



ISSN 2278 – 0211 (Online)

Carbon Credit Development: Is Nigeria Ready for International Trading?

Theodore Okonkwo

Senior Lecturer and Head of Department, Department of Public Law,
Faculty of Law, University of Port-Harcourt, Port-Harcourt, Nigeria

Abstract:

A carbon credit is a certificate or permit which represents the right to emit one ton of carbon dioxide (CO₂) and they can be traded for money.

Carbon credits and carbon markets remain one of several national and international actions to make less harmful the growth in concentrations of greenhouse gases (GHGs). One carbon credit is equal to one ton of carbon dioxide.

Carbon credits grant nations and companies the right to emit gases that contribute to global warming. Carbon credit development strategy is being adopted by national governments as a means of tackling the greenhouse gas emissions and introducing clean development mechanisms for sustainable technological investment, thus, bears on the modus operandi of the high-tech corporate organizations within the climate change regulatory framework. The carbon pricing involves local, national and global stakeholders. For Nigeria, there is growing concerns on whether the country is sincerely committed to carbon credit development, enough to attract international investors. A lot of factors ranging from shallow legislations and lack of political will to corruption are few, but not all the pit-falls that militates against Nigeria's readiness for international carbon credit trading.

Keywords: *Carbon credit, carbon trading, clean development mechanism, kyoto protocol, climate change, greenhouse gas (GHG).*

1. Introduction

Carbon credits are a key component of national and international emissions trading schemes that have been devised to reduce the consequence and effects of greenhouse gas emissions. Credits can be exchanged between investors or bought and sold in international markets at the prevailing market price. Carbon credits are then used to finance carbon reduction projects.

Recently, the United Nations Secretary-General, Ban Ki-Moon together with Jim Yong Jorma Ollila, the Royal Dutch Shell Chairman; Eldar Sactre, Statoil Chief Executive; Borge Brende, Norwegian Foreign Minister; Etienne Dieudonne Ngoubou, Gabonese Minister of Petroleum and other corporate and government officials and representatives of international development banks came together to launch the "Zero Routine Flaring by 2030" initiative¹. Nigeria was missing at the launch.

On October 20, 2015, the Nigeria's lower Parliament, the House of Representatives queried the Federal Government of Nigeria on the country's absence at the Zero Routine Gas Flaring Initiative in Washington D.C., United States of America.

The lower Parliament noted with displeasure the fact that Nigeria has not signed the treaty to end gas flaring by 2030. The implication is very obvious, as continued gas flaring at onshore/offshore production sites by oil producing companies operating in Nigeria is not only unsustainable, but 'constituted waste of resources, poses grave environmental and health dangers to the people and also detrimental to the climate'².

Nigeria's lower Parliament acted responsibly by deploring the Federal Government's negative attitude towards ending gas flaring by 2030. This shows that there are still people in authority with the heart and soul of environmental consciousness.

¹Amechi Ogbonna, 'Nigeria Missing on Treaty List to End Gas Flare Out by 2030', The Sun (Nigeria), April 21, 2015. Four African countries, Angola, Cameroon, the Republic of Congo and Gabon have agreed to end gas flaring by 2030, but Nigeria is not listed among the signatories to the treaty.

² In a Motion brought by Mr. Uchechukwu Nnam-Obi and 13 others, titled: 'Deploring Nigeria's Absence at the Zero Routine Gas Flaring Initiative in Washington D.C., United States of America', the lawmakers of the Lower Parliament noted with dismay that Nigeria failed to attend 'such all important international event that would benefit the country'. See, Ubong Ukpong, 'Reps Query Nigeria's Absence at Zero Gas Flaring Conference', National Mirror (Nigeria), October 21, 2015.

Climate change is a global concern and Nigeria's Federal Government must take the lead and not derogate from its international and constitutional commitment of protecting the nation's environment by supporting local and international efforts in this regard.³

Failure to harness our ability, ideas and passion to engender a greener approach to environmental problems bedeviling the country would not speak well of Nigeria within the comity of nations to which we have agreed to belong. We must respect international efforts towards building a sustainable future for us all. Nigeria cannot live in isolation or decide on which international treaties to assent to, once it is provable that such treaty or treaties can only further the protection of Nigeria's 'water, air, land, forest and wildlife' and not otherwise.

The threshold of this article is to examine the general nature of carbon credit, to outline the issues of carbon credit market; how does it work? carbon credit versus climate change; and then situate the theme of this article within the Nigerian context of carbon credit development.

