

**School for Advanced Legal Studies – Faculty of Law**

**University Of Cape Town**

**Phasing-Out Gas Flaring In Nigeria: A Critical Assessment of the  
Regulatory Regime**

Dissertation for the award of an LL.M degree in  
Marine and Environmental Law

by

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**DECLARATION**

Research dissertation presented for the approval of senate in partial fulfilment of the requirements for the degree of master of laws in Marine and Environmental Law.

The other part of the requirements for this qualification was the completion of a programme of courses.

I hereby declare that I have read and understood the regulations governing the submission of master of laws dissertation, including those relating to length and plagiarism, as contained in the rules of the university, and that this dissertation conforms to those regulations.

Signed by candidate

Irekpitan Okukpon

February 10, 2010

## DEDICATION

This thesis is dedicated to God Almighty for his favour, grace and blessings to me and my family. May His name be praised forever and ever (Amen).

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Special thanks go to my supervisor, Professor Jan Glazewski for his patience and guidance during the course of writing this thesis. His teaching of International Environmental Law inspired my zeal to want to protect the wider environment, and thus inspired me to write this thesis.

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## ABSTRACT

The rapid development of the global oil and gas industry has led to an increase in atmospheric emissions which is detrimental to the wider atmosphere. The flaring of gas during oil exploration and production (E & P) activities alarmingly contributes to the emission of green-house gases which contribute to climate change. The enactment of legislation with adequate provisions for the reduction and elimination of gas flaring from oil and gas activities is very important. Very few countries in the world (e.g. Canada) have been able to successfully eliminate the problem of gas flaring through conservation and the enactment of adequate legislation with stringent sanctions for defaulters who continue flaring. Nigeria is an example of a country with inadequate gas flaring laws. This thesis examines the effectiveness of regulatory regimes on gas flaring in Nigeria with a view to determining if the phase-out of the problem can be achieved. It stipulates that the provisions of the Associated Gas RE-Injection Act (AGRA) 1979 and its Regulations of 1984 are inadequate for the regulation and or elimination of gas flaring. It also advocates for the amendment of AGRA, the development of more effective laws on gas flaring and methods by which the gas being flared can be conserved in order to ensure a clean and healthy environment in Nigeria (particularly the Niger-Delta), free from gas flares.

## ABBREVIATIONS

AG- Associated Gas

AGRA- Associated Gas Re-injection Act

ATC- Alien Tort Statutes Act

AUC- Alberta Utilities Commission

BCFD- Billion Cubic Feet per Day

BPE- Bureau of Public Enterprises

CASA- Clean Air Strategic Alliance

CDM- Clean Development Mechanism

CER- Certified Emission Reduction

COGO Act- Canada Oil and Gas Operations Act

COP- Conference of Parties

DNA- Designated National Authority

DPR- Department of Petroleum Resources

DTA- Data Tree Analysis

EB-CDM- Executive Body-Clean Development Mechanism

ECOWAS- Economic Community of West African States

EGASPIN- Environmental Guidelines and Standards for the Petroleum Industry in  
Nigeria

EGP- Escravos Gas Project

EIA- Environmental Impact Assessment

ELP-Escravos-Lagos Pipeline

EMP- Environmental Management Plan

ENGOS- Environmental Non-Governmental Organisations

ERCB- Energy Resources Conservation Board

ESMAP- Energy Sector Management Assistance Programme

EUB- Energy Utilities Board

FEPA- Federal Environmental Protection Agency

FMENV- Federal Ministry of the Environment

FRN- Federal Republic of Nigeria.

GGFR- Global Gas Flaring Reduction

GTL- Gas-To-Liquid

IAOGP- International Association of Oil and Gas Producers

IMO- International Maritime Organisation

IP- Inspection Panel

ISO- International Organisation for Standardisation

JV- Joint Venture

LFN- Laws of the Federation of Nigeria

MNCs- Multinational Companies

NAOC- National Agip Oil Company

NDDC- Niger Delta Development Commission

NEB- National Energy Board

NEPAD- New Economic Partnership for Africa's Development

NESREA- National Environmental Standards and Regulations Enforcement Agency

NGOs- Non Governmental Organisations

NLNG- Nigeria Liquefied Natural Gas

NNPC- Nigerian National Petroleum Corporation

NPRI- National Pollutant Release Inventory

OEL- Oil Exploration License

OGCR- Oil and Gas Conservation Regulation

OGP- International Association of Oil & Gas Producers

OGRCA- Oil and Gas Resources Conservation Act

OML- Oil Mining Lease

OPL- Oil Prospecting License

OPEC- Organisation of Petroleum Exporting Countries

PDPR- Petroleum (Drilling & Production) Regulations

PNGCB- Petroleum and Natural Resources Conservation Board

PSC- Production Sharing Contracts

PUB- Public Utilities Board

RAP- Resettlement Action Plan

SCM- Standard Cubic Metre

SPDC- Shell Petroleum Development Company of Nigeria Limited

TCF- Trillion Cubic Feet

TVGCB- Turner Valley Gas Conservation Board

UN- United Nations

UNCED- United Nations Conference on Environment and Development

UNFCCC- United Nations Framework Convention on Climate Change

U.S EPA- United States Environmental Protection Agency

WAGPP- West African Gas Pipeline Project

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## CHAPTER ONE

### GAS FLARING AND ITS IMPLICATIONS

‘For many years, we have been living with continuous flaring of gas.....Our farmlands have been polluted. We labour hard to plant but little comes out. Our roofs are corroded. Our air is polluted. Our children are sick. Even the rainwater we drink is contaminated with black soot from the gas flares. We cannot continue with this suffering. We need to take legal action to protect ourselves, our children and our future.’<sup>1</sup>

#### 1. Background

Throughout the ages, human societies have altered local ecosystems and modified the climate of the areas they inhabited by their various activities.<sup>2</sup> Relentless population pressure in all the continents of the world has made this impact global in nature.<sup>3</sup> This has resulted in global, agricultural and industrial human activities which have led to high emissions of polyatomic molecules into the atmosphere.<sup>4</sup> Consequently, these emissions have an adverse effect on the earth’s climate and have become an issue of international concern in the past few decades.

Atmospheric emissions take place at all stages of oil and gas industry activities.<sup>5</sup> However the continuous flaring of gas to eliminate oil-associated gas is a common practice worldwide.<sup>6</sup> The reasons why this gas is flared include: limited access to international gas markets as well as weak local markets to commercialize the gas; lack of funding to put in place the necessary infrastructure to use the associated gas; and an undeveloped regulatory framework for using that gas.<sup>7</sup> As a

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<sup>1</sup>Comrade Che Ibegwura from Erema, Egi community in Rivers State, Nigeria.

<sup>2</sup>Akinyinka Omigbodun ‘Climate Change and Public Health.’ Paper presented at the Lagos State Summit on Climate Change, Lagos, Nigeria 26-28 March 2009 Available at <http://www.moecclimate.com> [Accessed 16 June 2009].

<sup>3</sup> Ibid.

<sup>4</sup> Ibid.

<sup>5</sup> Tayo A. Yusuf ‘Oil & Gas Industry Activity and the Niger Delta Environment: The Role of Environmental Law.’ Available at [www.nigeriansinamerica.com/.../Oil...Gas-Industry-Activity-and-the-Niger-Delta-Environment-The-Role-of-Environmental-Law/Page1.html](http://www.nigeriansinamerica.com/.../Oil...Gas-Industry-Activity-and-the-Niger-Delta-Environment-The-Role-of-Environmental-Law/Page1.html) [Accessed 12 November 2009].

<sup>6</sup> Ibid.

<sup>7</sup> ‘Global Gas Flaring Reduction Partnership: Towards a World Free of Flares.’ Available at [www.flaringreductionforum.org/downloads/GGFR\\_brochure.pdf](http://www.flaringreductionforum.org/downloads/GGFR_brochure.pdf) [Accessed 10 July 2009].

result, the flaring of gas by oil companies as a result of crude oil exploration and production operations has been a contentious issue over the past few decades. In spite of the fact that most countries now have adequate legislation prohibiting flaring of oil-associated gas, it remains one of the major sources of atmospheric emissions in the world.<sup>8</sup> Nigeria is a major culprit in this regard.<sup>9</sup> Apart from contributing significantly to global warming, gas flaring poses a serious threat to water and on-land ecosystems and to human health.<sup>10</sup> As a result, the need to eliminate and or effectively manage oil-associated gas has become a matter of domestic and international concern.

### **1.1 Objective of the Thesis**

This thesis is geared towards assessing whether effective legislation exists to phase-out the problem of gas flaring in Nigeria in the near future.. Thus, the questions which this research seeks to answer are: What is gas flaring and its negative effects? Is the problem being effectively managed in Nigeria? What role does international environmental law and other international oil and gas laws play in addressing the problem? Is Nigeria a party to such treaties? Are there existing gas flaring laws in Nigeria to control and or eliminate the problem? How effective are these laws? Can Nigeria take a cue from other common law jurisdictions like Canada which has effective gas flaring laws and has managed to reduce the flaring of gas to the barest minimum? Although there are many other common law jurisdictions which have gas flaring laws, this thesis will to a great extent depend on comparison with the province of Alberta in Canada because Canada is a common law country like Nigeria, with large oil and gas reserves and various Albertan laws and policies have resulted in effective elimination and or management of gas flaring in that province and in the country as a whole. This thesis seeks to examine whether the Canadian attitude to gas flaring, if adopted in Nigeria will be useful in eliminating the problem.

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<sup>8</sup> Yusuf (note 5).

<sup>9</sup> Ibid.

<sup>10</sup> Ibid.

### 1.1.2 Methodology

This study is research and desk-based and studies primary and secondary sources relevant to the issue of gas flaring. Most notably, Nigerian laws, Albertan laws and international treaties are some of the primary sources that will be used, including secondary sources like books, journal articles and online internet articles.

### 1.1.3 Structure of Thesis

This Chapter One introduces the thesis as a whole and among other things, describes the problem of gas flaring via definitions of terms, historical development and regulation of gas flaring in Nigeria and the various effects of gas flaring on the nation's economy. Chapter Two examines current international environmental law on atmospheric pollution such as the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol. Chapter Three further examines the legislation and institutional frameworks in Nigeria for regulating gas flaring and their effectiveness. An assessment shall also be made of the effectiveness of the various projects set up by the Nigerian government in conjunction with oil producing companies to harness and market the flared gas, both domestically and regionally. Likewise, Chapter Four assesses the effectiveness of the gas flaring legislation in Alberta, Canada to highlight the lacuna present within the Nigerian gas flaring laws with a view to encouraging the country to adopt Canada's attitude of conserving the gas being flared. Finally, Chapter Five contains my recommendations on how to effectively reduce gas flaring in Nigeria and achieve its 2010 deadline on the basis of the issues set out in chapters 1-4 above and conclusions to that effect.

Nigeria is blessed with rich, renewable and non-renewable natural resources. One of these resources is crude oil which dominates<sup>11</sup> and generates billions of dollars for the Nigerian economy<sup>12</sup>. Majority of Nigeria's crude oil is found in the Niger Delta region.

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<sup>11</sup> Kaniye S.A. Ebeku 'Biodiversity Conservation in Nigeria: An Appraisal of the Legal Regime in Relation to the Niger Delta Area of the Country.' (2004) 16 (3) *Journal of Environmental Law* at 362 Available at <http://ijel.oxfordjournals.org/cgi/reprint/16/3/361.pdf> [Accessed 20 November 2009].

<sup>12</sup> 'Nigerian Gas Flaring Fact Sheet.' Available at <http://www.eraaction.org/component/content/70?task=view> [Accessed 20 June 2009].

The Niger Delta region of Nigeria has an area of seventy thousand square kilometres (70,000 km).<sup>13</sup> It is the largest wetland in Africa and the third largest in the world.<sup>14</sup> It is also one of the richest reservoirs of natural resources in the world.<sup>15</sup> The Niger Delta environment can be broken down into four ecological zones: coastal barrier islands, mangrove swamp forests, freshwater swamps and lowland rainforests.<sup>16</sup> Thus, the region has a uniquely endowed ecosystem containing one of the highest concentrations of biodiversity on the planet, supporting abundant flora and fauna.<sup>17</sup> In addition, the region sustains a wide variety of crops, economic trees and a variety of fresh water fish than any ecosystem in West Africa.<sup>18</sup> Unfortunately, uncontrolled gas flaring in the region is one of the threats to the unique natural resources found there.

Crude oil production in Nigeria started as far back as 1908.<sup>19</sup> However, the first oil field was found in 1956 in the Niger Delta and the first export of oil was made in 1958.<sup>20</sup> During the process of drilling for oil by multinational companies (MNCs), gas which is contained in this crude oil is released and one of the ways to get rid of this gas is by setting fire to it and burning it off, a process called “gas flaring.”<sup>21</sup> The flared gas is gas burnt off as unusable waste gas or flammable gas, which is released by pressure relief valves during unplanned over-pressuring of plant equipment.<sup>22</sup> It burns through a gas flare (an elevated vertical chimney) on oil wells, in refineries, or in chemical plants.<sup>23</sup>

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<sup>13</sup> Safiya Yakubu ‘Nigeria: Gas Flaring in the Niger Delta and Its Health Hazards.’ Available at <http://allafrica.com/stories/200803100319.html> [Accessed 12 June 2009].

<sup>14</sup> N. O. Uluocha and I.C Okeke ‘Implications of Wetlands Degradation for Water Resources Management: Lessons from Nigeria.’ Available at <http://www.springerlink.com/content/nx02756518616771/fulltext.pdf> [Accessed 12 October 2009].

<sup>15</sup> G. G. Darah, ‘Delta Oil Communities: From Bondage to Prosperity.’ Paper presented at the Senior Staff Training workshop organized by Delta State Oil Producing Areas Development Commission (DESOPADEC), Woodridge Hotel, Effurun, Delta State, Nigeria 25 February -1 March, 2008.

<sup>16</sup> Yakubu (note 13).

<sup>17</sup> Ibid.

<sup>18</sup> Ibid.

<sup>19</sup> ‘Petroleum Statistics.’ Available at <http://www.nigerianstat.gov.ng/descr.php?recordID=1> [Accessed 20 November 2009].

<sup>20</sup> ‘Gas Flaring in Nigeria: A Human Rights, Environmental and Economic Monstrosity.’ Available at <http://www.climatelaw.org/cases/country/nigeria/cases/case-documents/nigeria/gas-flaring-in-nigeria.pdf> [Accessed 12 June 2009].

<sup>21</sup> Yakubu (note 13).

<sup>22</sup> Bruno Gervet ‘Gas Flaring Emissions Contribute to Global Warming.’ Available at [http://www.tuse/polypoly\\_fs/1-5053!gasflaringreport-final-pdf](http://www.tuse/polypoly_fs/1-5053!gasflaringreport-final-pdf) [Accessed 20 June 2009].

<sup>23</sup> Ibid.

The questions which arise from the issue of gas flaring are: what are the effects of gas flaring on the wider environment and human health of individuals? Do effective international and domestic law exist to regulate and eliminate the problem and the harmful effects of gas flaring on communities near to which this gas is flared? The following paragraphs give a definition of terms relating to gas flaring, an overview of the history of gas flaring in Nigeria, the various effects of gas flaring on a global scale and on the Nigerian domestic scale and the problem of gas flaring as an infringement on individual human rights.

## **1.2 Meaning of Gas Flaring, Venting and Associated Gas**

### **1.2.1 Gas Flaring**

A gas flare or flare stack is an elevated vertical stack or chimney from which gas is flared. It is found on oil wells or oil rigs and in refineries, chemical plants and landfills.<sup>24</sup> Thus, gas flaring is the routine burning of gas in oil fields during oil various petroleum industry operations as a means of disposing flammable gases which are either unusable or uneconomical to recover.<sup>25</sup> The flaring of this gas can also be used to depressurize gas processing equipment during routine maintenance and emergencies.<sup>26</sup>

### **1.2.2 Venting of Gas**

Venting is the release of natural gases directly into the atmosphere either intentionally to get rid of unwanted waste gases or unintentionally through equipment leaks and failures.<sup>27</sup> As such, venting could occur from oil and natural gas production and transport, oil and gas well drilling and servicing or from accidental equipment failures.<sup>28</sup>

### **1.2.3 Associated and Solution Gas**

Associated gas is the natural gas found as part of or in conjunction with other constituents of crude oil, as opposed to such gas found on its own. The expression

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<sup>24</sup> Yakubu (note 13).

<sup>25</sup> 'Flaring in the Petroleum Industry.' Available at [http://www.ec.gc.ca/cleanair.../flaring/flaring\\_general2e.htm](http://www.ec.gc.ca/cleanair.../flaring/flaring_general2e.htm) [Accessed 20 June 2009].

<sup>26</sup> Ibid.

<sup>27</sup> Ibid.

<sup>28</sup> Ibid.

also includes natural gases necessarily produced along with crude oil.<sup>29</sup> On the other hand, solution gas refers to gas separated from oil and bitumen production.<sup>30</sup>

### 1.3 Historical Development of Oil and Gas Activities in Nigeria

Oil exploration began in Nigeria in 1908 by a German company, Nigerian Bitumen Corporation in the Araromi area of Ondo State. The company stopped prospecting due to the commencement of World War I in 1914.<sup>31</sup> There was no more prospecting and exploration in Nigeria until 1936. In 1936, Shell D' Arcy was granted sole exploration rights for petroleum resources throughout Nigeria. It began exploration in 1937 but that was put on hold by the commencement of World War II.<sup>32</sup> In 1947, Shell D' Arcy teamed up with British Petroleum to form Shell-BP, Nigeria.<sup>33</sup> They discovered oil in 1956 at Oloibiri in the present Bayelsa State of the Niger Delta Region and began production of oil in 1958.<sup>34</sup> Thus, since 1958, Nigeria has become one of the world's main oil and gas producers.<sup>35</sup>

Nigeria became a member of the Organisation of Petroleum Exporting Countries (OPEC) in 1971. In line with OPEC resolutions, the Nigerian National Oil Corporation (NNOC) was established, later becoming the Nigerian National Petroleum Corporation (NNPC) in 1977.<sup>36</sup> This giant parastatal, with all its subsidiary companies, controls and dominates all sectors of the oil industry, both upstream and downstream.<sup>37</sup> Presently, about 95% of Nigerian oil (and gas) production is carried out through joint ventures between the Nigerian National Petroleum Corporation and Multinational Companies (later referred to as "MNCs")

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<sup>29</sup> DC Stickley *Handbook Petroleum Industry: Words and Phrases* at 5 in Gulzhan Nurakhmet 'Gas Flaring and Venting: What can Kazakhstan Learn from the Norwegian Experience?' Available at [http://www.dundee.ac.uk/cepmlp/car-html/CAR10\\_Article14.pdf](http://www.dundee.ac.uk/cepmlp/car-html/CAR10_Article14.pdf) [Accessed 12 July 2009].

<sup>30</sup> Davis Sheremata 'World Bank adopts EUB Strategy for reducing greenhouse gas.' January 10, 2007 Available at <http://www.albertaoilmagazine.com/tag/eub> [Accessed 26 November 2009].

<sup>31</sup> 'Nigeria- exploration history.' Available at <http://www.allbusiness.com/mining/oil-gas-extraction-crude-petroleum-natural/288169-1.html>. [Accessed 30 August 2009].

<sup>32</sup> Ibid.

<sup>33</sup> Ibid.

<sup>34</sup> Ibid.

<sup>35</sup> Supra (note 20).

<sup>36</sup> 'Oil and Gas in Nigeria – Overview.' Available at <http://www.mbendi.com/indy/oilg/af/ng/p0005.htm> [Accessed 12 August 2009].

<sup>37</sup> 'History of the Nigerian Petroleum Industry.' Available at <http://www.nnpcgroup.com/history> [Accessed 30 August 2009]. See also Section 5 (1) (g) of the Nigerian National Petroleum Corporation (NNPC) Act 1977, CAP N123, Laws of the Federation of Nigeria (LFN) 2004.

like Shell, ExxonMobil, ChevronTexaco, Agip and TotalFinaElf (referred to as the “Big 5”).<sup>38</sup>

The disposal of waste gases associated with oil exploitation is the preferred means of the MNCs above.<sup>39</sup> The flaring of gas has been common practice in the oil production process since 1958 so it is not necessarily an ecological or social crime to do so. However, the flaring of gas attracts more attention due to the volume of gas flared daily since the beginning of commercial oil production in the country.<sup>40</sup> Oil production levels determine the amount of associated gas produced and thus, bear on the amount of flaring of gas in the country.<sup>41</sup>

OPEC’s statistical report for the year 2007<sup>42</sup> shows that Nigeria flares an estimated 22,000 billion standard cubic meters (SCM) of its total reserve.<sup>43</sup> This is estimated to be over thirty-six billion barrels (36, 220 m b) and a natural gas reserve of over five billion standard cubic meters (5,215,000,000 SCM). According to the World Bank and the Energy Sector Management Assistance Program (ESMAP) report entitled ‘Strategic Gas Plan for Nigeria,’<sup>44</sup> Nigeria has more gas reserves than oil reserves. Gas reserves found while exploring for oil are conservatively put at 150 trillion cubic feet (TCF).<sup>45</sup> This represents over 5% of the world total. Current production of 4.6 billion cubic feet per day (bcfd) is largely wasted with nearly 55 percent or close to 2.5 bcfd being flared.<sup>46</sup>

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<sup>38</sup> Khadija Sharife ‘ENVIRONMENT-NIGERIA: Playing with Fire.’ Available at [http://www.australia.to/index.php?option=com\\_content&view=article&id=12579:environment-nigeria-playing-with-fire&catid=116:breaking-news&Itemid=202](http://www.australia.to/index.php?option=com_content&view=article&id=12579:environment-nigeria-playing-with-fire&catid=116:breaking-news&Itemid=202) [Accessed 21 August 2009].

<sup>39</sup> Elisha J Dung, Leonard S Bombom and Tano D Agusomu ‘The effects of gas flaring on crops in the Niger Delta, Nigeria.’ Available at <http://www.springerlink.com/index/RMTT22R54U117P6R.pdf> [Accessed 15 June 2009].

<sup>40</sup> Chijioke Evoh ‘Gas Flares, Oil Companies and Politics in Nigeria.’ Available at <http://www.waado.org/.../OilCompanies/GasFlaresPolitics.html> [Accessed 29 June 2009].

<sup>41</sup> Supra (note 20).

<sup>42</sup> ‘OPEC Annual Statistical Report 2007.’ Available at <http://www.opec.org/library/Annual%20Statistical%20Bulletin/pdf/ASB2007.pdf> [Accessed 12 July 2009]

<sup>43</sup> Recent satellite studies show that Russia is by far the largest gas flaring country, with an estimated 40.6 billion cubic meters (BCM) in 2008; but Nigeria ranks second, with 15.1 BCM. See William Minter and Anita Wheeler ‘Climate Change and Africa’s Natural Resources’ Available at <http://towardfreedom.com/home/content/view/1755/1/> [Accessed 24 November 2009].

<sup>44</sup> ‘Nigeria Strategic Gas Plan ESM279/04.’ Available at [http://www.esmap.org/filez/pubs/58200861713\\_strategicgasplanfornigeria.pdf](http://www.esmap.org/filez/pubs/58200861713_strategicgasplanfornigeria.pdf) [Accessed 10 July 2009]

<sup>45</sup> Ibid.

<sup>46</sup> Ibid.

Consequently, Nigeria currently flares over 75% of the gas it produces due to unsustainable exploration practices and the lack of gas utilization infrastructure.<sup>47</sup> This calls for some concern as the flared gas is not being conserved, re-injected or used in anyway but is being wasted thereby impacting negatively on the environment, health and the economy as a whole, particularly in the communities in which this gas is flared. These impacts are further exacerbated by the fact that some of the flare stacks are at ground level and point menacingly at communities, belching heat and smoke into the environment.<sup>48</sup> Particularly worrying is the fact that some of these flares are right within the residential areas in those communities. For example, a gas flare in Rumuekpe community in Rivers State of Nigeria is located about 250 metres from inhabited houses in the community.<sup>49</sup>

## **1.4 Health, Environmental and Socio-Economic Impacts of Gas Flaring**

### **1.4.1 Health Impacts**

Emissions resulting from the combustion of associated gas (AG) in the open produces particulate matter, combustion by-products, including sulphur dioxide, nitrogen oxides, carcinogenic substances (such as benz[a]pyrene and dioxin and unburned fuel components including benzene and hydrogen sulphide.<sup>50</sup> Human beings exposed to these substances can suffer from a variety of respiratory problems, a few of which have been reported, especially amongst children in the Niger Delta.<sup>51</sup> Reports of the effects of this exposure have not yet been investigated and as yet, no comprehensive study is known to have been carried out into the health impacts of gas flaring on communities in the Niger Delta area of Nigeria as at the date on which this thesis was completed.

Nevertheless, various environmental and health agencies have published excellent reviews of how exposure to these pollutants impact on human health.<sup>52</sup> For example, the United States Environmental Protection Agency (U.S EPA) states that

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<sup>47</sup> Evoh (note 40).

