedom of Information Act 2011 and anchored on the benefits of the Nigeria Extractive Industries transparency Initiatives (NEITI)⁵⁴. This practice also draws strength from the

⁴⁷ R Dawes, 'Building to Improve Energy Efficiency in England and Wales' 279 [2010] Environmental Law Review 273.

⁴⁸ Council Directive 98/93/EC of 14th December 1998 Amending Directive 68/414/EEC imposing an obligation on member states to maintaining minimum stocks of crude Oil and products (1998), OJL 358/100.

⁴⁹ Redgwell, 'International Energy Security' (2006) 28-29.

⁵⁰ M Olise and T Dappa, 'Overcoming Nigeria's Energy Crisis' (2009) 2 Social Action 1-11.

⁵¹ A Sambo, 'Energy and Environmental interactions for Sustainable Development' In A Iwayemi et al, *Energy, Environment and Economic Growth* (Book Merit Publishers 2011) 21

⁵² J O Kakonge, 'Challenge of managing expectations of newly emerging Oil and gas producers of the South' (2011) 4(4) JWELB 132-133.

⁵³ E Oshinonebo, 'Transnational Corporation, Civil Society Organisations and Social Accountability in Nigeria's Oil and Gas Industry' [2007] AJICL 108-110

⁵⁴ T Berner et al, *The Good/Bad nexus in Global Energy* in A Goldthau and J M witte (eds) (Brooking Institute Press 2010) 298-299.

European Union's Aarhus convention.⁵⁵ The benefits of these recommendations in reducing energy crisis is enormous.

Lack of Enforcement, compliance and implementation

The lack of adequate enforcement of energy-related regulations especially that that tilt towards environmental protection is asset back for an effect petroleum industry. The government sometimes lack the political will to enforce its own regulation in the oil and gas industry due to several reasons. First, the importance of the sector as a foreign exchange earner and the lack of political will due to the configuration of Nigeria are serious consideration. The twin problems of lack of implementation of pollution control laws, human development laws and capacity building run as a theme throughout the oil and gas sector in Nigeria. The present Petroleum Act is a culprit in that it is rule oriented, and more concerned with achieving result by command and control measure ; by setting rules, anticipates breaches and by providing punishment . The emphasis today has shifted to voluntary compliance and performance -based rules which allow citizens, the industry and affected target to see the need to comply with rules made by government.

The author will recommend for energy sector, voluntary and self-regulation approaches.⁵⁶ In addition, a market-based approach should be implemented particularly in pollution prevention and control. This involves taxing polluters, and the use of incentives like Feed in- Tariff, Renewable Obligation for alternative sources of energy which provides some supports to producers of clean technologies and the use of fossil fuels levies; but taking into account the case of the vulnerable groups.⁵⁷ This is the practice in European and the UK, where some fiscal incentives like Climate change levy on non- domestic users of energy and carbon Trust schemes have been deployed to encourage clean technologies.⁵⁸ These measures could be adapted in Nigeria given Nigeria's level of development and awareness of these mechanisms.

Conclusion

Effective regulation and robust management of the energy sector would promote a sustainable energy development. In Nigeria the energy sectors is in crisis. This is due to some of the issues outlined in this paper. The benefits of a robust energy governance eludes the country as pollution arising from the energy sector confronts the oil producing region on the daily basis. This paper considered the energy security situation in Nigeria in the light of the current Petroleum Act and

⁵⁵ K George-stavros, 'The Aarhus Convention and its Implementation in the European Community,' p.141 Available at <http://inece.org/conference7/vol./22-kremlis.pdf> accessed 2/1/2017.

⁵⁶ D Robinson, 'Regulatory Evolution in Pollution control' in J Jewell and J Steele, *Law in Environmental Decision making :National ,Europe and International* (Clarendon press 1998)29.

⁵⁷ I Ogendari et al, 'Kerosene Subsidy and Oil Deregulation Policy Development in Nigeria', in Akin Iwayemi et al, *Energy ,Environment and Economic Growth* 117, on the impact of subsidy .

⁵⁸ J Grady, *Climate Change and Great Britain* (2003) IELT 112-114 ;DECC's Low Carbon transition Plan 2009 .

came to the conclusion that it is inadequate to ensure security of supply of petroleum products and services given the 76 Million Nigerians that lacked access to modern electricity. It is also not adequately prepared to promote poverty and sustainable development due to inherent challenges. In arriving at this conclusion, the paper analysed such indicators as the nature of ownership and control of petroleum, the type of petroleum governance, legal regimes on sustainability, energy efficiency and enforcement, energy infrastructure and the Niger Delta crises. The paper found that the current Petroleum Act 1969 does not meet the need of ensuring security of supply and capacity building having failed to address effectively these issues. The paper found that, the regulatory agencies and regulation in Nigeria failed in the entire test adopted in this paper. The paper finally concludes that there is need for political will on the part of the government in order to carry on board some of the recommendations made here stressing that adequate implementation of energy laws, diversification away from oil and a robust energy sector management would avert further crisis in the sector.