The article also looks at the extant laws; institutional responsibility; role of the judiciary and Nigeria's Carbon Exchange Trade Platform and how ready Nigeria is to test the waters of the international carbon trading market. The article further mentions what is obtainable in other international jurisdictions.

The article finally argues that as things appear presently, Nigeria's commitment to carbon credit development and trading does not call for celebration. It remains very discouraging and dismal. There is absolutely nothing to cheer about as there is failure on the part of the state to honour the constitutional provision⁴ for the protection of the environment which is a human right of citizens.

2. Nature of Carbon Credit

A Carbon credit (also known as carbon offset) has been defined variously by different experts and authorities. The following definition suffices for the purpose of this article:

any activity that compensates for the emission of carbon dioxide (CO₂) or other greenhouse gases (measured [CO₂e]) by providing for an emission reduction⁵ mechanism whereby individuals and corporations pay for reductions elsewhere in order to offset their own emissions⁶ a credit for negating or diminishing the impact of emitting a ton of carbon dioxide by paying someone else to absorb or avoid the release of a ton of CO₂ elsewhere⁷ a monetary investment in a project or activity elsewhere that abates greenhouse gas (GHG) emissions or sequesters carbon from the atmosphere that is used to compensate for GHG emissions from your own activities. Offsets can be bought by a business or individual in the voluntary market (or within a trading scheme), a carbon offset usually represents one ton of CO₂-e⁸ a compensatory measure made by an individual or company for carbon emissions, usually through sponsoring activities or projects which increase carbon dioxide absorption, such as tree planting⁹ a unit of carbon dioxide-equivalent (CO₂e) that is reduced, avoided, or sequestered to compensate for emissions occurring elsewhere¹⁰.

Flowing from the above, it could be strongly posited that the nature of carbon credit (sometimes also referred to as carbon offset) lies in the fact that it is a greenhouse gas (GHG) reduction used to counterbalance or offset, a GHG emission. This takes place when an individual or organization emits a certain amount of GHG emissions but decides to invest in measures that have an equal but opposite volume of GHG emissions from the atmosphere or prevent the emission from taking place at all. Carbon credit serves as a monetary instrument that represents this GHG emissions reduction.

However, it must be pointed out right away, that some controversies surround the principle of carbon credit trading, and this article intends to discuss them.

The Kyoto Protocol (Annex 1); the EU Emission Trading Scheme and the Clean Development Mechanism (CDM); all have linkages and roles in the carbon credit trading.

With the rise in global concerns about the effects and consequences of ozone depletion (climate change), the Nigerian government should wake up from slumber and begin holistic and sustainable voluntary carbon credit projects.

In a nutshell therefore, 'carbon credits grant nations the right to emit gases that contribute to global warming'.¹¹

³ Section 20, Nigeria's Constitution 1999 (as amended) provides: 'The State shall protect and improve the environment and safeguard the water, air and land, forest and wildlife of Nigeria'.

⁴ Section 20, Constitution of the Federal Republic of Nigeria, 1999 (as amended) provides: 'The State shall protect and improve the environment and safeguard the water, air and land, forest and wildlife of Nigeria'. This provision found under Chapter II (of the amended 1999 Constitution), 'Fundamental Objectives and Directive Principles of State Policy', is generally not justiciable in the court, see Okonkwo Theodore, *The Law of Environmental Liability*, 3rd Edition, (Lagos, Nigeria; 2014), pp. 323 – 335.

⁵ Selin, Noell, 'Carbon Offset...Britannica Online Encyclopedia', (Encyclopedia Britannica Inc. Retrieved 21 October, 2015).

⁶ ECI, 'Carbon Offset', (University of Oxford Environmental Change Institute, Retrieved 21 October, 2015).

⁷ 'State and Trends of the Carbon Market' (PDF), (World Bank, 2007).

⁸ 'Climate Change Glossary, EPA Victoria', (Environment Protection Authority, Victoria. Retrieved October 21, 2015)

⁹ 'Carbon Offset', (Collins English Dictionary Complete and Unabridged, 11th Edition). Retrieved October 21, 2015 from CollinsDictionary.com.

¹⁰ Woodward, Jenna; Kelly, Alexia, 'Bottom Line on Offsets' (August 2010, World Resources Institute).