<sup>48</sup> Nnimmo Bassey 'Gas Flaring: Assaulting Communities, Jeopardizing the World.' Paper presented at the National Environmental Consultation hosted by the Environmental Rights Action in conjunction with the Federal Ministry of Environment at Reiz Hotel, Abuja; 10-11 December 2008. Available at <http://www.eraction.org/publications/...gasflaring-ncc-abuja.pdf> [Accessed 21 July 2009].

<sup>49</sup> Ibid.

<sup>50</sup> Supra (note 20).

<sup>51</sup> Yakubu (note 13).

<sup>52</sup> Supra (note 20).

it has been clearly established that breathing particulate matter is linked to significant health problems like aggravated asthma, chronic bronchitis, breathing difficulties and chest pain.<sup>53</sup> The U.S EPA further stated that exposure to benzene, which is emitted from gas flares in large quantities cause acute non-lymphocytic leukemia and a variety of other blood-related disorders in humans.<sup>54</sup>

In view of the fact that over 1,000 oil fields are located in the Niger Delta region of Nigeria, vertical gas flares stacks are placed at ground level close to local communities which lack adequate fencing or protection from the excessive heat of the flare. As a result, the towering flames resulting from gas flaring now seems to be a common occurrence to the local villagers as they go about their daily activities with no inkling whatsoever of the negative impacts of the gas on their health.

#### **1.4.2 Environmental Impacts**

Gas flaring contributes to climate change which has serious implications for both Nigeria and the rest of the world.<sup>55</sup> The burning of gas by flaring leads to the emission of carbon dioxide (CO<sub>2</sub>), the main greenhouse gas while the venting of the gas without burning releases methane (CH<sub>4</sub>), a second main greenhouse gas. The emissions of both gases increase the concentration of greenhouse gases in the atmosphere<sup>56</sup> and contribute about 80% to global warming.<sup>57</sup>

According to the World Bank, flaring in Nigeria “has contributed more greenhouse gas emissions than all other sources in sub-Saharan Africa combined”.<sup>58</sup> This report is enough to ginger the Nigerian government into putting more efficient measures in place to eliminate gas flaring completely.

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<sup>53</sup> Facts available at <http://www.epa.gov/oar/particlepollution/health.html> [Accessed 21 August 2009].

<sup>54</sup> U.S EPA (1997) ‘Carcinogenic Effects of Benzene: An Update’ Available at <http://www.epa.gov/NCEA/pdfs/benzene.pdf> [Accessed 12 July 2009].

<sup>55</sup> ‘Gas Flaring contributes to Climate Change.’ Available at <http://www.climatelaw.org/cases/country/nigeria/cases/case-documents/nigeria/report/exec.summary.html> [Accessed 02 August 2009].

<sup>56</sup> Alter Chr. Christiansen and Torlief Haugland ‘Gas Flaring and Global Public Goods.’ Available at <http://www.fni.no/doc&pdf/FNL-R2001.pdf> [Accessed 12 August 2009].

<sup>57</sup> Supra (note 20).

<sup>58</sup> Memorandum of the President of the International Development Association and the International Finance Corporation to the Executive Directors on an Interim Strategy Update for the Federal Republic of Nigeria, February 13, 2002, Report No. 23633-UNI (“World Bank Joint Interim Strategy Update”) at page 4, paragraph 15. Available at <http://www.climatelaw.org/cases/country/nigeria/cases/case-documents/nigeria/report/section3/doc3.7.pdf> [Accessed 15 December 2009].

In addition, gas flaring also contributes to air pollution and causes acid rain in the Niger Delta. The residents of the Delta have complained about their corrugated metal roofing sheets being corroded at a very fast rate by the composition of the acid rain which falls as a result of flaring.<sup>59</sup> The primary causes of acid rain are emissions of sulphur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) which combine with atmospheric moisture to form sulphuric acid and nitric acid respectively.<sup>60</sup> This acid rain also acidifies lakes and streams and damages vegetation and further accelerates the decay of building materials and paints.<sup>61</sup> These impacts show clear grounds why the practice of gas flaring must be eliminated.

### **1.4.3 Socio-Economic Impacts**

Most of the population of the Niger Delta region are engaged in agricultural production as the major means of livelihood. Fishing and food crop cultivation are the main-stay of the economy and provide the basic necessities of life to the people.<sup>62</sup> However, the emission of benzene and the effect of global warming which occurs as a result of gas flaring pollutes streams, waterways, and destroys arable farm lands and vegetation thus leading to poor yields of marine and agricultural resources. In addition, the presence of gas flares affect the living conditions of people of Niger Deltas as there is continuous noise and constant daylight as a result of the flares. Comrade Che Ibegwara of the Egi Community in the Niger Delta aptly states:

“the fires are so large and close to our homes and farms that we feel the heat. We have no darkness because they burn brightly for 24 hours every day.”<sup>63</sup>

In the same vein, the economic impact of gas flaring in Nigeria is huge. The annual financial loss which Nigeria suffers from flaring waste gas has been put as US \$2.5 billion.<sup>64</sup> The absence of infrastructure and a lucrative gas market contributes to this significant loss coupled with the fact that Nigeria is still a developing country. Thus, gas flaring not only wastes resources and harms the

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<sup>59</sup> Supra (note 20).

<sup>60</sup> Ibid.

<sup>61</sup> Ibid.

<sup>62</sup> Dung et al (note 39).

<sup>63</sup> Sam Olukoya ‘Inefficient Gas Flaring Remains Unchecked.’ Available at <http://ipsnews.net/africa/nota.asp?idnews=40751> [Accessed 24 June 2009].

<sup>64</sup> ‘Nigerian Gas Flaring Fact Sheet.’ (note 12).

environment, it also deprives consumers of an energy source that is cleaner and often cheaper than others available and reduces potential tax revenue and trade opportunities.<sup>65</sup>

### 1.5 *Is Gas Flaring a Violation of Human Rights?*

The above shows the effect which gas flaring has on human health, environment and the economy. People who live near the flares are exposed to a cocktail of toxins which threaten their health livelihoods and health.<sup>66</sup> Also significant is the psychological and physical effects of the roaring sounds and intense heat as well as property damage.<sup>67</sup> On the other hand, no information is provided to the people of the Niger Delta on the hazards to which they are exposed from flaring and no information is readily available.<sup>68</sup> Even non-governmental organisations and other environmental organisations encounter huge practical and logistical obstacles when accessing information on the issue of gas flaring from government officials.<sup>69</sup> These matters themselves constitute violations of human rights.<sup>70</sup>

Section 20 of the Constitution of the Federal Republic of Nigeria 1999<sup>71</sup> (“1999 Constitution”) provides that “the State shall protect and improve the environment and safeguard the water, air and land, forest and wild life of Nigeria.” This section does not grant an express right to a healthy, clean environment. It is not justiciable i.e. it cannot be relied upon by an aggrieved person in a court of law since Section 6(6)(c) of the Constitution states that judicial powers shall not, except as otherwise provided, extend to any issue or question as to whether any act of omission by any authority or person, or as to whether any law or any judicial decision is in conformity with the Fundamental Objectives and Directive Principles of State Policy set out in Chapter II of this Constitution. The presence of section 20 under chapter II is to the effect that government is required to protect natural resources and the environment, either by declaring formal policies or passing specific legislation to this end.<sup>72</sup>

<sup>65</sup> ‘Natural gas flares up environmental disaster.’ Available at <http://www.energyme.com/energy/2008/200801000016.htm> [Accessed 12 July 2009].

<sup>66</sup> Supra (note 5).

<sup>67</sup> Ibid.

<sup>68</sup> Ibid.

<sup>69</sup> Ibid.

<sup>70</sup> Ibid.

<sup>71</sup> Cap C20, LFN 2004.

<sup>72</sup> Jan Glazewski *Environmental Law in South Africa* 2ed (2005) at 173.

Also, sections 33 and 34 of the same Constitution guarantees the fundamental rights to life and to dignity respectively.

Nigeria is a party to the 1981 African Charter on Human and People's Rights and has incorporated the charter into its laws via the African Charter on Human and People's Rights (Ratification and Enforcement) Act 1990.<sup>73</sup> Article 16 of this Act provides that "every individual shall have the right to enjoy the best attainable state of physical and mental health." The same article also enjoins State parties to the Charter to take necessary measures to protect the health of their people. In addition, Article 24 of the 1990 Act reproduces the provisions of the 1981 Charter by providing that "all people shall have the right to a generally satisfactory environment favourable to their development."

The African Commission on Human and People's Rights has set out its views on the relationship between human rights and environmental protection in the case of *Social Economic Rights Action Centre for Economic and Social Rights (SERAC) v Nigeria, African Commission on Human and People's Rights (2001)*.<sup>74</sup> In this case, the complainant (a non-governmental organization) brought this action against the Nigerian government stating that the State-owned Nigerian National Petroleum Corporation (NNPC) and Shell Petroleum Development Company (SPDC) exploited oil in Ogoniland, Nigeria without regard for the environment or health of the indigenes of the local communities. Air near the communities have been contaminated due to excessive gas flaring and toxic wastes were deposited into the local waterways without developing or properly maintaining appropriate facilities intended to prevent the wastes from affecting surrounding local villages. The resulting water, soil and air contamination caused serious short and long-term health problems, including skin infections, gastro intestinal and respiratory ailments, increased risk of cancer, and neurological and reproductive complications. The complaint further alleged that the Nigerian government not only condoned these harmful operations, but aided in their perpetration by placing the legal and military powers of the State at the disposal of the oil companies.<sup>75</sup>

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<sup>73</sup> Cap A9, LFN 2004.

<sup>74</sup> AHRLR 60 (ACHPR 2001) at 35-36.

<sup>75</sup> Danwood M. Chinwa "Toward Revitalizing Economic, Social and Cultural Rights in Africa: *SERAC v. Nigeria*." (2002) 10 (1) Human Rights Brief at 14 Available at <http://www.wcl.american.edu/hrbrief/10/1africa.cfm> [Accessed 30 July 2009]

The African Commission on Human and People's Rights held that the Nigerian government violated the right to health and the right to a clean environment (enshrined in Article 24 of the African Charter on Human and People's Rights) by directly contaminating the air, soil and water of the Ogoni people. The Commission held that this right requires a State to take reasonable measures to prevent pollution and ecological degradation, to promote conservation, and to secure an ecologically sustainable development and use of natural resources.<sup>76</sup> The Commission further found that the right to life, being the most fundamental human right, had been violated by the Nigerian government when it permitted its security forces to commit widespread terrorism and killings and allowed pollution and environmental degradation, making living conditions in Ogoniland a 'nightmare.'<sup>77</sup>

As stated above, the provisions of Article 24 of the African Charter obligates a State to take reasonable measures to promote conservation and secure ecologically sustainable development and use of natural resources. In view of the various impacts which gas flaring has on the health and environment, it is pertinent to state that the Nigerian government has not done enough to secure the conservation and development of the gas being flared during oil-associated activities. Thus, gas flaring does amount to a breach of several human rights, in this case, the right to a healthy environment. This right and the need for environmental impact assessment reports needs to be taken into considerations by the Nigerian government when granting approval to oil companies to flare gas in the country.

Though legislation (described below in Chapter Three) has been put in place by the Nigerian government since 1984 with a view to reducing gas flaring by oil companies and deadlines set and further extended for elimination of gas flaring, the problem still continues unabated. The MNCs engaged in oil production and exploration continually claim that the technologies needed to mitigate gas flaring is presently beyond their reach, hence their demand for sufficient time to acquire it.<sup>78</sup>

The issues to be addressed during the course of the ensuing chapters are whether effective international regimes on gas flaring exist laws as currently exist are enough to control the scourge. An examination of this issue is carried out in the

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<sup>76</sup> Ibid.

<sup>77</sup> Ibid.

<sup>78</sup> Evoh (note 40).

next chapter. The existence of international regimes on atmospheric pollution and protection serve as a foundation on which countries like Canada and Nigeria can promulgate domestic gas flaring laws in order to effectively eliminate the problem.

## CHAPTER TWO

### INTERNATIONAL COMMITMENTS ON ATMOSPHERIC POLLUTION AND GAS FLARING

#### 2.1 Introduction

The reduction of greenhouse gases (referred to as “GHGs”) which are being released into the atmosphere as a result of gas flaring is one of the major problems facing the international community today. Notwithstanding the existence of international treaties aimed at eliminating the harmful effects of climate change and the effects of gas flaring on the environment, domestic legislation also plays an all-important role in tackling the problem.

Many international agreements and initiatives exist on air quality standards and for prevention and regulation of atmospheric pollution. However, for the purposes of this thesis, discussion will be limited to the 1992 United Nations Framework Convention on Climate Change, the 1997 Kyoto Protocol and the 2002 Global Gas Flaring Reduction Initiative. These instruments are geared towards mitigation of global climate change, regulation of hydrocarbon-related green-house gas (GHG) emissions<sup>79</sup> and international pro-active reduction of gas flaring.

The international instruments are examined below.

#### 2.2 The United Nations Framework Convention on Climate Change (“UNFCCC”)

The UNFCCC was adopted at the 1992 United Nations Conference on Environment and Development (UNCED), the Earth Summit at Rio de Janeiro, Brazil.<sup>80</sup> The UNFCCC represents the first manifestation of a need to tackle the problems associated with perturbation in the global climate system.<sup>81</sup> The Convention was adopted in May 1992 and opened for signature in June 1992. It entered into force on 21 March 1994 after the deposit of the 50<sup>th</sup> instrument of ratification.<sup>82</sup> Nigeria ratified the Convention in August 1984 and the ratification

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<sup>79</sup>Garba I. Malumfashi ‘Phase-Out of Gas Flaring In Nigeria by 2008: The Prospects of a Multi-Win Project (Review of the Regulatory, Environmental and Socio-Economic Issues)’ at 4. Available at <http://www.nccr-trade.org/.../phase-out-of-gas-flaring-in-nigeria-by-2008.html> [Accessed 12 July 2009].

<sup>80</sup> Ibid.

<sup>81</sup> Glazewski (note 72) at 586.

<sup>82</sup> See [http://www.unfccc.int/essential\\_background/convention/items/2627.php](http://www.unfccc.int/essential_background/convention/items/2627.php) [Accessed 12 July 2009].

entered into force on 27<sup>th</sup> November 1994<sup>83</sup> while Canada ratified the Convention on Dec 4 1992 and the ratification entered into force in the country on 21 March 1994.<sup>84</sup>

The stated purpose of the UNFCCC is to “achieve...the stabilisation of greenhouse gas emissions at a level that would prevent dangerous anthropogenic (human-induced) interference with the climate system.”<sup>85</sup> The Convention further provides that such a level of prevention is to be achieved

“within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened, and to enable economic development to proceed in a sustainable manner.”<sup>86</sup>

The Convention defines “greenhouse gases” as “those gaseous constituents of the atmosphere both natural and anthropogenic, which absorb and re-emit infrared radiation.”<sup>87</sup> It also defines “climate change” as ‘...a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere, and which is in addition to natural climate variability observed over comparable time periods.’<sup>88</sup> During the process of gas flaring, carbon dioxide (CO<sub>2</sub>) and methane (CH<sub>4</sub>), two gases listed under the Convention as greenhouse gases which contribute to climate change, are produced.

The goal of the UNFCCC is not only to curb and stabilize CO<sub>2</sub> emissions arising out of anthropogenic activities, but also to carry out this task in the most “cost effective” and “sustainable” manner.<sup>89</sup> The principles which are designed to guide this process are set out in Article 3 and include “common but differentiated responsibilities, precaution, cost-effectiveness and sustainable development”. By Article 3, parties are required to protect the climatic system on an equitable basis but allowing for common but differentiated responsibilities depending on their individual capacities. It identifies the different abilities and contribution of

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<sup>83</sup> ‘UNFCCC Status of Ratification.’ Available at [http://unfccc.int/files/essential\\_background/convention/status\\_of\\_ratification/application/pdf/unfccc\\_r ratification\\_20091016.pdf](http://unfccc.int/files/essential_background/convention/status_of_ratification/application/pdf/unfccc_r ratification_20091016.pdf) [Accessed 13 September 2009].

<sup>84</sup> Ibid.

<sup>85</sup> Article 3 of the UNFCCC. Text of the UNFCCC available at [http://unfccc.int/essential\\_background/convention/background/items/1353.php](http://unfccc.int/essential_background/convention/background/items/1353.php) (Accessed 27 September 2009).

<sup>86</sup> Article 3.

<sup>87</sup> Article 1(5).

<sup>88</sup> Article 1(2).

<sup>89</sup> Malumfashi (note 79) at 4.

developed and developing countries in mitigating climate change.<sup>90</sup> A higher responsibility is placed on Annex I parties<sup>91</sup>, to assume the task of alleviating the effects of climate change.<sup>92</sup>

On the basis of the above principles, parties are committed under Article 4 to, *inter alia*:

“take climate change considerations into account...in their relevant social, economic and environmental policies and actions, and employ appropriate methods... to minimis[e] adverse effects on the economy, public health, and on the quality of the environment...”<sup>93</sup>

In the same vein, parties are also required to

“formulate, implement, publish and regularly update national...programmes containing measures to mitigate climate change by addressing anthropogenic emissions by source...”<sup>94</sup>

Furthermore, article 4 (1) (a) also enjoins parties to “develop and periodically update and publish national inventories of anthropogenic emissions by sources ...” This requirement of publication of inventories would require transparency of the national government, an attitude which has not been adopted by the Nigerian government in gas flaring. However, in Canada, various data and inventories relating to efficiencies of gas flares emitting CO<sub>2</sub> are published regularly by the government. This will be discussed further in Chapter Four.

The weakness of the UNFCCC lies in its Article 4(2)(a) read with Article 4(2)(b) in which Annex I Parties take on a non-legally binding commitment to reduce their emissions of greenhouse gases to 1990 levels by the year 2000. Parties have however not complied with this commitment.<sup>95</sup> Consequently, it was recognised that the non-legally binding commitments

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<sup>90</sup> Imeh Patience Okon ‘Can Nigeria Attract International Investors Seeking Carbon Credits to Invest In Certified Emissions Reduction (CER) Projects That Would Aid Sustainable Development?’ Available at <http://www.milieudedefensie.nl/english/publications/chevronfolder.pdf> [Accessed 25 July 2009].

<sup>91</sup> Annex I countries are developed countries and countries with economies in transition (EITs) while non-Annex I parties are mainly developing countries like Nigeria.

<sup>92</sup> Okon (note 90).

<sup>93</sup> Article 4, para 1(d).

<sup>94</sup> Article 4, para 1 (b).

<sup>95</sup> Glazewski (note 72) at 588.

were insufficient and this recognition was the motivation for the beginning of negotiations<sup>96</sup> on a Protocol to the UNFCCC.

In addition, the UNFCCC makes provision for the establishment of a “financial mechanism”. Such financial mechanism established under the Convention is the Global Environmental Facility (GEF).

### **2.2.1 The Global Environmental Facility (GEF)**

The Global Environmental Facility (GEF) is the interim mechanism of the UNFCCC. It is aimed at providing developing countries with “new and additional grants and concessional funding to meet the agreed full incremental cost of measures to achieve global benefits,” as required by various global environmental agreements.<sup>97</sup> The GEF was launched in 1991 for a three-year pilot phase with an initial sum of \$1.2 billion<sup>98</sup> and was restructured and made permanent in 1994.<sup>99</sup> The Secretariat of the GEF is located at the World Bank which provides administrative support but the GEF is intended to be functionally independent.<sup>100</sup>

Nigeria is a developing country and does not fall under Annex I countries under the UNFCCC. However, Nigeria’s position as a party to the Convention obligates it to reduce emissions of GHGs under the Convention. In view of the fact that gas flaring contributes to climate change which the Convention seeks to minimise, it appears that Nigeria has the responsibility to phase out gas flaring within the level of its capabilities in terms of finance, man power and technology and its ability to access the GEF funding.<sup>101</sup> Although Nigeria is eligible for GEF funds to assist it in phasing out gas flaring, it must compete with other developing countries for the GEF funds.<sup>102</sup> It should be noted, however, that GEF funding can only be used for the incremental cost of changes to existing projects or planned (baseline) activities in order to make

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<sup>96</sup> Ibid.

<sup>97</sup> See *Instrument for the Establishment of the Restructured Global Environmental Facility* (1994) 33 ILM 1273.

<sup>98</sup> World Bank, March 14, 1991. By 1999, GEF grants totalled \$2.7 billion. See also ‘Transfer of Environmentally Sound Technologies: The GEF Experience’ Available at [http://www.gefweb.org/uploadedFiles/Publications/GEF\\_TTbrochure\\_final-lores.pdf](http://www.gefweb.org/uploadedFiles/Publications/GEF_TTbrochure_final-lores.pdf) [Accessed 20 August 2009].

<sup>99</sup> Alexandre Kiss and Dinah Shelton *International Environmental Law* 3ed (2004) 157.

<sup>100</sup> Ibid.

<sup>101</sup> Malumfashi (note 79) at 5.

<sup>102</sup> Christiansen and Haugland (note 56) at 30.

the revised activities benefit the global environment.<sup>103</sup> In this case, the incremental cost involved in carrying out or planning a project in order to make it reduce GHG emissions would receive the funding.<sup>104</sup>

Consequently, several levels of funding are available from the GEF.<sup>105</sup> The Small Grants Program which provides grants up to US\$50,000 to community based process; the Medium sized projects require no more than US\$1 million in GEF financing while “full-scale projects generally average US\$5.5 million per project.”<sup>106</sup>

According to the UNDP-GEF guidebook,<sup>107</sup> project development and approval from the GEF Council, (which is responsible for adopting, developing and evaluating the operational policies and programs for GEF-financed activities)<sup>108</sup> takes between 12-18 months.<sup>109</sup> For full-scale or medium sized projects however, the following requirements must be met before approval is granted. These requirements include, *inter alia*, that the project should be undertaken in an eligible country; the project should originate in the country and be supported by many national stakeholders; it should be consistent with GEF program guides for preparing initiatives, i.e removing barriers to energy conservation and energy efficiency; promoting the adoption of renewable energy by removing barriers and reducing implementation costs; and reducing the long terms of low greenhouse gas-emitting energy technologies.<sup>110</sup>

Nigeria was given a GEF grant of US\$ 20 million for the Escravos Gas Project in the mid-1990s<sup>111</sup>. This project was related to gas flaring and had passed all the GEF criteria for approval at that time.<sup>112</sup> The grant passed the GEF criteria but was withdrawn after Ken Saro-Wiwa was convicted and executed.<sup>113</sup> This project

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<sup>103</sup> Ibid.

<sup>104</sup> Ibid.

<sup>105</sup> Ibid.

<sup>106</sup> Ibid.

<sup>107</sup> UNDP-GEF Guidebook. Available at <http://www.undp.org/gef/guide/main.htm> [Accessed 20 November 2009].

<sup>108</sup> Kiss and Shelton (note 99) at 157.

<sup>109</sup> In practice, this often takes 3 to 6 years. See Christiansen and Haugland (note 56) at 30.

<sup>110</sup> Supra (note 107).

<sup>111</sup> Christiansen and Haugland (note 56) at 30.

<sup>112</sup> Ibid.

<sup>113</sup> Ken Saro-Wiwa was an environmental /human rights activist for indigenes of the Niger Delta who was tried and executed along with 8 others by the military government of Nigeria on November 10, 1995 for the supposed crime of conspiracy against the military government of Nigeria.

however, would not have passed the current criteria for GEF grants<sup>114</sup> contained in the UNDP-GEF handbook as it is more realistic with smaller projects in the gas value chain.<sup>115</sup> Since the phase out of gas flaring can be termed a full-scale or medium-sized project, GEF is unlikely to play any noticeable role for the market penetration of associated gas in Nigeria.<sup>116</sup>

Although the GEF as a financial mechanism under the UNFCCC was aimed at assisting developing countries with grants to achieve their commitments under the Convention, the 1997 Kyoto Protocol elaborated on the methods by which the purport of the Convention could be achieved through the participation of both developed and developing countries.<sup>117</sup>

### 2.3 The 1997 Kyoto Protocol

The 1997 Kyoto Protocol to the UNFCCC was adopted in Kyoto, Japan on 11 December 1997 and entered into force on 16 February 2005.<sup>118</sup> It strengthens the commitments of the UNFCCC, particularly those enshrined in Articles 4(2)(a) and (b).<sup>119</sup> The Protocol covers six greenhouse gases in its Annex B: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF<sub>6</sub>).<sup>120</sup>

The Kyoto Protocol builds upon the framework of the UNFCCC. Basically, the Protocol sets out the specific commitments of Annex I countries in its Annex B. These commitments require them, either individually or jointly, to reduce their overall greenhouse emissions by at least 5.2% below 1990 levels over the 2008 to 2012 period.<sup>121</sup> The Kyoto Protocol recognises that developed countries are principally responsible for the current high levels of GHG emissions in the atmosphere as a result of more than 150 years of industrial activity.<sup>122</sup> So,

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<sup>114</sup> The Escravos project continued without the GEF grant as Nigerian authorities covered the 'incremental costs' of the project. See Christiansen and Haugland (note 56) at 29.

<sup>115</sup> Ibid at 30.

<sup>116</sup> Ibid.

<sup>117</sup> Malumfashi (note 79) at 5.

<sup>118</sup> Kyoto Protocol.' Available at [http://unfccc.int/kyoto\\_protocol/items/2830.php](http://unfccc.int/kyoto_protocol/items/2830.php) [Accessed 19 February 2009].

<sup>119</sup> Malumfashi (note 79) at 5.

<sup>120</sup> Text of the Kyoto Protocol to the United Nations Framework Convention on Climate Change. Available at <http://unfccc.int/resource/docs/convkp/kpeng.pdf> [Accessed 12 February 2009].

<sup>121</sup> Patricia W. Birnie and A.E Boyle *International Law and the Environment* 2ed (2002) at 526.

<sup>122</sup> 'Kyoto Protocol.' (note 118).

developing (non-Annex I) countries are not subject to these binding emission reduction targets.<sup>123</sup>

The Protocol further requires Annex I countries to:

“...strive to implement policies and measures [i.e to combat climate change] ...to minimise adverse effects...of climate change...and social, environmental and economic impacts on the Parties, especially developing country Parties...”

Thus, the bulk of the burden to reduce GHG emissions lies on Annex I countries and they can achieve this through implementation of national measures. However, in order to achieve this, the Protocol provides for three cost-effective mechanisms through which parties can meet their assigned targets, namely the Joint Implementation (JI), Clean Development Mechanism (CDM) and the Emissions Trading (ET).<sup>124</sup> For the purposes of this thesis, only the CDM is examined below.

### ***2.3.1 Clean Development Mechanism (CDM)***

The CDM is not defined in the Protocol. However, its purpose is to:

“assist parties not included in Annex I in achieving sustainable development and in contributing to the ultimate objective of the Convention, and to assist parties included in Annex I in achieving compliance with their quantified emission limitation and reduction commitments under Article 3.”<sup>125</sup>

Thus, developing country parties may participate in this CDM and implement ‘project activities’ which must result in ‘real, measurable and long-term benefits related to the mitigation of climate change<sup>126</sup> and additional reductions added to those that would otherwise have occurred.<sup>127</sup> These reductions are referred to as ‘certified emission reductions’ (CERs) and can be used by developed country parties to assist them in achieving their emission reduction targets in terms of Article 3 of the Protocol.<sup>128</sup> In principle, CDM redistributes emissions reductions

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<sup>123</sup> Louise du Toit ‘Promoting Clean Development Mechanism Implementation in South Africa: Law and Policy’ Available at [http://search.sabinet.co.za/WebZ/Authorize?sessionid=0&bad=ejour/ejour\\_badsearch.html&portal=ejournal&next=images/ejour/sapr/sapr\\_v24\\_n1\\_a2.pdf](http://search.sabinet.co.za/WebZ/Authorize?sessionid=0&bad=ejour/ejour_badsearch.html&portal=ejournal&next=images/ejour/sapr/sapr_v24_n1_a2.pdf) [Accessed 20 February 2009].

<sup>124</sup> Kyoto Protocol’ (note 118).

<sup>125</sup> Article 12.2.

<sup>126</sup> Article 12.5(b).

<sup>127</sup> Article 12.5(c).

<sup>128</sup> Article 12.3(b).

from developing countries to Annex I parties.<sup>129</sup> It basically allows Annex I parties, either through the government or a legal entity, to invest in emission reductions.<sup>130</sup> The developing countries can therefore co-operate with Annex I countries under the CDM and earn carbon credits for effective regulation/control of flaring.<sup>131</sup>

Canada ratified the Kyoto Protocol on 17 December 2002 and it entered into force in the country on 16 February 2005.<sup>132</sup> Nigeria also ratified the Protocol on October 12 2004 and it entered into force on 10 March 2005.<sup>133</sup> In view of the above provisions on CDM above, Nigeria as a developing country could initiate a project activity aimed at phasing-out gas flaring and thus attract Annex I countries for sponsorship.<sup>134</sup> Nigeria can therefore, trade CERs earned from CDM projects to Annex 1 countries.<sup>135</sup>

Non-annex I (developing) countries participating in a CDM project activity are expected to designate a National Authority (DNA) provided they are parties to the Kyoto Protocol.<sup>136</sup> The Executive Board (EB) of the Conference of Parties (COP) to the Kyoto Protocol supervises the CDM and any project must be registered by the EB as a pre-requisite for the issuance of CER.<sup>137</sup> Another prerequisite for registration of a CDM project is a written approval from the DNA of both parties.<sup>138</sup> For Nigeria, the Presidential Implementation Committee on the Clean Development Mechanism (PIC-CDM) is the Designated National Authority.<sup>139</sup> It was inaugurated in January

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<sup>129</sup> Malumfashi (note 79) at 6.

<sup>130</sup> Ibid at 6.

<sup>131</sup> Rashad Kaldany 'Global Gas Flaring Reduction Initiative', a Paper presented at the IFC Informal Launch Conference of the *Global Gas Flaring Reduction Initiative*, Marakesh, November 8, 2001 Available at <http://siteresources.worldbank.org/INTGGFR/64199955.../MarRas.pdf> [Available at 20 November 2009].

<sup>132</sup> 'Kyoto Protocol: Status of Ratification' Available at [http://unfccc.int/files/essentialbackground/kyoto\\_protocol/application/pdf/kpstats.pdf](http://unfccc.int/files/essentialbackground/kyoto_protocol/application/pdf/kpstats.pdf) [Accessed 18 November 2009].

<sup>133</sup> Ibid. Kyoto protocol.

<sup>134</sup> Malumfashi (note 79) at 6.

<sup>135</sup> Imeh Patience Okon (note 90) at 4.

<sup>136</sup> Decision 3/CMP.1 *Modalities and procedures for a clean development mechanism as defined in Article 12 of the Kyoto Protocol*, paras 30 and 31. Available at <http://unfccc.int/resource/docs/2005/cmpl/eng/08a01.pdf#page=6> [Accessed 22 November 2009].

<sup>137</sup> Status of UNFCCC Ratification at 11. Available at [http://unfccc.int/files/essential\\_background/convention/status\\_of\\_ratification/application/pdf/unfccc\\_conv\\_rat.pdf](http://unfccc.int/files/essential_background/convention/status_of_ratification/application/pdf/unfccc_conv_rat.pdf) [Accessed 20 November 2009].

<sup>138</sup> Ibid.

<sup>139</sup> 'Flaring Policy and Regulation in Nigeria.' Available at <http://cdm.unfccc.int/UserManagement/FileStorage/IJVMCX2UTZ43S7916KDP0RN8OABHE5> [Accessed 25 June 2009].

2004. One objective of the PIC-CDM is to transform Nigeria into a hub for CER earning CDM projects.<sup>140</sup>

Towards this end, Nigeria has identified several CDM projects geared towards conserving the gas being flared but has only registered one known as the Kwale Gas Project<sup>141</sup>. The Kwale Gas Project was registered by EB-CDM on November 8<sup>th</sup> 2006<sup>142</sup> and is the first and only CDM project currently hosted in Nigeria. The project is sponsored by Nigeria Agip Oil Company (NAOC) and the government of Italy.<sup>143</sup> It is the 10th largest registered project under CDM (out of more than 1400 projects in the pipeline), and aims to reduce 15 million tons of CO<sub>2</sub> emissions over the next 10 years.<sup>144</sup> The project is geared towards the capture and utilization of flared associated gas in for independent power generation in Nigeria.<sup>145</sup>

However, various criticisms have arisen over the declaration of the Kwale Project as a CDM in Nigeria. Critics argue that the adoption of the CDM Project is illegal in itself in that an embargo has been placed on flaring of gas in the Niger Delta since the case of *Gbemre v Shell* (2005) [discussed in the next chapter]. They regard the designation of the CDM project and its related carbon credits as “a project that would result in oil companies being paid handsomely for reducing their gas flaring actions which were illegal in the first place.”<sup>146</sup> In the words of Peter Roderick,<sup>147</sup> “if CDM credits were to be granted in respect of activities [gas flaring] that are violations of human rights, this would also bring the CDM process into

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<sup>140</sup> Okon (note 90) at 4.

<sup>141</sup> Ibid.

<sup>142</sup> Rashad Kaldany ‘Global Gas Flaring Reduction: A Time for Action!’ Keynote Speech at the World Bank Global Forum on Flaring & Gas Utilization, Paris, December 13, 2006 at 7. Available at <http://www.worldbank.org/html/fjd/ggfrforum06/kaldany.pdf> [Accessed 25 June 2009].

<sup>143</sup> Oluwatoyin Adejonwo-Osho ‘The evolution of human rights approaches to environmental protection in Nigeria’ Available at [http://www.iucnael.org/index.php?option=com\\_docman&task=doc\\_download&gid=70&lang=en](http://www.iucnael.org/index.php?option=com_docman&task=doc_download&gid=70&lang=en) [Accessed 25 November 2009].

<sup>144</sup> Global Gas Flaring Reduction Newsletter, Issue No.3 Aug-Dec 2006. Available at <http://siteresources.worldbank.org/INTGGFR/Resources/newsflare3.pdf> [Accessed 12 November 2009].

<sup>145</sup> Global Gas Flaring Reduction- A Public Private Partnership ‘*Financing Oil & Gas Sector Gas Recovery and Flare Reduction Projects*’ Monterrey 28 January, 2009. Available at [http://www.methanetomarkets.org/m2m2009/documents/events\\_oilgas\\_20090127\\_techtrans\\_day2\\_sucre\\_en.pdf](http://www.methanetomarkets.org/m2m2009/documents/events_oilgas_20090127_techtrans_day2_sucre_en.pdf) [Accessed 12 December 2009].

<sup>146</sup> Bassey (note 48).

<sup>147</sup> Co-Director of the Climate Justice Program in the United Kingdom.

disrepute.”<sup>148</sup> On the other hand, it is an undeniable fact that the designation of a CDM project in Nigeria shows the potential to attract local and foreign investors in gas utilization and power generation to the country.<sup>149</sup>

The successful implementation of the Kyoto Protocol lies in the manner in which domestic measures are adopted by its Parties. Nigeria’s effort to designate a CDM project shows the effort the government has made in attempting to comply with international measures aimed at combating GHG emissions that affect climate change, in this case, gas flaring.

#### **2.4 Global Gas Flaring Reduction Initiative: A Public-Private Partnership (GGFRI)**

The World Bank in cooperation with the Government of Norway launched a Global Gas Flaring Reduction Initiative (GGFRI) at the World Summit on Sustainable Development in August, 2002.<sup>150</sup> The GGFRI is a public-private partnership with participation from governments of oil-producing countries, state-owned companies and major international oil companies.<sup>151</sup> The aim of the GGFRI is “to support national governments, development agencies, and the petroleum industry in their efforts to reduce the environmentally damaging flaring and the petroleum industry in their efforts to reduce the environmentally damaging flaring and venting of gas associated with the extraction of crude oil.”<sup>152</sup> Thus, it facilitates and supports national efforts to use currently flared gas by promoting effective regulatory frameworks and tackling the constraints on gas utilization, such as insufficient infrastructure and poor access to local and international energy markets, particularly in developing countries.<sup>153</sup> In addition, the GGFRI seeks to reduce poverty by

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<sup>148</sup> ‘Groups Slam Nigeria’s Submission of Gas Flare Reductions for Carbon Credits.’ 29 March 2006 Available at

[http://www.carbonradewatch.org/index.php?option=com\\_content&task=view&id=171&Itemid=36](http://www.carbonradewatch.org/index.php?option=com_content&task=view&id=171&Itemid=36) [Accessed 12 July 2009].

<sup>149</sup> Okon (note 90) at 14. See also Collins Olisa-Emeka Gardner ‘Flare-Out Policy and Unilateralism in the Context of CDM Activities in Nigeria.’ Paper presented at The Wilton Park Conference, 24 to 28 July 2006. Available at <http://www.wiltonpark.org.uk/documents/WPS06-18%20Pdf%20presentations/Gardner.pdf> [Accessed 21 September 2009].

<sup>150</sup> ‘A Twelve Year Record of National and Global Gas Flaring Volumes Estimated using Satellite Data: Final Report to the World Bank.’ May 30, 2007. Available at [http://www.ngdc.noaa.gov/dmsp/interest/DMSP\\_flares\\_20070530\\_b.pdf](http://www.ngdc.noaa.gov/dmsp/interest/DMSP_flares_20070530_b.pdf) [Accessed 12 July 2009].

<sup>151</sup> Ibid.

<sup>152</sup> ‘Global Gas Flaring Reduction Initiative Launched as Public-Private Partnership’ World Bank Press Release, Johannesburg, August 30, 2002. Available at <http://www.ifc.org/ogc.globalgas.htm> [Accessed 26 July 2009].

<sup>153</sup> Supra (note 7).

developing concepts for how local communities close to the flaring sites can use natural gas and liquefied petroleum gas (LPG) that may otherwise be flared and wasted.<sup>154</sup> The Programme has already evaluated opportunities for small-scale gas utilisation in several countries, including Nigeria.<sup>155</sup>

The GGFRI is led by the World Bank Group in collaboration with the Government of Norway. The idea for this Initiative was put forward during a June 2001 Oslo seminar hosted by Anne Kristin Sydney, who was then the Norwegian Minister for International Development. Subsequently, the Initiative was launched during the Conference of the Parties (COP-7) under the United Nations Framework Convention on Climate Change (UNFCCC) in Marrakech. Nigeria and Canada are both members of the Partnership.

The GGFRI's action plan to reduce gas flaring and venting focuses on four key areas<sup>156</sup> namely: a) commercialization of associated gas; b) regulations for associated gas; c) implementation of a voluntary standard for associated gas flaring and venting reduction; and d) capacity building to obtain carbon credits for flaring and venting reduction projects.<sup>157</sup>

***a) Commercialization of associated gas***

In order to reduce gas flaring, the GGFRI provides assistance in developing domestic markets for associated gas and in gaining access to international markets.<sup>158</sup> The GGFRI team facilitates demonstration projects for associated gas utilization by establishing partnerships between the relevant stakeholders. It also provides advice to governments (on fiscal legislation), to oil companies (on best practices and carbon credits trading), and to potential gas customers (on market development and gas agreements).<sup>159</sup> With the assistance of the GGFRI partnership, the Nigerian government has developed a gas sector strategy for its domestic market; has drafted a Downstream Gas Act as part of its gas sector policy work.<sup>160</sup> This Act addresses

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<sup>154</sup> Ibid.

<sup>155</sup> 'Global Gas Flaring Reduction. Available at <http://web.worldbank.org/ggfr> [Accessed 20 July 2009].

<sup>156</sup> Ibid.

<sup>157</sup> 'World Bank: Over 150 Billion Cubic Meters of Gas Flared Annually.' Available at [http://www.flaringreductionforum.org/downloads/GGFR\\_brochure.pdf](http://www.flaringreductionforum.org/downloads/GGFR_brochure.pdf) [Accessed 30 July 2009].

<sup>158</sup> Supra (note 7).

<sup>159</sup> Ibid.

<sup>160</sup> Ibid.

the legal, regulatory, institutional and policy constraints to investment in Nigeria's downstream gas sector.<sup>161</sup>

**b) *Regulations for associated gas***

International experience shows that effective enforcement of regulations and the provision of the right incentives are crucial to reducing flaring.<sup>162</sup> Most developing countries like Nigeria lack efficient, effective regulations on flaring and venting. In many of these countries, institutions have inadequate capabilities and overlapping responsibilities.<sup>163</sup>

The GGFRI's work on regulations also has focused on enabling the use of associated gas by helping governments create the right incentives such as proper regulatory structures governing pricing, distribution, shared transport, export facilities, etc.<sup>164</sup> Other important regulatory procedures also include those for approving flaring and venting permits, monitoring flaring and venting volumes, and enforcing operational standards.<sup>165</sup> These regulatory procedures would provide helpful insights to Nigeria in its attempts to phase-out gas flaring.

**c) *Implementation of the global flaring and venting reduction standard***

The majority of GGFRI partners agreed in 2002 to endorse a voluntary standard to eliminate venting and reduce flaring significantly within five to ten years, by finding commercial uses for the associated gas through increased collaboration between countries.<sup>166</sup> The standard also implies that countries and companies that have endorsed it will avoid flaring in new oil developments, if economically feasible.<sup>167</sup> So, in May 2004, the GGFRI Partnership announced a Voluntary Global Standard for Gas Venting and Flaring Reduction.<sup>168</sup> The standard outlines a plan of

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<sup>161</sup> F. M. Kupolokun 'Nigeria and the Future Global Gas Market.' Paper presented at the Baker Institute Energy Forum, Houston U.S.A, May 2, 2006. Available at [http://www.rice.edu/energy/publications/docs/NIGERIA\\_FutureGlobalGas\\_Speech.pdf](http://www.rice.edu/energy/publications/docs/NIGERIA_FutureGlobalGas_Speech.pdf) [Accessed 12 November 2009].

<sup>162</sup> Supra (note 7).

<sup>163</sup> Ibid.

<sup>164</sup> Ibid.

<sup>165</sup> Ibid.

<sup>166</sup> Ibid.

<sup>167</sup> Ibid.

<sup>168</sup> 'Global Gas Flaring Reduction: A Public-Private Partnership *Gas Flaring Reduction Projects: A Framework for Clean Development Mechanisms (CDM) Baseline Methodologies.*' Available at <http://www.worldbank.org/ggfr> [Accessed 31 September 2009].

action, including implementation of the Standard by partner companies and countries.<sup>169</sup>

The cost of implementing the standard often requires significant capital expenditure.<sup>170</sup> The standard is also voluntary and does not include any formal penalties, if not adhered to.<sup>171</sup> It includes recommendations for monitoring and transparency, which are intended to provide feedback on implementation and performance to a broad range of stakeholders.<sup>172</sup> These recommendations for monitoring and transparency aim to bring credibility to the Standard while encouraging organizations to self-regulate their flaring and venting activities.<sup>173</sup> Public reporting, in particular, will provide a clear indication of the implementation and effectiveness of the standard.<sup>174</sup> Implementation can be monitored by producers and governments, through public reporting by the press, financial institutions, NGOs, and other interested stakeholders.<sup>175</sup>

An example of a successful voluntary standard approach is found in Alberta, Canada where a Clean Air Strategic Alliance (CASA) was established in March 1994 as a new way to manage air quality issues in Alberta, Canada.<sup>176</sup> CASA is a non-profit association composed of diverse stakeholders from three sectors: government, industry, and NGOs, such as health and environmental groups.<sup>177</sup> The associated gas flaring management framework, developed in 1998 by CASA and implemented by the industry and Alberta's energy regulator (the Alberta Energy and Utilities Board), has resulted in a reduction of more than 50 percent in gas flaring within a matter of a few years.<sup>178</sup>

However, in Nigeria, no such initiative has yet been developed in line with the GGFRI Voluntary standard. It is worthy of note that the GGFRI Voluntary Standard requires some form of public reporting for monitoring and transparency

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<sup>169</sup> Ibid.

<sup>170</sup> Ludi Joseph 'Global Standard to Reduce Gas Flaring Unveiled in Algeria.' Available at <http://www.ifc.org/ifcext/mediahub.nsf/Content/SelectedPR?OpenDocument&UNID=56BCF2C48A795F2785256E91005BD865> [Accessed 25 July 2009].

<sup>171</sup> Ibid.

<sup>172</sup> Ibid.

<sup>173</sup> Ibid.

<sup>174</sup> Ibid.

<sup>175</sup> Ibid.

<sup>176</sup> Facts available at [http://www.casahome.org/page\\_id=10](http://www.casahome.org/page_id=10) [Accessed 22 November 2009].

<sup>177</sup> Ibid.

<sup>178</sup> Ibid.

which are intended to provide feedback on implementation and performance to a broad range of stakeholders. The apparent lack of transparency of the Nigerian government in furnishing any information on gas flaring to stakeholders and communities affected by gas flaring (as stated in Chapter 1), shows that it may be a while yet before any initiative in line with this standard shall be done by Nigeria.

***d) Capacity building to obtain carbon credits for flaring/venting reduction projects.***

In 2002, the GGFRI released a report on Kyoto Mechanisms for Flaring Reductions which attempts to overcome financial constraints on projects to reduce gas flaring by designing innovative financing mechanisms, including carbon credit trading.<sup>179</sup> Thus, the GGFRI has facilitated flare reduction demonstration projects in Angola, Algeria, Indonesia, Nigeria, and Russia to evaluate their potential to earn greenhouse gas credits through the CDM/JI structure, and to show how carbon credit trading can improve the economic viability of gas flaring reduction projects.<sup>180</sup> The Kwale Gas Project in Nigeria discussed above is an example of such a CDM project. This is the first GGFRI demonstration project to be registered with an expected CO<sub>2</sub> emission reduction of 1.49 Mt per year (15 MtCO<sub>2</sub> during first 10 years).<sup>181</sup>

In spite of the wide acceptance of the GGFRI, its success is dependent on the willingness of operator to co-operate and share gas volumes and technical information which may be commercially or politically sensitive.<sup>182</sup> A better engagement of environmental NGOs could also bring more transparency and credibility to the GGFRI.<sup>183</sup>

Due to the success of the initiative from its inception, the G8 joint statement at Gleneagles, Scotland called for it to be extended beyond 2006.<sup>184</sup> The GGFRI Partners have now agreed to continue on with their gas flaring reduction efforts and programs until the end of 2009 when the future of the Partnership's role will be re-defined by all stakeholders involved.<sup>185</sup> Till date, the GGFRI has been successful in

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<sup>179</sup> Supra (note 7).

<sup>180</sup> Ibid.

<sup>181</sup> GGFR Newsletter, Issue No.3 (note 144).

<sup>182</sup> 'Global Gas Flaring Reduction.' Available at <http://web.worldbank.org/ggfr> [Accessed 20 July 2009].

<sup>183</sup> Ibid.

<sup>184</sup> Supra (note 157).

<sup>185</sup> 'Issue Brief *The World Bank Global Gas Flaring Reduction Partnership.*' Available at <http://siteresources.worldbank.org/INTGGFR/Resources/GGFR-IssueBrief.pdf> [Accessed 20 November 2009].

increasingly creating awareness on gas flaring and venting as an international issue which needs to be tackled urgently.

## **2.5 International Association of Oil and Gas Producers (IAOGP)**

The International Association of Oil & Gas producers (OGP) encompasses most of the world's leading publicly-traded, private and state-owned oil & gas companies, oil & gas associations and major upstream service companies.<sup>186</sup> OGP members produce more than half the world's oil and about one third of its gas.<sup>187</sup> The association was formed in 1974 to develop effective communications between the upstream industry and an increasingly complex network of international regulators.<sup>188</sup> Originally called the E&P Forum, in 1999, the name International Association of Oil & Gas Producers was adopted.<sup>189</sup>

An essential part of OGP's mission is to represent the interests of the upstream industry before international regulators and legislators.<sup>190</sup> From its headquarters in London, OGP represents the industry in such United Nations (UN) bodies as the International Maritime Organization (IMO) and the Commission for Sustainable Development. OGP also works with the World Bank and with the International Organization for Standardization (ISO).<sup>191</sup> Equally important is OGP's role in promulgating best practices, particularly in the areas of health, safety, the environment and social responsibility.<sup>192</sup> The OGP aggregates information at both global and regional levels within 5 distinct categories, one of which is energy consumption and flaring.<sup>193</sup> Thus, OGP upstream companies include Chevron Corporation, Total and Shell International which all have entities in Nigeria. PetroCanada is also an upstream company which is a member of the OGP.

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<sup>186</sup> 'The IAOGP.' Available at <http://www.ogp.org.uk/> [Accessed 27 November 2009].

<sup>187</sup> Ibid.

<sup>188</sup> Ibid.

<sup>189</sup> Ibid.

<sup>190</sup> Ibid.

<sup>191</sup> Ibid.

<sup>192</sup> 'Flaring.' Available at <http://www.ogp.org.uk/FactSheets/Flaring.pdf> [Accessed 27 November 2009].

<sup>193</sup> Supra (note 186).

The OGP's work with the World Bank involves promotion and support of the GGFR as upstream companies mentioned above play a direct role in the problem of gas flaring reduction. Thus, one can conclude that the OGP plays an important role in contributing to the reduction of global gas flaring.

From the foregoing, it appears that international instruments play a large role in improving gas flaring and venting operations which also affect national legislation. However, apart from the GGFR whose stated purpose is to reduce gas flaring to the barest minimum, the provisions of other international instruments impliedly provide for the need to prevent further atmospheric emissions from oil and gas activities, viz gas flaring. Thus, it is apparent that the existence of these international instruments are not enough to control the problem of gas flaring and domestic legislation has a large role to play therewith. The ensuing chapters shall contain an extensive examination as to whether these international commitments have been effectively reflected in domestic gas flaring legislation in Nigeria and Canada.

## CHAPTER THREE

### LEGISLATIVE FRAMEWORK ON GAS FLARING IN NIGERIA

#### 3.1 Introduction

Gas flaring is one of the biggest sources of atmospheric emissions in the world.<sup>194</sup> Ironically, it is one of the biggest environmental problems currently affecting the Nigerian oil and gas industry. Unfortunately, the country lacks effective legislation and sanctions to tackle the problem effectively. The reason for this inadequacy stems from the fact that the government appears to be more concerned about the economic revenue being derived from the flaring of gas, rather than the environmental consequences of the gas flaring. Consequently, over the past few decades, various attempts have been made by different environmental and non-governmental organisations (NGOs) to compel the Nigerian government to set a deadline to end gas flaring completely in the country. Though the Nigerian government has not been lax in setting deadlines towards ending gas flaring in Nigeria since 1984, a shift in the deadlines keep occurring and there appears to be no end in sight to gas flaring in Nigeria.