¹¹ Richard Hodson (24 August 2015), 'Carbon-Credit Scheme Linked to Increased Greenhouse – Gas Production', *Nature News*, (Nature Publishing Group, Macmillan Publishers Limited, 2015).

3. Carbon Credit versus Climate Change

Carbon credit was evolved as a mitigating factor to the consequences and effects of climate change.

Scientists determined that climate change is as a result of human activities which result in greenhouse gases emissions (carbon dioxide, chlorofluorocarbons, methane and nitrous oxide). This has led to negotiations and establishment of several international conventions:

- The United Nations Framework Convention on Climate Change, 1992.
- The Convention on Biological Diversity, 1992.
- The Kyoto Protocol, 1998.
- Rio Declaration on Environment and Development, 1992.
- Montreal Protocol on Substances that Deplete the Ozone Layer, 1987.

The focus of all these treaties, conventions and protocols was to commit and bind nations by agreement into taking effective actions to reduce greenhouse gas emissions that is rapidly threatening humanity in this planet called earth.

For carbon credit market, the starting point is Kyoto, when the first international agreement with mandatory targets for greenhouse gas emissions reductions was signed. The United States and China demurred at that time. The Kyoto Protocol introduced three “flexible mechanisms” allowing countries to buy “emissions reductions” (otherwise known as carbon credits) from overseas and count them as their own – a practice known as “offsetting”. By agreeing that units of emissions are transferable between parties (countries), the Kyoto Protocol brought a new thinking regime into the climate policy of the European Union, which paved the way for the development of the Emissions Trading System (EU ETS), which remain the largest carbon market in the world today, and the main source of carbon credit trading.

The three flexible mechanisms that allow Annex 1 (developed) countries to achieve part of their emission reductions commitments externally are:

- Clean Development Mechanism (CDM) in non-Annex 1 (developing) countries. The Clean Development Mechanism (CDM) is the largest of the United Nations offset schemes, generating carbon credits from projects setup in poor countries whose greenhouse gas emissions are not capped. The credits are meant to represent a ton of carbon cuts, but are based on dubious accounting that meant polluting companies got paid for doing nothing, or even expanding harmful projects.
- Joint Implementation (JI) in other Annex 1 countries. This mechanism is mostly confined to projects in Russia, Ukraine, Poland and Germany, and has fared a little better. It also contains significant criminal activity as a comprehensive overview of the scheme by the Stockholm Environment Institute found that about three quarters of its credits do not represent actual emissions reductions.
- International Emission Trading (IET) between Annex 1 countries.

Objectives of the CDM as stated in Article 12 of the Kyoto Protocol are:

- Contribute to sustainable development in Non-Annex 1 (developing) countries.
- Contribute to the ultimate objective of the UNFCCC: the mitigation of climate change.
- Assist Annex 1 countries in complying with their emission reduction commitments.

The benefits are as follows:

- CDM in theory can attract capital for projects that are Kyoto Protocol compliant.
- Encourage active participation of private and public sectors.
- Provide tools for technology transfer of new environmentally sustainable industries.
- Define investment priorities on projects that meets sustainable development goals.

4. COP 21 and the Carbon Market

Recently, the COP 21 – the 21st session of the Conference of Parties, comprising of the countries that have signed up to the 1992 United Nation Framework Convention on Climate Change gathered in Paris, France from November 30 to December 11 2015 to discuss a possible new global agreement on climate change, aimed at reducing greenhouse gas emissions to avoid the threat of dangerous warming due to human activities. Among other issues, it was agreed that changing means of production and transport is necessary to avoid climate disasters. Carbon markets are unlikely to merit discussion in the Paris climate change agreement, but the idea of trading emissions remain. Whatever the outcome, the public profile of carbon trading may not receive detailed mention in COP21. It must be recalled that carbon markets collapse, ‘alongside the Kyoto Protocol itself’ at COP17 in Durban in 2011 raised a confusing market contractions which led some developed countries to push for the creation of a New Market Mechanism, led by the European Union, hoping to scale up carbon trading by replacing the project-by-project schemes from the Kyoto Protocol with a new system that covers the entire industrial sectors at the time. However, opposition by Bolivia and the G77 group buried the idea of the New Market Mechanism. As it appears now the COP21 is likely to achieve little for the carbon market. The word ‘market’ is unlikely to be contained in the text of the Paris agreement, but there is a great hope “that a placeholder could be found to allow their return in the future.”