The basis of environmental policy in Nigeria<sup>195</sup> and oil and gas activities is contained in the 1999 Constitution.<sup>196</sup> Oil and gas matters are contained in the exclusive legislative list, and thus fall within the purview of the federal government.<sup>197</sup> This means that the National Assembly, which is the highest legislative body in Nigeria, has exclusive legislative powers in respect of oil and gas matters.

As discussed in Chapter Two of this thesis, Nigeria is a party to the UNFCCC and the Kyoto Protocol. In view of the fact that gas flaring pumps over 400 million tons of carbon into the atmosphere each year, amongst other greenhouse gases such as methane,<sup>198</sup> Nigeria's obligations under both treaties to reduce emissions into the atmosphere have been reflected in some of its existing domestic

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<sup>194</sup> Yusuf (note 5).

<sup>195</sup> Oghogho Makinde and Temitayo Adeyoke 'Nigeria: Environmental Law in Nigeria.' Available at <http://www.mondaq.com/article.asp?articleid=53804> [Accessed 19 February 2009].

<sup>196</sup> Supra (note 71).

<sup>197</sup> Part I of the Second Schedule of the 1999 Constitution.

<sup>198</sup> Sharife (note 38).

legislation but are not being enforced effectively by the government as will be discussed shortly.

Several pieces of legislation currently exist in Nigeria and are expressly and impliedly aimed at regulating and or prohibiting the flaring of gas. These include the Petroleum Act and the Petroleum (Drilling and Production Regulations) 1969, Associated Gas Re-Injection Act 1979 and the Associated Gas Re-Injection Regulations of 1984, the Federal Environmental Protection Agency (FEPA) Act 1988, the Environmental Guidelines and Standards for the Petroleum Industry in Nigeria (EGASPIN) 1991, the Environmental Impact Assessment (EIA) Act 1992, the Niger Delta Development Commission (NDDC) Act 2000, and the Nigerian Environmental Management Act (Draft) 2000. Unfortunately, some of these pieces of legislation have not been adequately amended since their enactment to include stringent sanctions for oil companies who engage in the flaring of gas. This shows that Nigeria, like other African countries in the world, still has a lot to do in developing stringent environmental laws aimed at adequately protecting human health and the environment.

Alternatively, various institutional frameworks also exist in Nigeria aimed at adequately regulating its oil and gas industry with a view to tackling the problem of gas flaring. They include the Department of Petroleum Resources, the Federal Ministry of Environment (FMENV), the National Environmental Standards and Regulation Enforcement Agency (NESREA) and the Niger Delta Development Commission (NDDC).

This chapter examines the effectiveness of existing legislative and institutional framework on gas flaring in Nigeria and the flare-out deadlines which these frameworks envisage. It shall also provide reasons why gas flaring still continues unabated in the country despite the government's gas flaring deadlines. In addition, this chapter shall also examine the effect of the various liquefied natural gas (LNG) projects in existence in Nigeria, projects which the Nigerian government is using to provide a feasible gas market for the gas being flared in the country.

### **3.2 Ownership and Disposition of Oil and Gas Rights in Nigeria**

A brief historical development of oil and gas activities in Nigeria has been given in Chapter One. Thus, with regard to ownership of oil and gas rights, there is

no private ownership of natural resources in Nigeria.<sup>199</sup> All oil and gas rights vests in the state i.e the federal government. The Petroleum Act of 1969,<sup>200</sup> which is the governing statute on petroleum exploration and development in Nigeria, vests entire ownership and control of all ‘petroleum’ in, under or upon any lands in the State.<sup>201</sup> The word ‘petroleum’ is defined in section 15 of the Act to include: “*mineral oil (or any related hydrocarbon) or natural gas as it exists in its natural state in strata ...*”

In addition, the federal government disposes of oil and gas resources through concessions and several types of contracts and agreements.<sup>202</sup> These include the joint venture (JV) contracts and production-sharing contracts (PSCs).<sup>203</sup> Each type of oil production contract has the capacity to affect the volume of flared gas through the provisions relating to the rights and obligations of operators and governments in relation to associated gas.<sup>204</sup>

Under the Petroleum Act, the government grants concessions to operators in the form of Oil Mining Leases (OMLs).<sup>205</sup> The procedure for obtaining the OML involves the granting of several levels of licenses in the following order – Oil Exploration License (OEL), Oil Prospecting License (OPL), and the OML.<sup>206</sup> It should be noted that the OML is the largest oil and gas right that oil companies can acquire in Nigeria.<sup>207</sup> The federal government, through the Nigerian National Petroleum Corporation (NNPC), typically acquires a 60 percent participation interest in companies’ OMLs through the JV, which is the most common form of oil and gas agreement in Nigeria.<sup>208</sup>

Companies incorporated in Nigeria which already hold an Oil Prospecting Licence are entitled to the grant by the Minister of a renewable 20 (twenty) year Oil

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<sup>199</sup> Ibrinke T. Odumosu ‘Transferring Alberta’s Gas Flaring Reduction Regulatory Framework to Nigeria: Potentials and Limitations’ (2006-2007) 44 *Alberta Law Review* at 876.

<sup>200</sup> Cap P10, LFN 2004.

<sup>201</sup> Section 1.

<sup>202</sup> Yinka Omorogbe *The Oil and Gas Industry: Exploration and Production Contracts* 2ed (1997) Lagos; Malthouse Press.

<sup>203</sup> Odumosu (note 199) at 876.

<sup>204</sup> Franz Gerner, Brent Svensson & Sascha Djumena ‘Gas Flaring and Venting: A Regulatory Framework and Incentives for Gas Utilization.’ *Public Policy for the Private Sector* Note No. 279 (October 2004). Available at <http://rru.worldbank.org/PublicPolicyJournal/279-Gerner-Svensson-Djumena.pdf> [Accessed 11 June 2009].

<sup>205</sup> Odumosu (note 199) at 876.

<sup>206</sup> *Ibid.* See also Sections 2 (1) (a – b) and Schedule I, paras. 2-3, 6-8, 13 of the Petroleum Act.

<sup>207</sup> *Ibid.* Section 11 and Schedule I, para. 34.

<sup>208</sup> Sarah Ahmed Khan *Nigeria: The Political Economy of Oil* 1ed (1994) cited in Odumosu (note 199) at 876.

Mining Lease upon discovery of oil in commercial quantities and compliance with all conditions imposed on the lessee is made pursuant to the Petroleum Act.<sup>209</sup> Such conditions include the right of the Government to take associated gas produced by the lessee free of cost at the flare or at an agreed cost without the payment of royalty and to pay royalties, rents and taxes due and payable in respect of the lease and on the gas produced within the concession.<sup>210</sup>

However, it would appear that concessions are not exclusively granted for natural gas production but are granted to MNCs for exploration and production of crude oil.<sup>211</sup> Given the abundance of Nigeria's natural gas reserves and the scandalous levels of associated gas flared, it is unlikely that any lease would, in the medium-term be granted for non – associated gas assets.<sup>212</sup>

On the other hand, it appears that the nature of the agreements the Nigerian government concludes with MNCs has a major impact on its regulatory effectiveness.<sup>213</sup> Indeed, it has been argued that due to the NNPC's JV participation, any regulation would be a regulation of the NNPC, which is an agency of the Nigerian government.<sup>214</sup> Thus, this raises questions of institutional bias and lack of independence on the regulatory effectiveness of the Nigerian government with respect to the oil and gas production.<sup>215</sup> In addition, it further raises a probable argument that NNPC's participation in each JV implies that it bears the responsibility for flaring about 60 percent of all gas flared in fields covered by JVs in the country.<sup>216</sup> However, the JV agreements designate the companies, and not the NNPC, as operators<sup>217</sup> so it would appear that the companies are actually responsible for flaring of gas in Nigeria.

It is suggested that Odumosu's argument is correct as it appears that the problem of gas flaring would be addressed more expediently if the parties i.e.

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<sup>209</sup> Gbite Adeniji 'The Legal Framework for Natural Gas Utilisation in Nigeria.' Paper Presented at the International Bar Association 2000 Conference titled "Gas & Power: Understanding the Legal Aspects" Abuja Nigeria, 27 – 28 November 2000. Available at <http://aelex.com/files/IBA%20SERL%20GAS%20UTILISATION%202000.pdf> [Accessed 20 October 2009].

<sup>210</sup> Ibid.

<sup>211</sup> Ibid.

<sup>212</sup> Ibid.

<sup>213</sup> Odumosu (note 199) at 877.

<sup>214</sup> Ibrinke Odumosu, Doctoral Candidate, Faculty of Law, University of British Columbia, Canada.

<sup>215</sup> Odumosu (note 199) at 877.

<sup>216</sup> Ibid.

<sup>217</sup> Ibid.

operators and companies (MNCs) who are complicit in carrying out the gas flaring in Nigeria via OMLs should be made to face stringent sanctions and penalties. Thus, a key component of the Nigerian government's strategy for reducing Nigeria's massive associated gas flaring level is through the enactment of legislation to encourage such oil producing companies to develop programs for the utilisation of associated and non-associated gas.<sup>218</sup> An examination of the existing gas flaring legislation and the effectiveness or otherwise of the accompanying sanctions is carried out below.

### **3.3 Legislation on Gas Flaring in Nigeria**

#### **3.3.1 *The Petroleum Act (PA) 1969 and the Petroleum (Drilling and Production) Regulations 1969***

The Petroleum Act and the Petroleum (Drilling and Production) Regulations (PDPR) 1969<sup>219</sup> are the two main statutes generally regulating the Nigerian petroleum exploration and production (E &P) sector.

Section 9 (1)(b)(iii) of the Act empowers the Minister to make regulations providing for matters relating to licenses, including pollution of the atmosphere. Indeed, gas flaring could be implied into the words "pollution of the atmosphere" as it is a source of atmospheric pollution. Nevertheless, no other specific provisions on gas utilisation exist anywhere under the Petroleum Act.

However, Regulation 42 of the PDPR requires licensees or lessees (i.e oil producing companies) to:

“...Not later than five years after the commencement of production...submit to the Minister, any feasibility study, programme or proposal...for the utilization of any natural gas, whether associated with oil or not, which has been discovered in any relevant area.”

This was the first major move by the Nigerian state at that time to halt gas flaring in the country by the then military head of State, General Yakubu Gowon.<sup>220</sup> However, this legislation was inherently flawed as it made no provision for sanctions<sup>221</sup> on the licensees or lessees in the event of non-compliance. The absence

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<sup>218</sup> Adeniji (note 209) at 6.

<sup>219</sup> Supra (note 200).

<sup>220</sup> Basse (note 48).

<sup>221</sup> Malumfashi (note 79) at 4.

of sanctions rendered the legislation ineffective in every sense, an example of a pattern which the majority of Nigerian oil and gas legislation follows.

In view of the fact that the licensees/lessees had paid little or no attention to the 5 year deadline and had nothing on ground to utilise the natural gas,<sup>222</sup> the government was forced to shift the deadline to 1979. That same year, the Associated Gas Re-Injection Act No. 99 of 1979 was promulgated.

### **3.3.2 *Associated Gas Re-Injection Act 1979 and the Associated Gas Re-injection (Continued Flaring of Gas) Regulations 1984***

The major statute addressing gas flaring reduction in Nigeria<sup>223</sup> is the Associated Gas Re-injection Act (AGRA) 1979.<sup>224</sup> This Act was promulgated ostensibly to fill the vacuum left by the Petroleum Act and its Regulations.<sup>225</sup> Essentially, the Act is aimed at compelling every oil and gas producing company in Nigeria to submit preliminary programmes and implementation plans for gas re-injection.<sup>226</sup>

The AGRA applies to all associated gas in lands as defined in section 1 of the Petroleum Act<sup>227</sup> and the Exclusive Economic Zone of Nigeria.<sup>228</sup> Section 1 of the AGRA states that notwithstanding the provisions of Regulation 42 of the PDPR made under the Petroleum Act, all oil and gas producing companies in Nigeria shall submit a preliminary program to the Minister<sup>229</sup> providing schemes for the viable utilisation of all associated gas and projects to re-inject all non-associated gas not later than 1 April 1980.

However, the Act further required that not later than 1st October, 1980, every oil and gas producing company in Nigeria should submit to the Minister, detailed programmes and plans for either the implementation of programmes relating to the re-injection of all produced associated gas or schemes for viable utilisation of all

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<sup>222</sup> Supra (note 12).

<sup>223</sup> Odumosu (note 199) at 889.

<sup>224</sup> Decree No. 99 dated 28 September 1997, Cap A25, LFN 2004.

<sup>225</sup> Malumfashi (note 79) at 15.

<sup>226</sup> Preamble to the AGRA 1979.

<sup>227</sup> Section 1 of the Petroleum Act defines 'land' to include "land covered by water which is in Nigeria, under the territorial waters of Nigeria or forms part of its continental shelf." However, the Petroleum Act didn't apply to EEZ at the time but applies now as a result of the Petroleum (Amendment) Act of 1998. See also Odumosu (note 199) at 889.

<sup>228</sup> The Exclusive Economic Zone Act, Cap E17, LFN 2004 clearly defines the limit of Nigeria's exclusive economic zone.

<sup>229</sup> Section 7 of AGRA defines "Minister" to mean the Minister charged with responsibilities for matters related to Petroleum i.e. the Minister for Petroleum Resources.

produced associated gas.<sup>230</sup> The wordings of the above provisions appeared to compulsorily mandate oil and gas producing companies to submit such programs, plans and schemes between April and October 1980. Thus, it is surprising that the same Act empowers the Minister to issue a certificate of exemption to oil and gas producing companies exempting them from the provisions of AGRA where gas re-injection is inappropriate or not feasible, subject to any conditions that he may impose at his discretion.<sup>231</sup> Such certificate of exemption could also permit such company to continue flaring gas if the company pays a particular sum prescribed at the discretion of the Minister for every 28.317 standard cubic metre (SCM) of gas flared.<sup>232</sup> One would have expected the Nigerian government to stipulate at this point exactly how much such company would be liable to pay if it is permitted to continue flaring gas, in order to buttress the seriousness of the consequences of gas flaring. This is one example of a loophole contained in the AGRA.

Interestingly, section 3 (1) of the Act prohibited flaring of gas by oil and gas producing companies after 1 January 1984 without the written permission of the Minister for Petroleum Resources. Continued flaring of gas after 1 January 1984 constituted an offence. The penalty for such offence was forfeiture of the concessions granted to licensee/lessee in the particular field (s) in which the offence was committed<sup>233</sup> or repair or restoration of any reservoir in the field in accordance with good oil-field practice.<sup>234</sup>

Arguably, the AGRA does have a permanent plan to stop the flaring of Gas in Nigeria given the conditions set out in section 1 of the Associated Gas Re-Injection (Continued Flaring of Gas) Regulations 1984 but contains no provisions on payable fines for continuous gas flaring..<sup>235</sup>

The Associated Gas Re-Injection (Continued Flaring of Gas) Regulations (“AGRA Regulations”) of 1984 was made pursuant to the AGRA and amends the AGRA. The conditions set out in section 1 of the AGRA Regulations are to the

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<sup>230</sup> Section 2(1) (a-b).

<sup>231</sup> Section 3(2)(a).

<sup>232</sup> Section 3(2)(b).

<sup>233</sup> Section 4(1).

<sup>234</sup> Section 4(2).

<sup>235</sup> Brown E. Umukoro ‘Gas Flaring, Environmental Corporate Responsibility and the Right to a Healthy Environment: A Case of the Niger Delta’ Available at <http://www.scribd.com/doc/17914659/Gas-Flaring> [Accessed 28 July 2009].

effect that the Minister is empowered to issue a certificate for the continuation of flaring of gas in particular field (s), if one or more of the following conditions are satisfied:

- (a) where more than 75 percent of the produced gas is effectively utilized or conserved;
- (b) where the produced gas contains more than fifteen percent impurities, such as N<sub>2</sub>, H<sub>2</sub>S, CO<sub>2</sub>, etc., which renders the gas unsuitable for industrial purposes;
- (c) where an on-going utilization programme is interrupted by equipment failure, etc.

The implication of this is that the Minister shall continue to permit the flaring of gas in Nigeria as long as a desiring oil and gas producing company satisfies one or more of the above conditions.<sup>236</sup> This, by extension, reveals the unwillingness of the government to stop gas flaring.<sup>237</sup>

However, the limited exemptions for flaring set out in section 1 of the AGRA Regulations was further strengthened in 1985 with another amendment<sup>238</sup> which fixed a fine of 2 Kobo (equivalent to US\$.0009) against the oil companies for each 1000 standard cubic feet (SCF) of gas flared. This amount was regarded as being too meagre, even at a time when the Nigerian Naira still possessed great value, and thus the fine didn't provide any incentive to induce the companies to reduce flaring.<sup>239</sup> These fines were later raised in January 1998 to 10 Naira (US\$11) for every 1000 SCF of gas flared.<sup>240</sup> This ridiculously low fine for flaring gas by oil producing companies did little or nothing to them as it was cheaper for the oil companies to pay the penalty than build a facility to collect and transport the gas flared for alternative use as a fuel or for electricity generation.<sup>241</sup>

From the above, we see a trend in the deadlines which the Nigerian government has set to stop gas flaring. The first deadline was set in 1969 and the

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<sup>236</sup> Ibid.

<sup>237</sup> Ibid.

<sup>238</sup> The Associated Gas Re-Injection (Amendment) Decree of 1985.

<sup>239</sup> Malumfashi (note 199) at 15.

<sup>240</sup> Ibid.

<sup>241</sup> Yusuf (note 5).

next deadline was next set by the Government in 1984(i.e. 15 years after the first deadline of 1969 was fixed!). These deadlines were never respected by oil and gas producing companies and the government has resorted to shifting them according to the pleasure of the MNCs through executive orders embedded in speeches and remarks and without any backing by law.<sup>242</sup>

Thus, in response to international and local pressure, the Federal Government of Nigeria pledged to halt gas flares in Nigeria and set January 1, 2008 as its “flare-out” deadline. This deadline was not to be actualised as President Umaru Yar’Adua shifted the deadline for gas flaring from January 1, 2008 to December 31, 2008 at the International Gas Stakeholders Forum, Abuja, Nigeria in November 2007 despite the clamour of Nigerians and citizens of the world that gas flaring should be stopped at the close of 2007.<sup>243</sup> This continuous shift in deadlines by the Federal Government of Nigeria shows the lackadaisical attitude of the government towards phasing-out gas flaring completely from Nigeria. This is surprising in view of the harmful effects which gas flaring subjects the environment and health of Nigerian citizens to. Nnimmo Bassey<sup>244</sup> aptly summarises the situation when he describes the MNCs and the Nigerian government as “the players as well as the umpires in the game of gas flaring who can freely shift the goalposts as they please.”<sup>245</sup>

### ***3.3.2.1 Cases on Gas Flaring in Nigeria***

#### ***i. Gbemre v Shell***

The provisions of AGRA and its Regulations and the legality and effect of gas flaring on human health in the Niger Delta area of Nigeria was subject to interpretation in the landmark case of *Gbemre v. Shell*.<sup>246</sup> On 20th July 2005, a suit was filed in the Federal High Court of Nigeria on behalf of communities from across the Niger Delta against the “Big 5” MNCs in Nigeria (Shell, ExxonMobil, Chevron Texaco, TotalFinaElf and Agip), the NNPC, and the Nigerian government, praying

<sup>242</sup> Akanimo Sampson ‘Nigerian Government Under Pressure’ 16 December 2008 Available at <http://www.scoop.co.nz/stories/WO0812/S00359.htm> [Accessed 15 July 2009].

<sup>243</sup> Ibid.

<sup>244</sup> Executive Director of Environmental Rights Action (ERACTION), an environmental NGO aimed at protecting the environment and citizens of the Niger Delta of Nigeria.

<sup>245</sup> Bassey (note 48).

<sup>246</sup> Federal High Court, Benin 14 November 2005, Unreported Suit No FHC/B/CS/53/05, *Gbemre v. Shell* (per Nwokorie, J). Full text of the judgment available at <http://www.climatelaw.org/cases/country/nigeria/gasflares> [Accessed 12 August 2009].

the court to declare gas flaring as illegal. Mr. Gbemre, suing in a representative capacity for himself and every member of the Iwherekan community in Delta State, Nigeria alleged that the activities of these MNCs, particularly gas flaring, violated the constitutional rights to life and the dignity of the human person set out under section 33 (1) and 34 of the 1999 Constitution.

Mr. Gbemre specifically alleged, *inter alia*, that the respondents' (i.e. the MNCs) had been engaging in 'massive, relentless and continuous flaring of gas' in his community in the process of their oil exploration and production activities for over 35 years.<sup>247</sup> He stated that the result of such continuous flaring is the poisoning and pollution of the environment, emission of greenhouse gases and cocktail of toxins which had a debilitating effect on the health and livelihood of the community. As a result of this, many natives of the community had either died as a result of chronic bronchitis, decreased lung function and painful breathing arising from the gas flaring or countless others were suffering various sicknesses.<sup>248</sup>

The Applicants sought the following reliefs, *inter alia*, from the court:<sup>249</sup>

- a declaration that the actions of the respondents in continuing to flare gas in the course of their oil exploration and production activities in the applicant's communities is a violation of the fundamental rights to life (including the right to a healthy environment) and the dignity of human persons guaranteed by sections 33(1) and 34(1) of the Constitution;
- a declaration that the provisions of Section 3(2)(a) and (b) of the AGRA and Section 1 of the AGRA Regulations, under which the continued flaring of gas in Nigeria may be allowed are inconsistent with the applicant's right to life and/or dignity of the human person enshrined in Sections 33(1) and 34(1) of the Constitution and therefore are unconstitutional, null and void;<sup>250</sup> and

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<sup>247</sup> Ibid at 4 – 5.

<sup>248</sup> Ibid.

<sup>249</sup> Ibid at 30-31.

<sup>250</sup> It should be noted that section 1(3) of the 1999 Constitution provides that 'The Constitution is supreme... and where any other law is inconsistent with its provisions, the Constitution shall prevail, and that other law shall, to the extent of the inconsistency, be void and take precedence over any law existing within the Federal Republic of Nigeria.'

- an order of perpetual injunction restraining the respondents by themselves or by their agents, servants, contractors or workers or otherwise howsoever from further flaring of gas in the applicant's community.

On November 14 2005, the court made the following judgement/declaratory orders.<sup>251</sup>

- that the constitutionally guaranteed fundamental rights to life and dignity of human person provided by sections 33(1) and 34(1) of the 1999 Constitution inevitably includes the rights to a clean, poison-free, pollution-free and healthy environment;
- that the actions of the respondents in continuing to flare gas in the course of their oil exploration and production activities in the applicant's community is a gross violation of their fundamental right to life (including the right to a healthy environment) and dignity of the human person as enshrined in the 1999 Constitution; and
- that the provisions of sections 3(2)(a) and (b) of AGRA and section 1 of the AGRA Regulations under which the flaring of gas in Nigeria may be permitted are inconsistent with the applicant's right to life/dignity of human person enshrined in the Constitution. Such provisions are therefore null and void by virtue of section 1(3) of the Constitution.

Accordingly, the court granted the reliefs sought by the applicant and ordered the respondents to "take immediate steps stop further flaring of gas in the applicant's community."<sup>252</sup> The court further ordered the ordered the Attorney-General of the Federal Republic of Nigeria to immediately set into motion, after due consultation with the Federal Executive Council, necessary processes for the enactment of a Bill for an Act of the National Assembly for the speedy amendment of the relevant sections of the AGRA and the AGRA Regulations made there under.<sup>253</sup>

The respondent's failed to comply with the order to cease gas flaring in the Iwherekan community and contempt of court proceedings were filed in December 2006 by the applicants. On 10 April 2006, the Federal High Court granted a

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<sup>251</sup> *Supra* (note 246) at 31.

<sup>252</sup> *Ibid.*

<sup>253</sup> *Ibid.* See also Brown Umukoro (note 235).

conditional stay of execution of the court order.<sup>254</sup> Three conditions were attached, including that Shell and NNPC stop gas-flaring activities in Nigeria by 30 April 2007. The court also told SPDC to produce a detailed plan of action, showing how they would stop gas flaring in Iwherekan. Mr. Gbemre's legal representative attended the court on 30 April 2007. He discovered that, not only had no detailed scheme for stopping the flaring had been submitted, but that the judge had been transferred to another court district and the court file was not available. No representatives of the company or government turned up. SPDC subsequently obtained a further stay of the court order, with no known conditions attached. As of May 2009, two years after the expiry of the original deadline, gas flaring still continues in Iwherekan.<sup>255</sup>

Notwithstanding, the court of first instance's decision sets a precedent as the first judicial authority to declare that gas flaring is illegal, unconstitutional, a breach of the fundamental human right to life and should cease.<sup>256</sup> It marks a sharp departure from the well-known rigid attitude of Nigerian judges who usually privileged economic benefits of the country over environmental protection, particularly in relation to oil operations.<sup>257</sup> Though it remains to be seen how the outcome of the decision on appeal will be, it must be emphasized that the *Gbemre* case has not only charted a new and commendable course by adopting the human rights approach in deciding a case of environmental damage,<sup>258</sup> it has also served to draw awareness of the dangers which gas flaring poses to health and the environment in Nigeria.

*i. Wiwa & Others v Royal Dutch/Shell*<sup>259</sup>

The case of *Wiwa v Royal Dutch/Shell* has also served to draw awareness to the issue of gas flaring both locally and internationally. This case was consolidated into one single suit, charging Royal Dutch Petroleum Company and Shell Transport and Trading Company (Royal Dutch/Shell) with complicity in human rights abuses in Nigeria against the Ogoni People of the Niger Delta and ongoing destruction of

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<sup>254</sup> 'Nigeria: Petroleum, Pollution and Poverty in the Niger Delta.' Amnesty International, May 2009 Available at <http://www.amnesty.org/en/library/asset/AFR44/017/2009/en/e2415061-da5c-44f8-a73c-a7a4766ee21d/af440172009en.pdf> [Accessed 12 January 2010].

<sup>255</sup> *Ibid.*

<sup>256</sup> Adejonwo-Osho (note 143).

<sup>257</sup> Kaniye S.Ebeku 'Constitutional Right to a Healthy Environment and Human Rights Approaches to Environmental Protection in Nigeria: *Gbemre v Shell* Revisited.' (2007) 16 (3) RECIEL at 317.

<sup>258</sup> *Ibid.*

<sup>259</sup> United States District Court Civil Action No. 96 CIV 8386.

the Niger Delta region due to gas flaring by Shell Petroleum Development Company (SPDC) Nigeria.<sup>260</sup> The plaintiffs in the case include surviving family members of Ken Saro-Wiwa, John Kpuinen, Dr. Barinem Kiobel, Felix Nuate, Daniel Gbokoo, and Saturday Doobee, who were arrested, tortured, and eventually executed on November 10, 1995 along with three other Ogoni environmental and community leaders for their alleged ‘militant’ actions (against the military government in Nigeria) in an attempt to draw attention to the harmful effects of oil producing companies activities (especially gas flaring) on the Ogoni people.<sup>261</sup>

This case was brought in 1996 in a U.S Court under the Alien Tort Statute Act (ATCA), a 1789 statute giving non-U.S. citizens the right to file suits in U.S. courts for international human rights violations, and the Torture Victim Protection Act, which allows individuals to seek damages in the U.S. for torture or extrajudicial killing, regardless of where the violations take place.<sup>262</sup> The defendants moved to dismiss both the initial and the amended complaints on the grounds of lack of personal jurisdiction over Royal Dutch/Shell, *forum non conveniens* (defendants argued that the case should be heard in the Netherlands or England), and lack of subject matter jurisdiction (defendants argued, inter alia, that ATCA did not apply to a corporation and that the claim was precluded by the political question and act of state doctrines, as well as Nigerian law on corporate liability).<sup>263</sup> These arguments were defeated over the ensuing years by the plaintiffs and after 14 years of legal battle between the parties to the suit, a trial date was finally fixed for May 27, 2009 at the United States District Court for the Southern District of New York.

Consequently, on June 8, 2009, on the eve of trial, Shell agreed to a settlement of all three lawsuits filed against it with the plaintiffs. The settlement, whose terms are public, provided a total of \$15.5 million to compensate the plaintiffs, establish a trust for the benefit of the Ogoni people, and cover some of the legal costs and fees associated with the case.<sup>264</sup> This settlement could be regarded as

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<sup>260</sup> ‘Wiwa v Royal Dutch Shell Case History.’ Available at <http://www.earthrights.org/about/news/wiwa-v-royal-dutch-shell-case-history> [Accessed 25 January 2010].

<sup>261</sup> Supra (note 259). See also ‘Wiwa v Royal Dutch/Shell.’ Available at <http://www.earthrights.org/legal/wiwa-v-royal-dutchshell> [Accessed 25 January 2010].

<sup>262</sup> ‘Wiwa v Shell: The Case Against Shell.’ Available at <http://wiwavshell.org/the-case-against-shell/> [Accessed 25 January 2010].

<sup>263</sup> Supra (note 260).

<sup>264</sup> Supra (note 261).

a victory in view of the fact that environmental activist, Ken Saro Wiwa, died fighting for justice against SPDC for the various environmental crimes (particularly gas flaring) committed against the people of the Niger Delta.

Though Shell continues to flare gas recklessly in Nigeria despite claims refuting this fact by the MNC, this case has far-reaching implications in the development of legal norms for corporate human rights abuses, while inspiring communities around the globe struggling against corporate abuses.<sup>265</sup> In the same vein, the case has also brought a mixture of hope and caution over companies' and the government's approach to local communities and the environment.<sup>266</sup>

As a result, though it is not really clear whether the Attorney –General of the Federation was instrumental or not in setting up necessary processes to enact a bill to amend the AGRA and AGRA Regulations, the AGRA and its Regulations are in the process of being reviewed by the National Assembly with a view to inserting stricter penalties within.<sup>267</sup>

### ***iii. Gas Flaring (Prohibition and Punishment) Bill 2009 and Flaring Deadlines***

The Nigerian legislature also plays an important role in phasing-out gas flaring in Nigeria as they are empowered by the 1999 Constitution to promulgate legislation in a bid to ensure proper organization in all sectors of the nation's economy. Accordingly, in July 2009, the National Assembly passed a Bill that would prohibit gas flaring and punish oil companies that flout it in Nigeria and fixed December 31, 2010 as its deadline.<sup>268</sup> The Gas Flaring (Prohibition and Punishment) Bill 2009 passed through the Third Reading in the chamber with approval of all its 18 clauses.<sup>269</sup>

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<sup>265</sup> 'Wiwa v Shell: A Night of Celebration and Remembrance.' Available at <http://www.earthrights.org/legal/wiwa-v-shell-night-celebration-and-remembrance> [Accessed 25 January 2010].

<sup>266</sup> Ibid.

<sup>267</sup> DPR Proposes Sanctions Against Flare-Out Defaulters.' Daily Independent/All Africa Global Media via Comtex, June 09 2009. Available at <http://allafrica.com/stories/200906090507.html> [Accessed 12 August 2009].

<sup>268</sup> Text of the Gas Flaring (Prohibition and Punishment) Bill 2009 available at <http://www.nassnig.org/legislation.php?page=8> [Accessed 07 February 2010]. See also Adetutu Folasade-Koyi 'Nigerian Senate Okays New Law December 2010 deadline to end Gas Flaring.' July 3 2009. Available at <http://allafrica.com/stories/200907030459.html> [Accessed 22 July 2009].

<sup>269</sup> Ibid.

Under the draft law, any company found flaring gas after that date will be subjected to a fine not less than twice the international market price of the gas flared.<sup>270</sup> In addition, the Minister of Petroleum is empowered in particular instances to shut down the facility producing any kind of gas whether associated or non-associated.<sup>271</sup> The bill further stipulates that oil companies must provide reports showing quantity of gas flared, reserve, location and composition within 90 days.<sup>272</sup> In addition, all operators are required to submit their plans on how they intend to utilise the flared gas to the minister for approval on or before the flare-out date of December 2010.<sup>273</sup> The Bill also provides that the current \$3.50 per 1000 SCF penalty for gas flared shall continue until 1st January, 2011 when a new penalty regime shall commence.<sup>274</sup>

In the same vein, the Department of Petroleum Resources (DPR), the monitoring and regulatory arm of the nation's oil and gas industry, released a statement in respect of the Bill.<sup>275</sup> It emphasized that sanctions would be to the effect that any operator involved in routine or continuous gas flaring is liable to pay a fine of \$1,000,000, while those that give incorrect gas volume flared would be liable to pay a fine of \$100,000. Both sanctions will be in addition to the payment of the international price of gas for failing to declare posting of incorrect gas flared volumes.<sup>276</sup> The DPR further recommended to the National Assembly that gas flaring due to equipment failure should be reported by the operator to the DPR within 24 hours, failure of which will attract a fine of \$500,000 or as may be determined by government from time to time.<sup>277</sup>

Thus, it appears that the Nigerian legislature has realised the seriousness of the situation and seeks to tackle the issue of ineffective penalties and legislation on gas flaring more aggressively. Though the gas flaring bill is still in the process of it being passed into law and the proposed provisions are indeed laudable, it remains to

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<sup>270</sup>Section 4 (2) of the Bill. See also 'The End of Gas Flaring?' The Guardian Newspapers, Monday July 13 2009. Available at [http://www.nguardiannews.com/editorial\\_opinion/article01//indexn3\\_html?pdate=130709&ptitle=The%20end%20of%20gas%20flaring?&cpdate=130709](http://www.nguardiannews.com/editorial_opinion/article01//indexn3_html?pdate=130709&ptitle=The%20end%20of%20gas%20flaring?&cpdate=130709) [Accessed 24 September 2009].

<sup>271</sup> Ibid.

<sup>272</sup> Section 6(2)(a) of the Bill.

<sup>273</sup> Ibid.

<sup>274</sup> Section 9(1)(a)(ii).

<sup>275</sup> Supra (note 267).

<sup>276</sup> Ibid.

<sup>277</sup> Ibid.

be seen if the political will of oil companies will not prevail once more in pushing the deadline for the gas flaring forward. One must not forget that the lack of adherence to gas flaring deadlines in Nigeria has resulted in a litany of commitments being shifted and legislation being constantly ignored by MNCs. Indeed, the oil companies show a marked reluctance to even adhere with the High Court judgement in *Gbemre v Shell* and give flimsy reasons why they cannot discontinue the flaring of gas.

Shell estimated that an additional investment of \$1.85 billion (about N247.9 billion) would be required to complete some projects that would enable it achieve zero flare level by the end of 2009.<sup>278</sup> The MNC has also released statements to the effect that the construction of gas utilisation facilities in accordance with AGRA will only be completed by the end of 2009, meaning that gas flaring from the relevant flow stations would not be eliminated until the end of 2009.<sup>279</sup> On the commissioning of these facilities, they pledged to cover 95 per cent of all associated gas produced. In fact, in its Sustainability Report 2006, Shell asserted that they would end routine gas flaring everywhere in the world in 2008 except in the Niger Delta and gave two reasons for that.<sup>280</sup> The first reason given was that some of the locations are too inaccessible while the second reason given was that the flares would only end in some locations by shutting down production.<sup>281</sup> Alarming, in its 2007 Sustainability Report, these two excuses for not ending gas flaring are dispensed with completely and a more convenient one has now been constructed: the oil fields are too violent.<sup>282</sup> These flimsy excuses are classic examples of the lackadaisical attitude and effortless regard of an MNC to the issue of stopping gas flaring in Nigeria.

Another MNC, ExxonMobil also thinks that the realistic flares down will be end of 2010.<sup>283</sup> They claimed the deadline was not feasible due to security situation

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<sup>278</sup> Sampson (note 242).

<sup>279</sup> Ibid.

<sup>280</sup> Ibid. See 'Shell Sustainability Report 2006.' at 14. Available at [http://sustainabilityreport.shell.com/2006/servicepages/downloads/files/entire\\_shell\\_ssr06.pdf](http://sustainabilityreport.shell.com/2006/servicepages/downloads/files/entire_shell_ssr06.pdf) [Accessed 22 January 2010].

<sup>281</sup> Ibid at 34.

<sup>282</sup> 'Shell Sustainability Report 2007.' Available at [http://sustainabilityreport.shell.com/2007/servicepages/downloads/files/entire\\_shell\\_ssr07.pdf](http://sustainabilityreport.shell.com/2007/servicepages/downloads/files/entire_shell_ssr07.pdf) [Accessed 20 January 2010].

<sup>283</sup> Sampson (note 242).

in the Niger Delta, the pricing regime (probably for gas) and funding for infrastructure development.<sup>284</sup> In the same vein, Chevron also contended that meeting the deadline for 2008 was not feasible as they would “defer income from 480 million barrels of oil between 2009 and 2012.”<sup>285</sup> They requested that the 2008 deadline be shifted to 2010, adding that even this would depend on government action.<sup>286</sup>

One can only regard the reasons given by these MNCs as lacking merit in its totality as these companies have been in operation in Nigeria even before the 1979 AGRA and its Regulations of 1984. One wonders if 20 years (i.e. between 1984 when the first deadline was set and 2008) hasn't been sufficient enough for these oil companies to construct sufficient facilities to utilise or conserve the gas flared or weigh the economics involved in infrastructure development. From the above, one wonders whether the 2010 deadline which is being proposed in the Bill passed by the National Assembly will ever be met.

Similarly, the World Bank notes that in recent years, oil companies in Nigeria have been charged a total of between 20 million and 50 million Naira (or US\$150,000-370,000) annually for flaring associated gas.<sup>287</sup> However, a recent study by the Bureau of Public Enterprises (BPE) of Nigeria also showed that the country loses between US\$500 million and US\$2.5 billion to gas flaring each year.<sup>288</sup> It thus appears that the MNCs prefer to pay the cost or penalties for flaring gas than to build facilities to utilise/conserve the gas as the penalties are just a drop in the bucket compared to how much they make daily from oil exploration and production.

At present, however, the penalty which oil companies are liable to pay is \$3.50 per 1,000 SCF. Conversely, even the Senate President David Mark has decried the fine of \$3.50 per 1,000 SCF of gas flared imposed on oil companies as too

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<sup>284</sup> Ibid.

<sup>285</sup> Ibid.

<sup>286</sup> Ibid.

<sup>287</sup> ‘Global Gas Flaring Reduction Initiative: Report No.3: Regulation of Associated Gas Flaring and Venting – a Global Overview and Lessons.’ (World Bank, March 2004) at 64. Available at [http://www-wds.worldbank.org/external/default/main?pagePK=64193027&piPK=64187937&theSitePK=523679&menuPK=64187510&searchMenuPK=64187283&siteName=WDS&entityID=000012009\\_20040716133951](http://www-wds.worldbank.org/external/default/main?pagePK=64193027&piPK=64187937&theSitePK=523679&menuPK=64187510&searchMenuPK=64187283&siteName=WDS&entityID=000012009_20040716133951) [Accessed 21 January 2010].

<sup>288</sup> Ibid.

meagre to act as a deterrent to the companies which have continued their act with impunity.<sup>289</sup> He also admitted that the government itself lacked the political will to enforce the gas flare ban, giving the companies the reins to degrade the environment.<sup>290</sup> In view of this statement by the leader of the highest legislative body in Nigeria, one wonders whether the 2010 deadline which is being proposed in the Bill passed by the National Assembly is ever likely to be met.

From the above, it is apparent that the Nigerian government via the National Assembly is working hard to produce a law which will serve as a deterrent to MNCs to cease gas flaring in the country. Time will tell however, if the new Bill and proposed amendments to the AGRA will be effective in halting the menace or not. On the other hand, other legislation, together with institutions promulgated under these legislations exist which are aimed at curbing the problem of gas flaring in Nigeria. They are examined below.

### **3.3.3 *The Federal Environmental Protection Agency (FEPA) Act 1988***

The Federal Environmental Protection Agency (FEPA) Act 1988<sup>291</sup> is arguably the most comprehensive framework legislation for environmental protection in Nigeria. The Act incorporated most of Nigeria's national commitments under the UNFCCC and other multilateral environmental agreements (MEAs).<sup>292</sup> The Act also incorporated most of the government's policy and commitments on environmental management enshrined in the National Policy of Environment (NPE) which was launched on 27<sup>th</sup> November 1989.<sup>293</sup> One of the policy goals enshrined in the NPE is "to secure for all Nigerians a quality of environment adequate for their health and well-being."<sup>294</sup>

Section 1 of the FEPA Act establishes a body known as the Federal Environmental Protection Agency (FEPA). Its duties include, *inter alia*, rendering

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<sup>289</sup> Sufuyan Ojeifo 'Mark-FG Lacks Will to Stop Gas Flaring' November 25, 2008 Available at <http://allafrica.com/stories/200811250369.html> [Accessed 24 October 2009].

<sup>290</sup> Ibid.

<sup>291</sup> Cap F10, LFN 2004.

<sup>292</sup> Malumfashi (note 79) at 16.

<sup>293</sup> Ibid.

<sup>294</sup> National Policy on the Environment. Available at <http://www.nesrea.org/images/National%20Policy%20on%20Environment.pdf> [Accessed 12 January 2010].

advice to the Federal Military Government on national environmental policies and priorities and scientific and technological activities affecting the environment.<sup>295</sup>

The FEPA Act was amended by an Amendment Act of 1992<sup>296</sup> and by virtue of section 17 of that Act, which is headed “Air quality and Atmospheric protection” FEPA is empowered to:

“Establish more criteria, guidelines, specifications and standards to protect and enhance the quality of Nigeria’s air resources and to promote the public health or welfare and the normal development and productive capacity of the nation’s human, animal or plant life...”<sup>297</sup>

This provision includes establishing minimum essential air quality standards for human, animal or plant health,<sup>298</sup> the control of concentration of substances in the air which may result in damages or deterioration of property of human, animal or plant health,<sup>299</sup> prevent and combat various forms of atmospheric pollution,<sup>300</sup> and the employment of all appropriate means to reduce emissions to permissible levels.<sup>301</sup>

The weakness inherent in this Act is that there is no specific reference made to air pollution arising from gas flaring. Considering that the FEPA Act was the principal framework legislation in Nigeria at the time, it is surprising that the military government at the time did not contemplate the problem of gas flaring and make specific provisions to that effect within the Act. It could be argued therefore that the FEPA Act merely contemplates such air pollution like emissions from automobiles, factories and power generating plants in its bid to ensure air quality.<sup>302</sup>

However, following a re-structuring programme by the Nigerian government in 1999, FEPA was upgraded to a full-fledged federal ministry called the Federal Ministry of Environment (FMENV).<sup>303</sup> The FMENV was established as the apex authority on the Environment and assumed the responsibilities of the then FEPA.<sup>304</sup>

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<sup>295</sup> Section 4(a).

<sup>296</sup> No.58 of 1992. This was later amended by Act No. 58 of 1998.

<sup>297</sup> Section 17 (1).

<sup>298</sup> Section 17(1)(a).

<sup>299</sup> Section 17(1)(b).

<sup>300</sup> Section 17(1)(c).

<sup>301</sup> Section 17 (1)(f).

<sup>302</sup> Umukoro (note 235).

<sup>303</sup> Malumfashi (note 79) at 17 and 19.

<sup>304</sup> FMENV was established by the *Office of the Secretary to the Government of the Federation, The Presidency Circular Ref. No: SGF. 6/S.22/1* dated 12<sup>th</sup> October 1999. In a more recent federal

The instrument which set up the FMENV also transferred to it the Oil and Gas Pollution Control Unit of the DPR.<sup>305</sup> In addition, the FMENV in response to current demands of Nigeria's international obligations, and in accordance with NPE, drafted the National Environmental Management Act (NEM Act), which, inter alia, incorporated the current government policy on gas flaring elimination, and the utilization of Nigeria's gas resources.<sup>306</sup> The role of the DPR and its attempt to stop gas flaring is examined below.

### **3.3.4 *Environmental Guidelines and Standards for the Petroleum Industry in Nigeria (EGASPIN) 1991***

The Petroleum Act, 1969 empowers the Minister of Petroleum Resources to make regulations for the prevention of pollution of water courses and the atmosphere.<sup>307</sup> These regulations made include the Petroleum Regulations 1967, the Petroleum (Drilling and Production) Regulations 1969 and the Oil in Navigable Waters Act 1968. The regulations authorise the issue of licences/permits and establishment of guidelines, standards and procedures for environmental control.<sup>308</sup> EGASPIN was made by the Department of Petroleum Resources (DPR) pursuant to the provisions of these regulations. The DPR is responsible for administering and ensuring that MNCs comply with the provisions of EGASPIN.

One of the objectives of EGASPIN is to “establish Guidelines and Standards for the Environmental Quality Control of the Petroleum Industry taking into account existing local conditions and planned monitoring programmes.”<sup>309</sup> Part III, Paragraph 3.8.8 of EGASPIN reiterates the AGRA provisions that gas flaring is prohibited. However, EGASPIN goes further to set some conditions should the licensee/operator “be constrained to flare gas”<sup>310</sup> These conditions are to the effect that:<sup>311</sup>

- an appropriate waiver and a permit to flare the gas be issued by the DPR

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ministries' re-shufflement, the Ministry is now called “Federal Ministry of Environment, Housing and Urban Development.” See [http://www.nigeriafirst.org/printer\\_336.html](http://www.nigeriafirst.org/printer_336.html) [Accessed 12 January 2010]. See also Malumfashi (note 79) at 19.

<sup>305</sup> Circular Ref. No: SGF. 6/S.22/1 dated 12 October 1999, para. 2, p.2.

<sup>306</sup> Ibid. Para 3.2.4. See also Malumfashi (note 79) at 19.

<sup>307</sup> Section 8(i)(b)(iii).

<sup>308</sup> EGASPIN, part I, articles 2 and 3.

<sup>309</sup> Part I, Article 4(a).

<sup>310</sup> Part III, Article 3.8.8.1.

<sup>311</sup> Ibid.

- the flared gas should attract an appropriate fine for every SCF flared in accordance with existing laws;
- pre-treated ‘clean’ gas shall be burnt and the flare shall be luminous and bright (i.e show complete smokeless combustion at operating gas flow rate);
- the allowable heat radiation at ground level is 6.3 kw/m<sup>2</sup> during maximum flaring at a distance of 60m from the base of the flare;
- a maximum sterilised approach distance of 60 metres radius, measured from the base of the stack shall be maintained. No other equipment except that related to the flare itself shall be located within this area.
- The noise levels for unprotected ears at 60m radius from the flare stack shall be well within the threshold of pain (80-100dBA);
- Purging of the flare headers shall be designed to minimise emissions to air, by considering e.g. a closed loop hydrocarbon purge gas system or use of nitrogen gas as purge gas; and
- Relief valves, blow down valves and control valves to flare shall be closed during service and leakages minimized.

Failure to comply with the conditions set out above constitutes an offence and a body corporate or MNC, its directors and/or relevant management staff shall be liable to fine, imprisonment and/or revocation of their license/permit.<sup>312</sup>

These provisions of EGASPIN are indeed laudable as they refer specifically to gas flaring and take into account the health and safety aspects and sets environmental standards. However, the ineffectiveness of EGASPIN lies in the lack of capacity/manpower in enforcing these standards for gaseous emissions from E&P. Most MNCs situate the flare stacks right within metres of residential communities in the Niger Delta and there is insufficient manpower to compel them to desist from such. Indeed, it is still quite common to see women drying ‘kpokpo garri’<sup>313</sup> and fish at flare sites, bearing the searing heat of the gas flares, despite the fact that EGASPIN sets a ‘maximised sterilised approach distance of 60metres radius’ which should be maintained from the base of the stack.” This practice of drying this garri is likely to be continued for a while until the Federal government addresses the issue of capacity within the DPR.

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<sup>312</sup> Part IX, Article 4.5.

<sup>313</sup> Cassava which is dried and then fried.

In accordance with the provisions of EGASPIN, the Guidelines were reviewed late in 1998, and again in 2002, 11 years after it was first established. In spite of this revision, no further additions were made to the issue of gas flaring within the Guidelines. It is hoped that further amendments to these Guidelines will herald more effective provisions empowering the DPR to impose penalties on MNCs who do not comply with standards set within the Guidelines.

### **3.3.5 *Environmental Impact Assessment (EIA) Act 1992***

The Environmental Impact Assessment Act (EIA Act) 1992<sup>314</sup> commenced on 10 December, 1992. It is geared towards, inter alia, encouraging the development of procedures for information exchange, notification and consultation between organs and persons when proposed activities are likely to have significant environmental effects on boundary or trans-state or on the environment of bordering towns and villages.<sup>315</sup>

The Act requires the public and private sector of the nation's economy to carry out environmental impact assessments (EIAs) 'where the extent, nature or location of a proposed activity is such that it is likely to significantly affect the environment.'<sup>316</sup> Interestingly, an EIA is compulsory where a public or private institution or agency intends to develop oil and gas fields, construct oil refineries, pipelines and oil and gas separation, processing and storage facilities.<sup>317</sup> Accordingly, since the flaring of gas occurs during oil and gas fields development and oil and gas separation, it would appear that carrying out of EIAs are mandatory before gas can be flared anywhere in Nigeria.

Additionally, the EIA Act requires that before an EIA is to be carried out, certain factors should be taken into consideration namely; the cumulative environmental effects of the project, the significance of the project, comments concerning those effects received from the public, and measures which are technically and economically feasible and that would mitigate any significant or serious s adverse environmental effects of the project.<sup>318</sup>

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<sup>314</sup> Cap E12, LFN 2004.

<sup>315</sup> Section 1(c).

<sup>316</sup> Section 2(1) and (2).

<sup>317</sup> See Section 2(4) and Article 12 of the Schedule to the EIA.

<sup>318</sup> Section 17(1) (a) – (d).

These provisions are laudable as the environmental and socio-economic effects of a project like gas flaring is taken into consideration under the Act, considering the fact that gas flaring has deleterious effects on the environment. FEPA is the competent authority responsible for the administration of the EIA Act<sup>319</sup> and works in conjunction with the Ministry of Petroleum Resources (MPR). In fact, in 1994, FEPA published a document titled *EIA Guidelines for Exploration and Production Projects (E&P) Projects*. It requires that mitigating measures to preserve air quality must specifically include the minimization of venting (of gas) during production.<sup>320</sup> So, from the provisions of the EIA Act, it appears that the flaring of gas by MNCs can only be done subject to carrying out an EIA which is to be monitored by both FEPA and the MPR. However, this dual role played by both agencies in enforcing the provisions of the Act has led to jurisdictional conflicts between both regulatory agencies and thus, resulted in an inadequate monitoring of EIA procedures. The officers of the regulatory agency lack the requisite expertise and equipment to determine the economic and environmental feasibility of a gas flaring project and there is the absence of requisite manpower to monitor the adequacy of the EIA procedures submitted by the MNCs.

Thus, the EIA Act is instrumental to the elimination of gas flaring if properly enforced as the requirements of compulsory EIAs for gas flaring is one way in which the problem can be gradually phased-out.

### **3.3.6 Niger Delta Development Commission (NDDC) Act 2000**

The Niger Delta Development Commission Act (“NDDC Act”)<sup>321</sup> was established by the Federal Government in 2000, in sensitivity to the plight of oil producing communities in the Niger Delta.<sup>322</sup> The Act also establishes the Niger Delta Development Commission (the “Commission”)<sup>323</sup>. The Commission is empowered to, *inter alia*, tackle the “environmental problems that arise from the exploration of oil mineral in the Niger Delta area and the giving of advice to the

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<sup>319</sup> Section 63.

<sup>320</sup> *Supra* (note 20).

<sup>321</sup> Cap N86, LFN 2004.

<sup>322</sup> Section 7(1), NDDC Act.

<sup>323</sup> Section 1, NDDC Act.

Federal Government and the member – states on the prevention and control of oil spillage, gas flaring and environmental pollution.”<sup>324</sup>

In view of the fact that the Niger Delta people of Nigeria are most affected by gas flaring, this Act and the establishment of a Commission to that effect was hailed as a welcome development. However, instead of alleviating the environmental and health problems of the people of that region as a result of gas flaring and other E & P activities, the Commission is blatantly nonchalant and has not even begun implementing the provisions of the NDDC Act in the Niger Delta 10 years after its establishment! This is as a result of corruption within the Commission and a blatant disinterest by the government on activities relating to the environment.

### ***3.3.7 Nigerian Environmental Management Act (Draft) 2000***

The draft Nigerian Environmental Management Act (NEM Draft Act) 2000<sup>325</sup> was prepared by the FMENV as a framework environmental legislation aimed at repealing the FEPA Act.<sup>326</sup> The Draft Act is potentially innovative on phasing-out gas flaring in Nigeria. It introduced criminal liability for gas flaring against both responsible oil companies as a legal entity, and its management and staff individually.<sup>327</sup> Section 20 of the draft Act grants the Minister of Petroleum Resources power to issue a notice in the official Gazette, banning gas flaring, but he may in special circumstances grant a special permit to flare for a limited period of time.<sup>328</sup> The draft Act further provides that <sup>329</sup>any person who violates the above subsections shall have committed an offence, and shall be liable on conviction to a fine not exceeding N500, 000, 000.000 (Five Hundred Million Naira).

In addition to the penalty prescribed above, subsection (5) states that

“...the Chairman, Managing Director and the Directors of the body corporate at the time the offence was committed shall be liable to imprisonment for a term not exceeding 10 years each.”

This Draft Act is a welcome change in comparison with the existing laws in force and the lax penalties contained in them. This is exactly the kind of law that is

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<sup>324</sup> Ibid, Section 7(1)(h).

<sup>325</sup> Malumfashi (note 79) at 17.

<sup>326</sup> Ibid.

<sup>327</sup> Ibid.

<sup>328</sup> Section 20 (1) and (2) of the NEM draft Act.

<sup>329</sup> Section 20 (4).

needed in Nigeria if one is to achieve any headway in this fight to phase-out gas flaring completely. Sadly, it contains no provisions regarding compulsory EIAs to be carried out of by MNCs before gas can be flared. Nevertheless, it is a piece of environmental legislation that is unprecedented in Nigeria's legislative history for environmental protection and natural resources management.<sup>330</sup> Much local, foreign and professional expertise was used in producing the document and the World Bank was indeed fascinated by the draft to the extent that it reviewed and made more inputs in it.<sup>331</sup> The World Bank further offered to finance three national stakeholder workshops in different parts of Nigeria to sample more opinions, observations and comments from a wider populace, with a view to standardizing the draft.<sup>332</sup> Unfortunately, however, this piece of legislation ended up as a draft and nothing much has been done on it in the past 10 years.

The inability of this draft to end up as law buttresses the unwillingness of the Nigerian government to take a firm stand to address the problem of gas flaring once and for all. Though legislation is not enough to effectively phase-out gas flaring in Nigeria as facilities to conserve and utilise the gas are also needed, the existence of legislation like this draft which contains stringent penalties against MNCs would be a huge step in the ongoing phase out process of gas flaring in Nigeria.

### ***3.3.8 Existing Gas Projects in the Country Aimed at Phasing-out Gas Flaring***

With a view to phasing out gas flaring in Nigeria, the government has also invested in various gas utilization projects aimed at absorbing flared gas. Some of these projects will be examined below:

#### ***i. The Nigeria Liquefied Natural Gas (NLNG) Project***

The Nigerian Liquefied Natural Gas (NLNG) Project is located in Bonny Island in the Southern part of the country and is the single largest natural gas utilization project in Nigeria. The project is jointly owned by Agip (10.4%), the NNPC (49%), Shell (25.6%) and TotalFinaElf (15%).<sup>333</sup>

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<sup>330</sup> Malumfashi (note 79) at 17.

<sup>331</sup> Ibid. The review was done as part of activities under the WB-sponsored *Local Empowerment and Environmental Management Programme (LEEMP)* being supervised by the FMENV.

<sup>332</sup> Ibid.

<sup>333</sup> J.A Sonibare and F.A Akeredolu 'Natural gas domestic market development for total elimination of routine flares in Nigeria's upstream petroleum operations' *Energy Policy* (2006) 34 (6) at 745.

The objective of the project is to transport associated and non-associated gas by pipelines to a liquefaction plant on Bonny Island.<sup>334</sup> At the plant, natural gas is processed to remove water and carbon dioxide. The processed LNG, which is a blend of lighter hydrocarbons with methane as the primary component, is then shipped to markets in Europe and the US.<sup>335</sup> This shipment to Europe and the US marked the beginning of Trains 1 and 2 of the \$3.8 billion project. Thus the project includes a three-train liquefaction plant, a 218km gas pipeline system, associated gas utilities, storage and loading facilities as well as other infrastructure investments.<sup>336</sup>

The project was set up to serve the Nigerian domestic market and it is estimated that the project serves to increase gas supplies to about 870 million SCF per day with associated gas as the primary supply.<sup>337</sup> In comparison, Shell Petroleum Development Company's ("Shell") flared gas amounted to 19, 925 million Sm<sup>3</sup>/d in 1999 while the total volume of gas being flared in 1998 in Nigeria was about 57 million Sm<sup>3</sup>/d or about twice the size of the NLNG Project.<sup>338</sup> Thus, it appears that the NLNG project will utilise a huge amount of AG and when a third liquefaction train becomes fully operational or other additional production trains are established, the project will mop up about 45 percent of the AG currently being flared in Nigeria and decrease the amount being flared by 60 percent.<sup>339</sup> Indeed, time will tell if this project is effective in the fight to phase-out gas flaring in Nigeria.

### *ii. The Escravos Gas Project*

This project is owned by joint venture between NNPC (60%) and ChevronTexaco (40%). In September 1997, Chevron Nigeria Limited ("Chevron") started the processing of previously flared gas into natural gas liquids (NGL) and associated liquefied petroleum gases (LPG) and condensate at its Escravos Gas Plant.<sup>340</sup>

The first phase of the project, Escravos Gas Project (EGP1) started in September 1997. It processes 165 million SCF/d of associated natural gas from offshore fields in the Western Niger Delta which is supplied to domestic market by

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<sup>334</sup> Christiansen and Haugland (note 56) at 18.

<sup>335</sup> Ibid.

<sup>336</sup> Ibid.

<sup>337</sup> Ibid.

<sup>338</sup> Ibid at 19.

<sup>339</sup> Ibid.

<sup>340</sup> Ibid at 21.

pipeline.<sup>341</sup> EGP2, the second phase of the project began operations in late 2000 and processes additional 135 million SCF/d.<sup>342</sup> The aim of this second phase is to sell conditioned gas to regional markets via the West African Gas Pipeline Project (WAGPP) which is examined below. In addition, EGP3 was launched on September 8, 2000, serving as a feedstock for Chevron's Gas to Liquid (GTL) plant aimed at extracting NGL and preparing it for use in a GTL plant adjacent to the gas processing plant.<sup>343</sup> The 3<sup>rd</sup> phase was expected to have been completed in 2005<sup>344</sup> but due to community complaints over the unemployment of local residents to work at the facility, the new completion date was moved to 2009.<sup>345</sup> However, the three phases are expected to be completed in 2010 with estimated start up date of the entire project put at 2013 by Chevron.<sup>346</sup>

With the completion of the 3 phases of these projects and the GTL project, the EGP will have the capacity to process more than 19 million Sm<sup>3</sup>/d of associated gas per year. Ultimately, this means that Chevron will not only have developed plans to eliminate routine gas flaring from its operations, but also taken steps towards commercialising Nigeria's natural gas resources.<sup>347</sup>

### *iii. The West African Gas Pipeline Project (WAGPP)*

In 1998, Chevron, NNPC and Shell formed a consortium to develop the project. Six months later, the Societe Togolaise De Gaz SA (SoToGaz) and Societe Beninoise de Gaz SA (SoBeGas) joined the consortium.<sup>348</sup> The project established by this consortium is aimed at supplying natural gas produced in Nigeria to thermal power stations in Benin, Togo and Ghana.<sup>349</sup> The project consists of a 680 km gas pipeline that extends from the existing Escravos-Lagos gas pipeline at the Alagbado

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<sup>341</sup> Malumfashi (note 79) at 28.

<sup>342</sup> Christiansen and Haugland (note 56) at 21.

<sup>343</sup> Ibid.

<sup>344</sup> 'Chevron and Nigeria National Petroleum Corporation Launch Major Initiative.' Available at <http://www.chevron.com/news/Press/Release/?id=2000-09-08&co=Chevron> [Accessed 28 October 2009].

<sup>345</sup> 'World Country Energy Analysis: Nigeria – Natural Gas.' Available at <http://www.fayzeh.com/Nigeria.htm> [Accessed 22 January 2010].

<sup>346</sup> 'Nigeria Fact Sheet- March 2009.' Available at <http://www.chevron.com/documents/pdf/nigeriafactsheet.pdf> [Accessed 12 December 2009].

<sup>347</sup> Christiansen and Haugland (note 56) at 22. Note that Chevron's Gbokoda oil field is the first "zero flare" oil field in Nigeria. See also Alexander's Gas & Oil Connections available at <http://www.gasandoil.com/goc/company/cna80968.htm> 22.01.01 [Accessed 12 January 2010].

<sup>348</sup> Christiansen and Haugland (note 56) at 23.

<sup>349</sup> 'The West African Gas Pipeline' Available at <http://www.eib.org/projects/news/west-african-gas-pipeline.htm?lang=en> [Accessed 12 December 2009].

"Tee" to a new compressor station in Ajido near Lagos Beach and from there follows the coastline some 15 km offshore to the Takoradi power plant in west Ghana.<sup>350</sup> This pipeline would pass through and be placed on lands of over 23 communities totalling over 140,000 people.<sup>351</sup> It also includes lateral connections from the offshore line to onshore gas-receiving stations at Cotonou, Lomé, and Tema. At the same time, the WAGP also connects with the existing Escravos-Lagos Pipeline (ELP) owned by Nigerian Gas Company, a subsidiary of the NNPC.<sup>352</sup>

The project is estimated to cost US\$ 560 million<sup>353</sup> and will reduce the cost of electricity supply in Ghana, Togo and Benin by replacing oil with gas imported from Nigeria.<sup>354</sup> The pipeline capacity also allows for future demand growth in power generation, and potential demand from minerals and other industrial sectors. In addition to its economic advantages, the replacement of oil by gas will improve local air quality as well as reducing the emission of greenhouse gases.<sup>355</sup> Nigeria, the gas supplier, will benefit from an additional outlet for its gas production, at a time when the government is taking steps to end flaring of natural gas, and from a new source of upstream revenue.<sup>356</sup>

Furthermore, the project is the first in West Africa to develop regional exports of natural gas and is fully supported by the New Economic Partnership for Africa's Development (NEPAD) and by ECOWAS. It is also seen as one which will promote regional economic and political integration.<sup>357</sup>

The project was subject to Environmental and Social Impact Assessments (EIAs) including extensive public consultation.<sup>358</sup> Detailed environmental management plans (EMP) and resettlement action plans (RAP) have been developed

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<sup>350</sup> Ibid.

<sup>351</sup> Michael Karikpo, 'The West African Gas Pipeline Project' *Testimony for the Public Hearing on the World Bank* 15 October 2007 Available at [http://www.worldbankcampaigneurope.org/IMG/pdf/Testimony\\_Michael\\_Karikpo.pdf](http://www.worldbankcampaigneurope.org/IMG/pdf/Testimony_Michael_Karikpo.pdf) [Accessed 30 August 2009].

<sup>352</sup> Supra (note 349).

<sup>353</sup> Natuur en Milieu 'The Future of the Clean Development Mechanism.' Proceedings of Day 2 of the Renewable Solutions Conference - Part 1 Montreal, 2 December 2005. Available at <http://www.snm.nl/page.php?pageID=76&itemID=1596&themaID=7> [Accessed 21 January 2010].

<sup>354</sup> Ibid.

<sup>355</sup> Ibid.

<sup>356</sup> Ibid.

<sup>357</sup> Ibid.

<sup>358</sup> Ibid.

to provide mitigation, compensation and monitoring requirements for the project. The conclusion of the assessment was that no potentially high severity impacts would remain after the planned mitigation measures are applied.<sup>359</sup>

However, the project has been the subject of controversy since its inception. On April 27 2006, an association of 23 communities affected by the project in south-west Nigeria formally complained to the World Bank Inspection Panel (IP) that the project did not comply with some of World Bank guidelines for public consultation, compensation, economic evaluation and supervision.<sup>360</sup> The investigation carried out by the IP was completed in April 2008<sup>361</sup> and the World Bank response was issued in June 2008.<sup>362</sup> The Panel investigation concluded that there has been a number of non-compliances with World Bank Operational Policies and Procedures, in particular relating to the social assessments and involuntary resettlement (lack of baseline socio-economic data, inadequate disclosure of information, inadequate compensation payments, etc).

Other conclusions from the IP were to the effect that the EIA's were of good quality but disclosure in a form and language understandable by the groups being consulted had not been provided; public consultation on the project was inadequate; the potential impact of the project on fishing activity had been properly assessed and mitigated; the upstream gas pipeline supply should have been part of the project's area of influence; and some of the World Bank documentation could have raised false expectations regarding the impact of the project on the reduction of gas flaring in Nigeria.<sup>363</sup> The World Bank Board of Directors discussed the full investigation report and the World Bank response to it at its session of 6 August, 2008, and approved an Action Plan addressing issues identified by the IP, including actions to improve management of resettlement and compensation, creation of an effective grievance mechanism, enhanced disclosure of information and strengthened field base supervision, to complete the remedial steps already taken since 20006.<sup>364</sup> These

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<sup>359</sup> Ibid.

<sup>360</sup> Michael Karikpo (note 351).

<sup>361</sup> Investigation Report No. 42644-GH of April, 25 2008.

<sup>362</sup> Management Report and Recommendations in Response to the Inspection Panel Investigation Report - Report N° INSP2006-0004/4 of June 27, 2008. Available at [http://siteresources.worldbank.org/EXTINSPECTIONPANEL/Resources/Management\\_Report\\_Final\\_June\\_30\\_2008.pdf](http://siteresources.worldbank.org/EXTINSPECTIONPANEL/Resources/Management_Report_Final_June_30_2008.pdf) [Accessed 12 January 2009].

<sup>363</sup> Supra (note 349).

<sup>364</sup> Ibid.

relate in particular to the compensation payments for land acquisition. Independent experts have also been hired to review actual payments and assess the current values of each asset lost to the project.<sup>365</sup>

The project was initially scheduled to start operating by mid 2007 but suffered a number of setbacks due to civil strife by militants in the Niger Delta, construction problems, and a prolonged dispute with one of the contractors.<sup>366</sup> To date, most pipeline sections have been completed and the only remaining works concern the construction of a compressor station in Nigeria. The contractor in charge of the latter was dismissed in February 2008 and a new contractor was hired to complete the work.<sup>367</sup> The start of commercial operation was scheduled for early 2009 and as at September 2009, the Presidential Special Adviser on Petroleum Matters in Nigeria, Mr. Emmanuel Egbogah stated<sup>368</sup> that Nigeria was ready to supply gas to the WAGPP. He further stated that the pipeline would deliver up to 470 million scf per day and that there was a possibility that the pipeline could be extended beyond Ghana to Cote d'Ivoire and beyond as soon as market opportunities develop.<sup>369</sup>

In reality, the WAGPP is probably more important for regional development than for mopping up associated gas being currently flared.<sup>370</sup> The uncertainties involved in a project of this magnitude cannot be overemphasized. However, it remains to be seen how effectively this project can contribute to phasing out gas flaring in Nigeria.

### *3.3.9 Challenges affecting the Phase-Out of Gas Flaring in Nigeria*

It has been established above that one of the main reasons why gas flaring still remains unchecked in Nigeria is ineffective gas flaring legislation and the requisite stringent sanctions to that effect. However, other factors exist which are paramount to the phase-out of gas flaring in Nigeria and are examined below.

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<sup>365</sup> Ibid.

<sup>366</sup> Ibid.

<sup>367</sup> Ibid.

<sup>368</sup> Delivering a paper on 'Nigerian gas and the new economic landscape.' See also Elisha Bala-Gbongbo 'Nigeria's gas reserves significantly more' Available at <http://234next.com/csp/cms/sites/Next/Home/5418530-146/story.csp> [Accessed 12 January 2010].

<sup>369</sup> Yemi Adeoye 'WAGP: Nigeria set to commence gas supply – FG' Sweet Crude, Available at [http://www.vanguardngr.com/2009/10/05/wagp-nigeria-set-to-commence-gas-supply-fg/?wpmp\\_switcher=mobile](http://www.vanguardngr.com/2009/10/05/wagp-nigeria-set-to-commence-gas-supply-fg/?wpmp_switcher=mobile) [Accessed 21 January 2010].

<sup>370</sup> Christiansen and Haugland (note 56) at 24.

***a. Government's Attitude towards Periodic Amendment of Gas Flaring Laws***

The nonchalant attitude of the Nigerian government towards amending existing gas flaring laws is a big problem hindering the phasing out of gas flaring in the country. The main gas flaring law in Nigeria is the AGRA and its Regulations and no revisions have been made to it ever since its enactment in 1979 and 1984 respectively. A proposal for its revision was considered last year by the National Assembly.<sup>371</sup> The 30 year wait for a revision in the provisions of the main gas flaring law in Nigeria only buttresses the lackadaisical attitude of the government while gas is still being flared unabated. Apart from the AGRA, other laws relating to gas flaring examined above have not been amended in years apart from EGASPIN which was revised in 2002. Thus, the attitude of the Nigerian government towards its laws has to undergo a drastic change if any headway towards phasing out gas flaring is to be achieved.

***b. Underdeveloped Gas Markets and Lack of Infrastructure***

The issue of Nigeria's underdeveloped gas markets and the absence of the relevant infrastructure to collect and utilise the gas being flared is one of the challenges that Nigeria faces. Even though it is technically feasible to reduce and even eliminate flaring, the cost of technology to facilitate gathering, processing and distribution of recovered gas far outweighs the cost of flaring the gas.<sup>372</sup> Thus, the MNCs find it far easier to pay the penalties associated with continuously flaring the gas than to pour in more finances aimed at building infrastructures to conserve and utilise it. This is disheartening as conservation and utilisation of this gas could be used to power stations, both in the country and in neighbouring African countries too. However, the existing gas projects in the country as discussed above may be useful in helping to conserve and utilise gas, thus providing a domestic and regional market for the gas being flared in Nigeria.

***c. Un-enforcement of Gas Flaring Laws and Lack of Capacity***

The inability to effectively ensure an enforcement process to enable the workability of laws is a common problem in Nigeria.<sup>373</sup> This is attributable to

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<sup>371</sup> 'DPR Proposes Sanctions against Flare-out Defaulters.' (note 267).

<sup>372</sup> Christiansen and Haugland (note 56) at 16.

<sup>373</sup> Omobolaji Adewale 'The Right of the Individual in Environmental Protection: A Case Study of Nigeria' (1991) 12 (4) *Rivista Giuridica Dell' Ambiente* 649 at 650.

insufficient oversight and unwillingness on the part of government to effectively enforce its laws and regulations.<sup>374</sup> The Nigerian government would rather favour the oil companies because its priority is the achievement of economic growth and attracting investment through development of projects that create a competitive and favourable investment climate.<sup>375</sup>

In addition, to effectively enforce gas flaring legislation like EIA Act and EGASPIN, manpower and technical expertise is required. However, there is a blatant dearth of these, especially in the DPR. This is because most oil and gas agencies such as DPR are governmental agencies which are dependent on the limited funding allocated to them by the government.<sup>376</sup> This is one area which the Nigerian government ought to address.

#### *d. Political Instability and Civil Strife*

Political instability in the Niger Delta is also a problem affecting the phase-out of gas flaring in Nigeria. In the past, political instability was characterised by incessant changes in governments which in turn resulted in changes in the leadership and structure of oil and gas agencies or a total dissolution of oil and gas regulatory agencies.<sup>377</sup> Though there are presently no constant changes in the presidency under the present democratic government, the leadership and structure of the ministries and agencies are still subject to periodic change by the government resulting in the impediment of existing regulatory mechanisms for gas flaring regulation.

Civil strife also affects the phase out of gas flaring in Nigeria. This is evident in the current crisis in the Niger-Delta region of the country wherein militant groups in the region have resorted to attacking oil and gas facilities therein and kidnapping foreign and national oil workers and their children. This attitude by the militants is made in defiance towards the MNCs who carry out E & P activities in their region which is detrimental to their health and livelihood, and in defiance of the government

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<sup>374</sup> Soji Awogbade 'What is the Place of Practice of Environmental Law in Africa's Development?' Available at <http://www.aalex.com/files/Africas-Development.doc.doc>. [Accessed 30 August 2009].

<sup>375</sup> Engobo Emeseh 'The limitations of law in promoting synergy between environment and development policies in developing countries: a case study of the petroleum industry in Nigeria.' at 20. Available at [http://userpage.fu-berlin.de/ffu/akumwelt/bc2004/download/emeseh\\_f.pdf](http://userpage.fu-berlin.de/ffu/akumwelt/bc2004/download/emeseh_f.pdf).

<sup>376</sup> Ibid at 22.

<sup>377</sup> Adegoroye Adegoke 'The challenges of environmental enforcement in Africa: the Nigerian experience.' (1994) 1 Proceedings of the Third International Conference on Environmental Enforcement 43 at 51. Available at <http://www.inece.org/3rdvol1/pdf/adegoro.pdf>. [Accessed 29 August 2009].

itself who pays no heed to their complaints. Thus, these militant attacks are a hindrance to effective regulation because officials of DPR are not allowed access into the region to carry out their functions to monitor the gas flaring activities in the region.

***e. Fragmentation in the Overlapping Duties of Government Regulatory Agencies***

Fragmentation in the overlapping competencies amongst the different governmental agencies involved in environmental management is another factor affecting gas flaring phase out. Thus, conflicts over the delineation of responsibilities and the duplicating of functions of these agencies in dealing with environmental issues are common.<sup>378</sup> This usually results in a sort of confused coordination in addressing issues relating to gas flaring. For example, following the establishment of the FMENV in 1999, there was a tussle between the FMENV and the Federal Ministry of Petroleum Resources in respect of the regulatory oversight of environmental matters as they concern the petroleum industry and gas flaring.<sup>379</sup> This conflict resulted in duplication of responsibilities and lack of cooperation between the agencies but was resolved after years of strained relationship between them.<sup>380</sup> Thus, the government needs to clearly delineate the responsibilities of both agencies in relation to gas flaring to prevent any cases of overlap.

From the foregoing, it is apparent that the legislative framework on gas flaring in Nigeria is grossly inadequate (in that it is not being properly enforced), together with the socio-economic, political and financial problems which factor into the problem itself. Thus, an extensive examination of how gas flaring is effectively regulated in Canada shall be carried out below with a view of determining how Nigeria can take a cue from this country's laws. By adopting Canada's approach to phasing-out gas flaring, the Nigerian government can ensure that its laws conform to global international standards on air quality and commitments on gas flaring.

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<sup>378</sup> Ibid at 51.

<sup>379</sup>The Guardian Newspapers, September 20, 2000 at 37-38.

<sup>380</sup> Ibid. This conflict was later resolved with the recent movement of the Environmental Control Division (ECD) of the DPR to the Director, Compliance, Monitoring and Evaluation of the FMENV. In fact, the National Environmental Standards and Regulations Enforcement Agency (Establishment) Act (NESREA Act) 2007 has now replaced the FEPA Act. The NESREA Act establishes an agency called the National Environmental Standards and Regulations Enforcement Agency which replaced FEPA and regulates all aspects of environmental protection in Nigeria except in the oil and gas industry which still rests with the DPR. However, there are still some areas of overlapping competencies between NESREA and DPR in terms of environmental regulation.

## CHAPTER FOUR

### LEGISLATIVE FRAMEWORK ON GAS FLARING IN ALBERTA, CANADA

#### 4.1 Introduction

Canada is the fifth largest producer of energy in the world, producing about 6% of global energy supplies.<sup>381</sup> Its legislative and regulatory framework on gas flaring has been applauded as one of the most advanced in the world from which developing countries all over the world can draw some insight from. Thus, an examination of the effectiveness of its legislative and regulatory framework and its lessons for Nigeria shall be the focus of this chapter.

#### 4.2 Overview of the Oil and Gas Industry in Canada

Canada is a land-locked state and most of its oil and gas reserves are contained upstream and not offshore. Most of Canada's oil and gas operations are concentrated mainly in Alberta.<sup>382</sup> The first oil well was dug in 1958 in North America at Oil Springs, Ontario.<sup>383</sup> By 1870, Canada had 100 refineries in operation and was exporting oil to Europe.<sup>384</sup> In 1883, the first natural gas well was drilled in a field near Medicine Hat, Alberta.<sup>385</sup> However, the first significant discovery of an upstream oil and gas field was in 1914 at Turner Valley, Alberta.<sup>386</sup> Crude oil was also discovered at the Turner Valley field and geologists were shocked to discover that the free gas cap which could have provided the reservoir drive to produce the oil

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<sup>381</sup> 'Canadian Energy Facts.' Available at <http://www.international.gc.ca/enviro/energy-energie/facts-faits.aspx?lang=eng> [Accessed 26 November 2009].

<sup>382</sup> Centre for Energy *Environmental Impacts, Flaring and Venting* Available at <http://www.centreforenergy.com/AboutEnergy/ONG/UNG/Environment.asp?page=2> [Accessed 26 November 2009]

<sup>383</sup> Petroleum History Society- 'Canadian Beginnings.' Available at <http://www.petroleumhistory.ca/history/dcmbeginnings.html> [Accessed 26 November 2009].

<sup>384</sup> Ibid.

<sup>385</sup> 'Natural Gas Facts.' Available at <http://www.energy.gov.ab.ca/NaturalGas/726.asp> [Accessed 26 November 2009].

<sup>386</sup> David H. Breen *Alberta's Petroleum Industry and the Conservation Board* (1993) at 653. Available at [http://books.google.co.za/books?id=E0F4ZrSSI4IC&pg=RA2-PA653&lpg=RA2-PA653&dq=Turner+Valley+Gas+Conservation+Act+1932&source=bl&ots=MP51q\\_JtqS&sig=hVecnXXPg-bATa2ayAfpE5jQ\\_4s&hl=en&ei=bb4SS\\_4BifXgBt2N\\_Y0E&sa=X&oi=book\\_result&ct=result&resnum=1&ved=0CAgQ6AEwAA#v=onepage&q=Turner%20Valley%20Gas%20Conservation%20Act%201932&f=false](http://books.google.co.za/books?id=E0F4ZrSSI4IC&pg=RA2-PA653&lpg=RA2-PA653&dq=Turner+Valley+Gas+Conservation+Act+1932&source=bl&ots=MP51q_JtqS&sig=hVecnXXPg-bATa2ayAfpE5jQ_4s&hl=en&ei=bb4SS_4BifXgBt2N_Y0E&sa=X&oi=book_result&ct=result&resnum=1&ved=0CAgQ6AEwAA#v=onepage&q=Turner%20Valley%20Gas%20Conservation%20Act%201932&f=false) [Accessed 28 November 2009].

had largely been produced and flared off by that time.<sup>387</sup> The continuous waste of this gas led to the provincial government establishing the Alberta Petroleum and Natural Gas Conservation Board in 1938 to initiate conservation measures for the gas and was successful in implementing them.<sup>388</sup> An elaborate examination of these Acts and conservation measures shall be carried out subsequently.

Presently, Alberta produces about 70 percent of Canada's crude oil and 80 percent of its natural gas.<sup>389</sup> Canada is the third largest natural gas producer in the world with over 80 per cent of the country's gas being produced in Alberta.<sup>390</sup> Alberta exports over 2,482 billion cubic feet of gas to the United States.<sup>391</sup> However, about 20 percent of Alberta's natural gas is associated gas<sup>392</sup> while some other percentage is solution gas. The flaring of this 'solution gas' has a global impact on climate change, adding about 350 million tonnes of carbon dioxide (CO<sub>2</sub>) in annual emissions worldwide.<sup>393</sup> Just like Nigeria, Canada flared much of its natural gas and still grapples with flaring and venting to a certain extent even today.<sup>394</sup> However, more recently, Alberta has substantially reduced its level of gas flaring to a minimum.<sup>395</sup>

### 4.3 Jurisdiction over Oil and Gas Rights in Alberta, Canada

Canada has a federal system of government and jurisdiction over energy is divided between the federal, provincial and territorial governments.<sup>396</sup>

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<sup>387</sup> Norman J. Hyne *Nontechnical Guide to Petroleum Geology, Exploration, Drilling and Production* 2ed (2001) at PennWell

<sup>388</sup> 'The Turner Valley Oil Era: 1913-1946' Available at [http://www.ucalgary.ca/applied\\_history/tutor/calgary/turnervalley.html](http://www.ucalgary.ca/applied_history/tutor/calgary/turnervalley.html) [Accessed 13 November 2009].

<sup>389</sup> Alberta Energy 'What is Natural Gas?' Available at <http://www.energy.gov.ab.ca/301.asp> [Accessed 27 November 2009].

<sup>390</sup> 'Natural Gas' Available at [http://www.energy.alberta.ca/NaturalGas/Gas\\_Pdfs/BrochureHUB.pdf](http://www.energy.alberta.ca/NaturalGas/Gas_Pdfs/BrochureHUB.pdf) [Accessed 27 November 2009].

<sup>391</sup> Government of Alberta Energy; Natural Gas 2007 statistics Available at <http://www.energy.gov.ab.ca/NaturalGas/727.asp> [Accessed 27 November 2009].

<sup>392</sup> See AEUB, Statistical Series (ST) 2004-98, *Alberta Reserves 2003 and Supply/Demand Outlook 2004-2013 (May 2004)* Available at <http://www.eub.gov.ab.ca/bbs/products/STs/st98-2004.pdf> [Accessed 27 November 2009].

<sup>393</sup> Sheremata (note 30).

<sup>394</sup> Odumosu (note 199) at 873.

<sup>395</sup> Ibid.

<sup>396</sup> Natural Resources Canada IEA Report: Small Scale Hydro - Public Policy & Experience, Country Report for Canada. Available at [http://canmetenergy-canmetenergie.nrcan-ncan.gc.ca/eng/renewables/small\\_hydropower/publications.html?2009\\_Hydro\\_02](http://canmetenergy-canmetenergie.nrcan-ncan.gc.ca/eng/renewables/small_hydropower/publications.html?2009_Hydro_02) [Accessed 12 November 2009].

Provincial governments have jurisdiction over the exploration, development, conservation, and management of non-renewable resources, as well as the generation and production of electricity.<sup>397</sup> Thus, regulation of the oil and gas industry in Canada is primarily under the jurisdiction of the provinces,<sup>398</sup> one of such provinces being Alberta.

The Canadian Constitution Act of 1867<sup>399</sup> places natural resources under the jurisdiction of the provinces.<sup>400</sup> Section 92A of the Constitution assigns to the provinces the exclusive right to “exclusively make laws” in relation to development, conservation and management of non-renewable natural resources and generation and production of electrical energy.<sup>401</sup>

#### **4.3.1 Ownership and Disposition of Oil and Gas Rights in Alberta**

There are two oil and gas ownership regimes in Alberta – private and crown ownership.<sup>402</sup> The Alberta Crown owns about 80 percent of the minerals in the province<sup>403</sup> while holders of freehold interests in the minerals own the balance.<sup>404</sup> Property rights may be created in oil and gas resources in Alberta by the freehold oil and gas lease, or the Crown oil and gas lease or license.<sup>405</sup> The right to drill and produce oil and gas from freehold lands within Alberta is negotiated with the private owners through the terms of the freehold lease.<sup>406</sup> The Supreme Court of Canada has characterized the oil and gas lease as a *profit a prendre* (which means the right to take something from the soil of another).<sup>407</sup> This judicial definition was arrived at in

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<sup>397</sup> Sherry Norton and Shelly Zwicker ‘The Aboriginal role in the Development of Albertan Oil and gas Reserves’ Available at <http://www.beg.utexas.edu/energyecon/thinkcorner/Aboriginal%20Role%20in%20the%20Development%20of%20Albertan%20Oil%20and%20Gas%20Reserves.pdf> [Accessed 12 November 2009].

<sup>398</sup> ‘Flaring in the Petroleum Industry’ Available at [http://www.ec.gc.ca/cleanair-airpur/caol/OGEB/oilgas/flaring/flaring\\_general2\\_e.htm](http://www.ec.gc.ca/cleanair-airpur/caol/OGEB/oilgas/flaring/flaring_general2_e.htm) [Accessed 30 July 2009].

<sup>399</sup> The Constitution Act 1867 (British North-America Act 1867) 30 & 32 Victoria, c.3 Available at [http://www.solon.org/Constitutions/Canada/English/ca\\_1867.html](http://www.solon.org/Constitutions/Canada/English/ca_1867.html) [Accessed 13 November 2009].

<sup>400</sup> See section 5 of the Act.

<sup>401</sup> The Constitution Act 1967; Section 92A (1) (a-c).

<sup>402</sup> Odumosu (note 199) at 874.

<sup>403</sup> Michael Crommelin ‘Jurisdiction over Onshore oil and Gas in Canada’ (1975) 10 UBCL Rev. 86 at 92 in Odumosu (note 199) at 874.

<sup>404</sup> Odumosu (note 199) at 874.

<sup>405</sup> Ibid.

<sup>406</sup> Ibid.

<sup>407</sup> John Bishop Ballem *The Oil and Gas Lease in Canada* 3ed (1999) at 16-17 Available at <http://books.google.co.za/books?id=dOSF1GRbf8YC&pg=PA15&lpg=PA15&dq=Berkheiser+v+Berkeiser&source=bl&ots=A8EOy728Vm&sig=cRdETYDNUgW9xgTY9jHkfE3gNRc&hl=en&ei=wq>

the case of *Berkheiser v Berkheiser*<sup>408</sup>, where the court had to consider whether the grant of petroleum and natural gas lease amounted to an ademption.<sup>409</sup> The court held, per Rand, J., that an instrument creating such a right was a *profit a prendre* and that under such instruments, the title to the substances as part of the land remains in the owner and upon it is imposed the incorporeal right which the termination of the lease extinguishes.<sup>410</sup> The title having remained in the original owner, there could be no ademption.<sup>411</sup>

The Mines and Minerals Act<sup>412</sup> provides for the disposition of publicly owned oil and gas resources in Alberta.<sup>413</sup> The Minister, on behalf of the Alberta Crown and with the authorization of the Lieutenant Governor-in-Council, may enter into contracts with any person or the government of Canada or of a province or territory respecting the recovery of minerals, the processing of the recovered minerals and the sale or disposition of the minerals.<sup>414</sup> A Crown oil and gas license or lease is a statutory permission to explore for, win and work minerals, and a contractual instrument by which the Crown, as owner of oil and gas, *in situ*, grants property rights to the lessees.<sup>415</sup>

Thus, the Alberta Crown enjoys two capacities, the proprietor of natural resources and a legislator.<sup>416</sup> In its capacity as proprietor, the Crown can convey interests in oil and gas resources by contract, thereby giving rise to contractual rights, with concomitant obligations binding on it as a matter of contract.<sup>417</sup> In its capacity as legislator, however, it can derogate from its contractual obligations as

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rsHpCk4QbRnoGdBA&sa=X&oi=book\\_result&ct=result&resnum=7&ved=0CB4Q6AEwBg#v=one  
page&q=Berkheiser%20v%20Berkheiser&f=false](#) [Accessed 27 November 2009].

<sup>408</sup> *Berkheiser v Berkheiser* [1957] S.C.R. 387.

<sup>409</sup> An ademption occurs whenever a testator, having made specific devise of a land, subsequently conveys or sells it to a third party. See J. Ballem (note 407) at 17.

<sup>410</sup> Ballem (note 407) at 16.

<sup>411</sup> *Ibid.*

<sup>412</sup> Mines and Minerals Act R.S.A. 2000, c. M-17. Full text of the Act available at <http://www.canlii.org/en/ab/laws/stat/rsa-2000-c-m-17/latest/rsa-2000-c-m-17.html> [Accessed 15 November 2009].

<sup>413</sup> Odumosu (note 199) at 875.

<sup>414</sup> Mines and Minerals Act, sections 9 (a) (i) and 81 (1).

<sup>415</sup> *Spooner Oils Limited v Turner Valley Conservation Board* [1933] S.C.R. 629 Available at <http://csc.lexum.umontreal.ca/en/1933/1933scr0-629/1933scr0-629.pdf> [Accessed 27 November 2009].

<sup>416</sup> Rowland J. Harrison 'The Legal Character of Petroleum Licenses' (1980) 58 Canada Bar Review 483 at 484. Available at [http://www.cba.org/cba\\_barreview/Search.aspx?VolDate=09%2f01%2f1980](http://www.cba.org/cba_barreview/Search.aspx?VolDate=09%2f01%2f1980) [Accessed 27 November 2009].

<sup>417</sup> *Ibid.* at 484.

proprietor as the leases incorporate terms that allow regulatory changes to take effect.<sup>418</sup> By these leases, future legislative amendments are binding on the lessees as a term of the contract.<sup>419</sup>

In summary, the mineral lease framework in Alberta is well established. The ownership of and disposition scheme for oil and gas in Alberta are factors that affect the regulatory capacity of the Alberta government and the type of regulatory regime adopted.<sup>420</sup> An assessment of the institutional and regulatory framework of Albertan government in relation to gas flaring shall be carried out below.

#### **4.4 Regulatory Framework on Gas Flaring Reduction in Alberta**

##### **4.4.1 The Conservation Boards**

The elimination of all routine associated gas flaring and venting has been the ultimate objective in Alberta<sup>421</sup> since the late 1926 when it was discovered that gas which would have provided the reservoir drive to produce the oil, was being flared off and wasted.<sup>422</sup> Accordingly, in April 1932, a Turner Valley Gas Conservation Act established a three-man Turner Valley Gas Conservation Board (TVGCB) to solve the waste gas problem at Turner Valley.<sup>423</sup> By 1947, the Alberta government officials met with the Oil and Gas Association in Calgary to discuss the waste gas problems.<sup>424</sup> These discussions culminated in the establishment of the Alberta Petroleum and Natural Gas Conservation Board (PNGCB) in 1938, a predecessor to the Energy Resources Conservation Board (ERCB).<sup>425</sup> The PNGCB was established specifically to address the serious flaring problem mentioned above at one of the Southern Alberta oil fields.<sup>426</sup> The PNGCB was renamed the Oil and Gas Conservation Board in 1957 and was further renamed the Energy Resources

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<sup>418</sup> Ibid.

<sup>419</sup> See s. 2 (2) (b) of Alberta Petroleum and Natural Gas Licence 2003 Available at <http://www.secinfo.com/d113j2.z193.9.htm> [Accessed 28 November 2009].

<sup>420</sup> Odumosu (note 199) at 875.

<sup>421</sup> 'World Bank Global Gas Flaring Reduction- Private Public Partnership Implementation Plan for Canadian Regulatory Authorities' June 2008 at 13 Available at [http://siteresources.worldbank.org/ExtGGFR/Resources/Candad\\_cip.pdf](http://siteresources.worldbank.org/ExtGGFR/Resources/Candad_cip.pdf) [Accessed 22 November 2009].

<sup>422</sup> Norman J Hyne (note 387).

<sup>423</sup> Breen (note 386) at 653.

<sup>424</sup> Ibid.

<sup>425</sup> Supra (note 421) at 13.

<sup>426</sup> Ibid.

Conservation Board (ERCB) in 1971.<sup>427</sup> The ERCB was focused on conservation on the waste gas flared during oil processing and sought to establish an even-handed regulatory process in relation to oil and gas resources in Alberta.<sup>428</sup>

Despite the establishment of these boards to ensure effective regulation, conservation and utilization of these ‘waste’ gas, further reductions in flaring in Alberta were not achieved as quickly as desired by the mid 1990s.<sup>429</sup> There were concerns about the impact of flaring on public health and animal health and concerns about wasting a valuable and premium fuel.<sup>430</sup> Thus, Alberta sought to establish several departments and agencies charged with the responsibility of ensuring effective compliance with legislation in regulating gas flaring reduction.<sup>431</sup> These departments/agencies include the Ministry of Energy (Alberta Energy) and the Environment Ministry (Alberta Environment).<sup>432</sup> The government was responsible for formulating policy through legislation while the regulators administered the policy.<sup>433</sup>

In 1995, the ERCB functionally merged with a Public Utilities Board (PUB)<sup>434</sup> to form the Alberta Energy and Utilities Board (EUB).<sup>435</sup> The EUB is the current regulatory agency in Alberta, responsible for regulating the production of Alberta’s energy resources.<sup>436</sup> It has the primary responsibility for regulating the upstream petroleum industry in the province and for conserving solution gas.<sup>437</sup> It is a

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<sup>427</sup> Cecilia A. Low ‘The AEUB: A Short Chapter In Alberta’s Long History of Energy and Utilities Regulation.’ Available at <http://dspace1.acs.ucalgary.ca/bitstream/1880/47352/1/Resources/05.pdf> [Accessed 24 November 2009].

<sup>428</sup> David Finch ‘The Unloved Enforcer – A Short History of the Conservation Board’ Available at <http://www.albertaoilmagazine.com/gas/the-unloved-enforcer/> [Accessed 27 November 2009].

<sup>429</sup> Supra (note 421) at 13.

<sup>430</sup> Ibid.

<sup>431</sup> Odumosu (note 199) at 879.

<sup>432</sup> Ibid.

<sup>433</sup> Ibid.

<sup>434</sup> The PUB was responsible for regulating Alberta’s investor-owned utilities and certain municipally owned electric utilities to ensure that customers received safe and reliable services at just and reasonable rates. See Low (note 426).

<sup>435</sup> Low (note 427).

<sup>436</sup> Odumosu (note 199) at 879.

<sup>437</sup> Global Gas Flaring Reduction. A Public-Private Partnership *Regulation of Associated Gas Flaring and Venting: A Global Overview and Lessons* 29 Available at <http://www.wds.worldbank.org/external/default/WDSContentServer/WDSP/B/2004/o7/16/0000/2009200407/6/339S1/Rendered/PDF/295540Regulati1flaring0no/030/public1.pdf> [Accessed 24 November 2009].

creation of statute,<sup>438</sup> established as a corporation and consists of members and staff.<sup>439</sup> It exercises regulatory, approval, policy making, adjudicatory and advisory functions<sup>440</sup> and also exercises regulation-making powers under certain statutes.<sup>441</sup>

The EUB's institutional framework as an independent quasi-judicial regulatory agency, especially with its rule making and monitoring powers, plays a significant role in gas conservation, particularly with the negotiating, applying and enforcing gas flaring reduction directives. The EUB stands out as an agency which is central to gas flaring regulation and reduction on in Alberta.<sup>442</sup> The centralization of an agency like the EUB to control gas flaring regulation and reduction is one which Nigeria could easily adopt to achieve clarity of purpose in phasing-out the problem. In addition to the EUB, other government bodies also exist in Alberta which play a significant role in regulating gas flaring and maintaining air/environmental quality objectives. These policy bodies are examined below.

#### **4.4.2 Alberta's Government Policy on Gas Flaring and Venting**

##### **a) National Energy Board**

The National Energy Board (NEB) is an independent federal agency established in 1959.<sup>443</sup> It regulates several aspects of Canada's energy industry and it is aimed, inter alia, at regulating natural gas imports and exports, and some oil and gas exploration in Canada's provinces,<sup>444</sup> including Alberta. The main functions of the NEB are established in the National Energy Board Act and the agency has additional regulatory responsibilities under the Canada Oil and Gas Operations Act (COGO Act).<sup>445</sup> One of the responsibilities of the NEB is the conservation of oil and gas resources.<sup>446</sup> The COGO Act<sup>447</sup> allows for the cessation or suspension of the

<sup>438</sup> Alberta Energy and Utilities Board Act, R. S. A. 2000, c. A-17 Available at <http://www.canlii.org/en/ab/laws/stat/rsa-2000-c-a-17/latest/rsa-2000-c-a-17.html> [Accessed 24 November 2009].

<sup>439</sup> Ibid; sections 2, 3 and 4.

<sup>440</sup> See section 2 (g) of the Energy Resources Conservation Act, R.S.A. 2000, c. E-10 Available at <http://www.canlii.org/en/ab/laws/stat/rsa-2000-c-e-10/latest/rsa-2000-c-e-10.html> [Accessed 27 November 2009].

<sup>441</sup> For example, the Oil and Gas Conservation Act, R.S.A. 2000, c. 0-6.

<sup>442</sup> Odumosu (note 199) at 880.

<sup>443</sup> Supra (note 421) at 11.

<sup>444</sup> Ibid.

<sup>445</sup> Ibid.

<sup>446</sup> Ibid.

<sup>447</sup> Canada Oil and Gas Operations Act, R.S.A. Available at <http://laws.justice.gc.ca/en/O-7/index.html> [Accessed 12 November 2009].

production of gas or oil if a waste of resource is occurring.<sup>448</sup> Additionally, the COGO Act defines waste to include “the escape or flaring of gas that could be economically recovered and processed or economically injected into an underground reservoir.”<sup>449</sup> Thus, in 2007, the utilization rate of associated gas pursuant to the NEB’s jurisdiction was 99.2%.<sup>450</sup> One hopes that the NEB shall continue to maintain such a high standard pursuant to the provisions of the COGO Act.<sup>451</sup>

***b) Environment Canada and Alberta Environment***

Environment Canada is a department of Canada’s federal government.<sup>452</sup> The department does not directly regulate the oil and gas industry in the country but plays an important role in setting environmental standards.<sup>453</sup> As part of their mandate, Environment Canada sets a national standard, the National Ambient Objective (NAO) for different air pollutants, which include those from flaring and venting.<sup>454</sup>

Environment Canada works with the provinces, and in Alberta, it is a member of the Air Quality Objective Stakeholder Advisory Committee.<sup>455</sup> In addition, it administers Canada’s National Pollutant Release Inventory (NPRI) to which companies who wish to flare and vent large volumes of gas, must report.<sup>456</sup> This requirement is additional to the normal reporting requirements which provinces in Canada must adhere to.

In the same vein, Alberta Environment, another governmental department, supports flaring and reduction research in Canada and works hand-in-hand with the World Bank GGFRI<sup>457</sup> (of which Canada is a partner). Laudably, the standards which Alberta Environment sets in regulating air emissions in provinces have been subsequently applied by the EUB to set upstream petroleum industry gas flaring and venting targets in Alberta.<sup>458</sup>

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<sup>448</sup> Supra (note 421) at 11.

<sup>449</sup> COGO Act; section 1.

<sup>450</sup> Supra (note 421) at 11.

<sup>451</sup> Ibid.

<sup>452</sup> Ibid at 3.

<sup>453</sup> Ibid at 3.

<sup>454</sup> Ibid.

<sup>455</sup> Ibid.

<sup>456</sup> Ibid.

<sup>457</sup> Ibid.

<sup>458</sup> Supra (note 437) at 29.

c) *Clean Air Strategic Alliance*

The Clean Air Strategic Alliance (CASA) is a multi-stakeholder group sponsored by the government of Alberta since 1994<sup>459</sup> which deals with air quality issues in the province.<sup>460</sup> CASA further developed a Flaring Project Team (later to become the Flaring and Venting Project Team) which included representatives for industry, government agencies and non-governmental organisations (NGOs).<sup>461</sup> Although CASA lacks legislative authority, agencies such as Alberta Environment and the EUB receive CASA recommendations and implement subsequent regulations and guidelines on flaring and venting as appropriate.<sup>462</sup> Thus, in 1998, industry helped develop a CASA framework for reducing and managing flaring and venting in Alberta.<sup>463</sup> This framework included a provincial target to reduce routine flaring of solution gas in 2001 by 25 per cent below 1996 levels.<sup>464</sup> This framework was reviewed in 2001 and new targets were set as the original targets had already been exceeded.<sup>465</sup> By the end of 2003, a province wide effort by the oil and gas industry in Alberta had resulted in a 70 percent reduction in flaring below 1996 levels.<sup>466</sup> Venting of natural gas was also included and by the end of 2003, a 38 percent reduction below venting levels in 2000 was reached.<sup>467</sup>

From the foregoing, it appears that the Alberta government allows industry, public, environmental non-governmental organizations (NGOs) and regulators to participate in assessing air quality issues and management actions<sup>468</sup> in achieving a reduction in gas flaring in Alberta. This is one attitude which the Nigerian government has to adopt if the phase-out of gas flaring to a minimum in Nigeria is to be achieved expediently. However, an assessment of Alberta's legislation on gas flaring below shall emphasize the way in which the Alberta has been able to reduce and conserve gas from flaring and venting.

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<sup>459</sup> Ibid at 29.

<sup>460</sup> Centre for Energy – 'Flaring and Venting.' Available at <http://www.centreforenergy.com/AboutEnergy/ONG/UNG/Environment.asp?page=2> [Accessed 26 November 2009].

<sup>461</sup> Supra (note 421) at 14.

<sup>462</sup> Ibid.

<sup>463</sup> Supra (note 460).

<sup>464</sup> Ibid.

<sup>465</sup> Ibid.

<sup>466</sup> Ibid.

<sup>467</sup> Ibid.

<sup>468</sup> Supra (note 421) at 29.

#### 4.4.3 Alberta's Gas Flaring Legislation

##### a) *The Oil and Gas Conservation Act 2000 ("OGRCA")*

The Oil and Gas Conservation Act<sup>469</sup> and its regulations<sup>470</sup> were promulgated for the purpose of, *inter alia*, conserving and preventing the wastage of oil and gas resources of Alberta.<sup>471</sup> Conservation is not defined under the Act but waste and wasteful operations are defined under the Act to include

“the escape or the flaring of gas, if it is estimated that, in the public interest and under sound engineering principles and in the light of economics and the risk factor involved, the gas could be gathered, processed if necessary, and...the products from it marketed, stored for future marketing, or beneficially injected into an underground reservoir...”<sup>472</sup>

This definition therefore categorizes gas flaring as a wasteful operation under the Act. In addition, the OGRCA provides that the EUB may require the re-injection or processing or marketing of any gas on its production in order to prevent wastage.<sup>473</sup> However, the Oil and Gas Conservation Regulations (OGCR) provides that “where a gas well is being cleaned up or tested, the amount of gas flared shall not exceed 600 thousand cubic metres including that produced during the initial clean-up period, unless the prior approval of the EUB has been obtained.”<sup>474</sup> Hence, the OGRCA and its regulations can arguably be said to contain no comprehensive provisions sufficient to regulate gas flaring in Alberta.<sup>475</sup>

As a result of this inadequacy and in view of the fact that the EUB has the primary responsibility for regulating the upstream petroleum industry in the Alberta province for conserving solution gas<sup>476</sup>, it has consolidated its requirements in *EUB*

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<sup>469</sup> Oil and Gas Conservation Act, R.S.A. 2000, c. 0-6. Available at [http://www.ercb.ca/docs/requirements/actsregs/ogc\\_act.pdf](http://www.ercb.ca/docs/requirements/actsregs/ogc_act.pdf) [Accessed 24 November 2009]. There have been subsequent consolidations and re-enactments of this Act since 1938. The 2000 consolidation is the latest one.

<sup>470</sup> Oil and Gas Conservation Regulations, Alta. Reg. 151/1971 Available at <http://www.canlii.org/en/ab/laws/regu/alta-reg-151-1971/latest/alta-reg-151-1971.html> [Accessed 24 November 2009].

<sup>471</sup> Section 4 (a), (b-f) of the Oil and Gas Conservation Act.

<sup>472</sup> Ibid; section 1 (cccc) – (ddd) (v).

<sup>473</sup> Section 38 (a) – (b).

<sup>474</sup> Section 11.135 (1) of the Oil and Gas Conservation Regulations.

<sup>475</sup> Odumosu (note 199) at 885.

<sup>476</sup> *Supra* (note 437) at 29.

*Directive O60: Upstream Petroleum Industry Flaring, Incinerating and Venting (2006)* (“Directive 060”).<sup>477</sup>

**b) *EUB Directive O60: Upstream Petroleum Industry Flaring, Incinerating and Venting (2006)* (“Directive 060”).**

Directive 060 is the province’s major document on gas flaring regulation.<sup>478</sup> It is the clearest and most comprehensive set of upstream flaring and venting regulations released in Alberta (and Canada) to date.<sup>479</sup> Directive 060 sets out the requirements and expectations for flaring in Alberta’s upstream petroleum industry.<sup>480</sup> It establishes requirements on solution gas management, well-test flaring, gas battery flaring, gas plant flaring and pipeline emissions.<sup>481</sup> It further includes provisions on flare performance requirements, measurements and reporting of flared gas, industry performance requirements, measurement and reporting of flared gas, industry performance requirements and enforcement.<sup>482</sup>

Conservation is defined in the Directive as “the recovery of solution gas for use as fuel for production of facilities, for other useful purposes (for example, power generation), for sale, or for beneficial injection into an oil or gas pool.”<sup>483</sup> In line with this definition, the EUB does not consider “venting” as an alternative to flaring.<sup>484</sup> However, pipeline to sales, fuel, power generation, pressure maintenance are considered as methods by which gas can be conserved.<sup>485</sup>

Directive 060 requires that a key step which forms part of the reduction efforts prior to any flaring or venting<sup>486</sup> is to conduct a flaring management Decision

<sup>477</sup> ‘Upstream Petroleum Industry Flaring, Incinerating and Venting, November 16 2006.’ Available at <http://www.eub.ca/docs/documents/directives/Directives060.pdf> [Accessed 27 November 2009].

<sup>478</sup> Several versions of Directive 060 (1999, 2001 and 2002) existed before Directive 060 of 2006. These documents were consolidated into the current 2006 version of the Directive. See also Odumosu (note 199) at 885.

<sup>479</sup> ‘Upstream Petroleum Industry Flaring and Venting Report: Industry Performance for Year Ending December 31, 2008.’ June 2009 Available at <http://www.ereb.ca/docs/products/STs/st606-2009.pdf> [Accessed 25 November 2009].

<sup>480</sup> Odumosu (note 199) at 885. The use of the word “must” in the Directive indicates a requirement for which compliance is required and is subject to EUB enforcement, while “recommends” indicates a best practice that can be used by the applicable party but is not an EUB requirement and does not carry an enforcement consequence. See Section 1.5 of the Directive (note 96) at 9.

<sup>481</sup> Sections 2 – 6.

<sup>482</sup> Odumosu (note 199) at 885.

<sup>483</sup> Appendix 4 of Directive 060 (note 477).

<sup>484</sup> Ibid; section 2.1

<sup>485</sup> Section 2.8.

<sup>486</sup> Supra (note 421) at 14.

Tree Analysis (DTA)<sup>487</sup> from the objective hierarchy on gas flaring.<sup>488</sup> The DTA helps to determine whether there are options to flaring or venting the associated gas.<sup>489</sup> It takes into account public concerns, potential health impacts, environmental impacts and economic alternatives, such as clustering of other flares/vents in a local area and electrical generation.<sup>490</sup> Thus, on this tree, where elimination of the gas flaring is possible, the Directive requires operators to implement it.<sup>491</sup> Where it is not feasible, an economic evaluation must be conducted to determine whether the associated gas is economically viable to conserve.<sup>492</sup> However, where flares cannot be immediately eliminated, the EUB supports the use of alternatives to conventional flare technology. These include enclosed flares and incinerators where these can better achieve efficient combustion.<sup>493</sup>

It must be noted however, that in assessing a decision whether to flare gas or conserve it, operators are to consider the economic, social, environmental factors and public concern.<sup>494</sup> Consequently, the Directive requires personal consultation with residents proximate to the flare site and public notification of flaring.<sup>495</sup> In addition, the Directive also requires operators to report the amount of gas flared.<sup>496</sup> This information is used to evaluate compliance with flaring reduction targets and to identify significant flaring sites for investigation.<sup>497</sup> The EUB also undertakes to provide an annual summary of industry flaring emission as part of an industry performance reporting.<sup>498</sup> This annual summary aims to increase awareness of flaring and venting volumes throughout Alberta and to encourage further gas conservation.<sup>499</sup> In addition, before the annual report is published, operators have the opportunity to verify the volumes of gas flared and vented submitted to the EUB.<sup>500</sup> This signifies transparency in Alberta gas industry, one thing which is significantly absent in Nigeria.

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<sup>487</sup> Ibid.

<sup>488</sup> Figure 2.

<sup>489</sup> Ibid.

<sup>490</sup> Supra (note 421).

<sup>491</sup> Odumosu (note 199) at 885.

<sup>492</sup> Supra (note 421) at 14.

<sup>493</sup> Section 7.1 of Directive 060.

<sup>494</sup> Figure 2.

<sup>495</sup> Section 2.9.

<sup>496</sup> Section 2.13.1.

<sup>497</sup> Supra (note 437) at 8.

<sup>498</sup> Section 2.13.1 and 2.13.2.

<sup>499</sup> Supra (note 477) at 8.

<sup>500</sup> Ibid at 9.

Apart from regulatory requirements, the Alberta province provides for certain measures and incentives to make natural gas conservation more attractive to the industry.<sup>501</sup> Such measures include availability of natural gas markets, which are necessary to reduce solution gas flaring.<sup>502</sup> Section 2.7 of Directive 060 further recognizes that one of the ways to conserve and use flared solution gas is by electricity generation. This alternative means of gas conservation coupled with the availability of natural gas markets to market the flared gas are necessary and are laudable ways in which the Alberta government seeks to reduce/eliminate gas flaring from the province.

In view of the fact that sound flaring management rules are not effective without adequate monitoring and enforcement, the Directive sets out compliance and enforcement under its section 12. So, part of EUB's focus on enforcement efforts under the Directive include review of existing flares, reducing flaring at conserving facilities, accurate reporting of flare and vent data<sup>503</sup>, inspecting and auditing wells and production facilities that it licenses, as well as responds to public complaints related to petroleum industry operations.<sup>504</sup>

From the foregoing, it is obvious that the provisions of the Directive 060 are brilliant in its effort to reduce gas flaring and venting in Alberta. Its provisions are laudable and widely adhered to in the province that it is regarded as one of the most stringent in the world.<sup>505</sup> Adherence to Directive 060, enhanced regulation, enforcement, and industry co-operation have resulted in significant reduction in the volume of solution gas flared.<sup>506</sup> According to a report released by the EUB in 2007, solution gas flaring in Alberta reduced by 71.5 per cent since 1996 while solution gas venting had been reduced by 56.4 per cent since 2000.<sup>507</sup> These reductions have kept approximately 8 million tonnes of greenhouse gas emissions (CO<sub>2</sub> equivalent)

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<sup>501</sup> Odumosu (note 199) at 886.

<sup>502</sup> Ibid.

<sup>503</sup> Section 12 of Directive 060. See also Odumosu (note 199) at 887.

<sup>504</sup> The EUB is also responsible for inspecting the over 110,000 operating wells, 15, 911 oil batteries and associated satellites, 456 sweet gas plants, 247 sour plants, and over 300,000 km of pipelines that form the core of Alberta's energy infrastructure. See Supra (note 436) at 9.

<sup>505</sup> Sheramata (note 30).

<sup>506</sup> EUB ST60B- 2009 Upstream Petroleum Industry Flaring and Venting Report 2009 (note 478).

<sup>507</sup> Government of Alberta 'EUB Report: Solution Gas Flaring Down 71.5% since 1996, Venting Down 56.4% since 2000.' Available at <http://www.alberta.ca/home/NewsFrame.cfm?ReleaseID=/acn/200707/21814DB78576E-901F-7991-624DA281DC37857A.htm> [Accessed 20 November 2009].

from being released into the atmosphere since 1996.<sup>508</sup> In addition, reports indicate that in 2006, the upstream oil and gas industry conserved 96.03 percent of all solution gas produced in Alberta for use or sale, rather than flaring or venting it.<sup>509</sup> By 2008, the industry achieved a 95.1 per cent solution gas conservation rate.<sup>510</sup>

Alberta's flaring and venting reduction strategy has been so successful internationally that the World Bank has utilized it to encourage countries, particularly developing countries, to reduce wasteful flaring of solution gas in their own jurisdictions.<sup>511</sup> The World Bank has also lauded the Alberta flaring and venting regulatory structure as one which "performs the best"<sup>512</sup> as Alberta adopted a consensus-based<sup>513</sup> approach in achieving such a laudable regulatory structure.

It appears that Alberta's success in reducing flaring and venting to the present extent can be attributed to the co-operative efforts of the CASA, Flaring and Venting Project Team, environmentalists, the petroleum industry, the EUB, the Alberta Energy, Environment Canada, Alberta Environment and other government Agencies.<sup>514</sup> The work of the EUB cannot be over-emphasized as it continually makes revisions to Directive 060 through Upstream Industry Flaring, Incinerating and Venting Reports at the end of every year ending December 31 since 2006.

However, on January 1, 2008, the Alberta Utilities Commission Act split the EUB into two new regulatory bodies; the Energy Resources Conservation Board (ERCB) and the Alberta Utilities Commission (AUC).<sup>515</sup> Thus, the ERCB is responsible for the development of Alberta's oil and gas resources and the AUC is responsible for the distribution and sale of electricity and natural gas to Alberta consumers.<sup>516</sup>

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<sup>508</sup> Ibid.

<sup>509</sup> EUB ST60B – 2007: Upstream Petroleum Industry Flaring and Venting Report Available at <http://www.ercb.ca/docs/products/STs/st60b-2007.pdf> [Accessed 12 November 2009].

<sup>510</sup> EUB 2009 (note 479).

<sup>511</sup> Sheramata (note 30).

<sup>512</sup> Stated by Sascha Djumena, a World Bank Energy Specialist. See also Calgary Herald 'Alberta Asked to Vent on Flaring.' October 2, 2003 Available at <http://www.alberta.ca/home/NewsFrame.cfm?ReleaseID=&File/Calgaryheraldarticle.pdf> [Accessed 24 November 2009].

<sup>513</sup> Ibid.

<sup>514</sup> Supra (note 507).

<sup>515</sup> 'Energy's History in Alberta.' Available at [http://www.energy.alberta.ca/about\\_us/1133.asp](http://www.energy.alberta.ca/about_us/1133.asp) [Accessed 29 November 2009].

<sup>516</sup> Ibid.

From the foregoing, Alberta's regulatory structure on gas flaring and venting can be regarded as one which every country should strive to attain to reduce the problem of gas flaring in their jurisdiction. Directive 060's provisions on alternative ways to conserve gas flared and vented, availability of a gas market, personal consultation with residents living proximate to the flare site and public notification of flaring and the percentage at which gas is being conserved rather than flared in Alberta are brilliant innovations to say the least. It is hoped that these laudable provisions shall be used as a sounding board against the laughable legislation on gas flaring in Nigeria with a view to eliminating the problem once and for all.

## CHAPTER FIVE

### RECOMMENDATIONS AND CONCLUSION

#### 5.1 Recommendations

Undoubtedly, the revenue derived from oil and gas industry in Nigeria has contributed immensely to its economy. However, the problem of gas flaring still exists and as evidenced in Chapter Three of this thesis, legislation on gas flaring is grossly inadequate to tackle the problem. This thesis serves to highlight the need for the Nigerian government to enact and or amend existing legislation on gas flaring in Nigeria in order to effectively phase-out gas flaring in the country. In view of the new Gas Flaring (Prohibition and Punishment) Bill which the National Assembly just passed in 2009 and the various gas projects in place in the country, it appears that the complete phasing-out of gas flaring in Nigeria could become a reality in the very near future.

Admittedly, the UNFCCC and the Kyoto Protocol set out obligations for its contracting parties to reduce emissions of green-house gases into the atmosphere. Methane and Carbon dioxide are two important greenhouse gases which are emitted when gas is flared. Despite the fact that the Nigerian government is aware of this fact, Nigeria has not adhered to its obligations under the treaty to reduce gas flaring as its current gas flaring legislation and the penalties they prescribe are not sufficient to deter MNCs. EGASPIN seems to be the only legislation in Nigeria which sets out clear conditions which an MNC should adhere to if it is “constrained” to continue flaring gas. However, the DPR which is responsible for enforcing the provisions of the Guidelines lacks the manpower and technical capacity to enforce its provisions.

Accordingly, it is only logical that Nigeria should adopt the commendable attitude of the Alberta, Canada, a province which has been able to reduce gas flaring to the barest minimum by taking into account the principle of conservation, public concerns, potential health impacts, environmental impacts and economic alternatives of gas flaring. Thus, in order for Nigeria to achieve the elusive reality of phasing-out gas flaring in future, the following recommendations are proposed:

First, existing Nigerian legislation on gas flaring should be revised accordingly with a view to inserting stringent and realistic sanctions which could deter MNCs from further flaring the gas. It is hoped that the Gas Flaring (Prohibition

and Punishment) Bill will also regulate gas production, transportation and distribution as well as stringent penalties and conditions on flaring. The legislature is also in the process of reviewing the AGRA Act and its Regulations. Hopefully, the legislature will not allow themselves to be influenced in any way by the MNCs to adopt less stringent penalties within these laws which are being revised.

Second, the draft Nigerian Environmental Management (Draft) Act 2000 mentioned in Chapter Three should be resuscitated by the National Assembly without fear or favour. The Draft Act seems to be the only gas flaring legislation in the country which has attempted to fix realistic fines of over 500 million naira payable jointly and severally by the heads of these MNCs. Though the revision and resuscitation of legislation is not the only solution to the problem of gas flaring, the revisions will go a long way in helping to phase-out the problem gradually.

Third, to reduce the amount of gas being flared, the Government should actively mandate each MNC operating in Nigeria to submit an Environmental Impact Assessments (EIAs) report before they can be allowed to flare gas. This can only be achieved if the jurisdictional conflicts between the DPR and NESREA (which replaced FEPA) is sorted out and more professional, financial and technical expertise is given to these agencies to not only conduct regular inspections of gas flaring sites to determine if flaring should continue there or not, but also to assess the validity of EIAs submitted by this MNCs.

Fourth, the concept of conservation has been actively used by Alberta, Canada in achieving a zero flare-out rate of 95%. Therefore, Nigeria should consider the process of conserving the gas being flared rather than letting the flared gas go to waste. Though Nigeria is still a developing country whose oil and gas industry is not as developed as Canada, the Nigerian government can achieve conservation of flared gas if it takes into account the socio-economic, environmental, health impacts and the interests of future generations in achieving this goal. Though, it would appear that the various gas projects discussed in Chapter Three (NLNG, Escravos, and WAGPP) are geared towards conserving the flared gas in order to develop domestic and regional markets to export the gas, there is no chance of it being successful if the projects are not prosecuted to optimum possible conclusion. Thus, the government should explore the possibility of conserving the flared gas as such gas conserved can

go a long way towards providing electricity for a country like Nigeria which is in desperate need of it.

Five, regulators of the oil and gas industry in Nigeria like DPR and the NESREA (which replaced the FEPA) should be given adequate monitoring and enforcement powers together with financial and technical capacity to enable them enforce the provisions of the existing gas flaring legislation to the letter. The Niger Delta area of Nigeria where the gas is being flared is very large and much manpower is needed to monitor the activities of MNCs there and to ensure that the conditions under which gas is being flared in that area is in accordance with the provisions of EGASPIN.

Six, the government should adopt the multi-stakeholder approach adopted by Alberta, Canada in solving the problem of gas flaring. Presently in Nigeria, various environmental non-governmental organisations (NGOs) like Friends of the Earth International (FOEI)<sup>517</sup> have brought the issue of phasing-out gas flaring to the forefront of the Nigerian government's tasks. These NGOs are constantly convening meetings with the government on the issue in a representative capacity for the people of the Niger Delta. Should the government include public participation as one of its goals in resolving the problem, it will not only be seen as justice to the residents of the Niger Delta, it will also give the citizens the opportunity to contest and express their views on the effects of the activities of the government and oil companies to their livelihood under the appropriate legal machinery.<sup>518</sup> Thus, public participation forums on gas flaring should include NGOs, the government, regulatory agencies concerned citizens of Nigeria, lawyers, residents who have been living proximate to the gas flares for the past 70 years and interpreters who can translate the proceedings into clear language for those residents who may not understand the language used in the proceedings.

Seven, the government should adopt the attitude of personally consulting the residents who live close to the flare site to get first-hand knowledge of what the flaring is doing to their health and to their environment. In the alternative, top officials of government and members of the legislature could plan a trip to these residential areas where the flares burn brightly day and night. Perhaps, the

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<sup>517</sup> The Nigerian chapter of the FOEI is called Environmental Rights Action.

<sup>518</sup> Odumosu (note 199) at 898.

continuous roar of the flares and the heat emanating there from will awaken them to the reality of what the citizens of the Niger-Delta are facing day in and day out.

Eight, instead of setting unrealistic deadlines to stop flaring, the government is encouraged to develop specific policies specifying gas flare reduction targets for MNCs to achieve greater environmental objectives. Though environmental protection in Nigeria is still in a developmental stage, setting of flare out reduction targets will go a long way towards achieving significant reduction in gas flaring in the country. Likewise, should the government set these flare reduction targets, it should also require MNCs to report the amount flared annually and submit such reports to the DPR or NESREA. These reports, which could be bi-monthly or annual, shall signify transparency of the government and the MNCs towards achieving an end to gas flaring in the country.

Notably, the GGFR in October 2007 set up a Nigerian Flare Reduction Committee which plays an advisory role to the Federal Government. It currently meets every two to three weeks and looks for opportunities for co-operation between operators in developing their associated gas utilization projects. Also, it reviewed the financial and operational impact on Nigeria's oil and gas production of the former flare-down 2008 deadline, and is currently collecting data on associated gas utilization plans from the oil & gas operators and assessing environmental and health consequences of routine flaring.<sup>519</sup> By working hand in hand with the GGFR of which Nigeria is a partner, to achieve this goal, an end to Nigeria's gas flaring will no longer be far from reality.

Nine, the government should immediately address the issue of overlapping jurisdiction of the DPR and NESREA in enforcing gas flaring legislation. The earlier the government realises that it does not need multiple departments to carry out its functions viz a viz gas flaring, the better it will be able to phase out the problem. Thus, the government should establish a department which shall effectively enforce gas flaring legislation or direct either one of the existing agencies to singly and exclusively handle all functions relating to gas flaring. By so doing, it could

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<sup>519</sup> Global Gas Flaring Reduction *A Public Private Partnership*, News Flare, Issue No. 6 January – May 2008 Available at [http://siteresources.worldbank.org/INTGGFR/Resources/ggfr\\_newsletter\\_6.pdf](http://siteresources.worldbank.org/INTGGFR/Resources/ggfr_newsletter_6.pdf) [Accessed 21 November 2009].

encourage the development of expertise in this department and promote accountability.<sup>520</sup>

Lastly, Nigeria should also consider publishing a comprehensive document like Alberta's Directive 060 on gas flaring reduction. This document can be drafted after due consultation with stakeholders in the country and should contain provision on compliance and enforcement, fines and penalties, flare out reduction targets, review of existing flares, accurate reporting of flaring data, inspection of oil wells and production facilities that it licenses, as well as responses to public complaints related to petroleum industry operations. This document, if drafted, will be the "bible" of gas flaring in Nigeria and be the mantra which all MNCs in Nigeria fashion their gas flaring activities after. This way, reduction and eventual elimination of gas flaring can be achieved easily and more realistically.

## 5.2 Conclusion

GGFR satellite data shows that Nigeria's flaring has continued to decline, from 21.3 bcm in 2005 to 16.8 bcm in 2007 and 14.9 bcm in 2008. The country however remains the second largest flaring country in the world after Russia.<sup>521</sup> Whether there has been a significant decline in gas flaring or not, the reality of the situation is that till date, the gas flares still burn brightly day and night, 24 hours of everyday. Though the Nigerian government in conjunction with stakeholders still have a long way to go in achieving a reduction and eventual elimination of gas flaring in Nigeria, every action, legislation or policy aimed at phasing-out the problem results in a positive step towards a 'zero-flare' reality in Nigeria. In the words of Comrade Che Ibegwara,<sup>522</sup> 'I look forward to a day when gas flaring will stop...' For the benefit of present and future generations, the Nigerian government has a duty to its people, particularly the citizens of the Niger-Delta to stop gas flaring today!

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<sup>520</sup> Odumosu (note 199) at 899.

<sup>521</sup> Global Gas Flaring Reduction *A Public Private Partnership*, News Flare, Issue No. 8 January – June 2009 Available at [http://siteresources.worldbank.org/EXTGGFR/Resources/ggfr\\_newsletter\\_8.pdf?resourceurlname=ggfr\\_newsletter\\_8.pdf](http://siteresources.worldbank.org/EXTGGFR/Resources/ggfr_newsletter_8.pdf?resourceurlname=ggfr_newsletter_8.pdf) [Accessed 21 November 2009].

<sup>522</sup> See Chapter One of this thesis.

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