5. The Carbon Credit Market: How does it Work?

It must be stated that no single program can solve climate change. The use of carbon credit is a contribution to what is expected to be done to mitigate the building of carbon pollution that is causing climate change.

Principally, there are two markets for carbon credit:

- Compliance market
- Voluntary market.

In compliance market, corporations, governments and other organizations purchase carbon credits compulsorily in order to meet up with standards established by the relevant regulatory authorities. This usually means that a given entity, facility or company has a total amount of carbon dioxide they are permitted by law to emit. The compliance market meets the provisions and requirements of obligations of Annex 1 parties under the Kyoto Protocol, as well as under the EU Emission Trading Scheme.

Reports has it that in 2006, about \$5.3 billion of carbon credits were sold in the compliance market, thus, representing about 1.6 billion metric tons of CO₂e reductions¹²

The voluntary market consists of individuals, companies or governments. They buy carbon credits to mitigate their own greenhouse gas emissions from transportation, electricity use and other sources.¹³

About \$705 millions of carbon credits, representing about 123.4 million metric tons of CO₂e reductions were sold in 2008.¹⁴

Projects financing like renewable energy and the Clean Development Mechanism (CDM) are some of the ways of achieving carbon credits. In this manner, financial support is given to projects that reduce the emission of greenhouse gases.

Carbon credit market (trading) is yet to gain some appeal and momentum in Nigeria. Most individuals, companies, government officials and statutory regulators have not yet become aware nor understand what it is all about. They do not comprehend how the market works, thus, they continue to live 'energy-intensive lifestyles and economies' that produce 'negative environmental effects'.

It has been argued, that, 'in a carbon offset market, the reality is that greenhouse gas pollution control anywhere in the world can be just as effective or ineffective in battling climate change hazards as other similar reductions made elsewhere'.¹⁵

To this end, 'a shift to a "clean" technology replacement that could support current lifestyles and expanding development without further damage to our climates' has been suggested.¹⁶

6. How Then Does Carbon Credit Trading Work?

Companies, governments individuals or other entities who wish to invest in carbon credits usually receive offers from promoters of carbon credits, by either of the following ways: public advertisement in print media, email, post, word of mouth, seminars, exhibitions and promotions.

Usually, carbon credit certifications, voluntary emission reductions (VERS), certified emission reductions (CERS) are offered.

This instrument does not however guarantee that their holders can sell or trade their carbon credits. Most of them are jus puffs and the reality on the ground at times may turn bitter. Investors must need skill and experience to ensure they are not just purchasing empty and void transactions.

Carbon credit trading follows an emission trading pattern, by capping greenhouse gas emissions. Markets are then used to allocate the emissions to groups of regulated sources. In this way, market mechanisms are allowed to determine the industrial and economical processes 'in the direction of low emissions or less carbon intensive approaches than those used when there is no cost to emitting carbon dioxide and other GHGs into the atmosphere'.¹⁷

7. Carbon Credit Development in Nigeria

According to sources, gas flaring that is generated in Nigeria as a result of crude oil production 'amounts to about 18.9 billion cubic meters (BCM) per annum', which when converted to greenhouse gas emissions gives 45 million tones CO₂ equivalent.¹⁸

This makes Nigeria among the top nations of the world that flare gas, thus, a very potential forum for carbon credit market. It was further noted¹⁹ that the Global Gas Flaring Reduction Public Private Partnership (GGFR) is assisting Nigeria to implement the Clean Development Mechanism (CDM) projects.

The CDM is anchored on the Kyoto Protocol and is a project based mechanism meant to help reduce greenhouse gas emissions. CDM projects is for non-Annex 1 countries (that is developing countries) under the Kyoto Protocol. These non-Annex 1 countries have no emission reductions target. The emission reductions generated by the project known as Certified Emission Reductions, (CERS) would then be sold to Annex 1 countries which are the developed countries who have commitments to reduce emissions.²⁰

¹²'State and Trends of the Carbon Market' (PDF), (World Bank, 2007).

¹³ 'Brands and Carbon Offsets', Carbon Offsets Daily, (2008 – 08 – 01).

¹⁴'Ecosystem Marketplace, New Energy, Finance State of the Voluntary Carbon Markets' (2009).

¹⁵ Howard A. Latin, 'Do Carbon Offset Programs Really Help Pollution Control?', Mother Earth News, (August, 2014).

¹⁶ Howard A. Latin, Climate Change Failures, (World Scientific, 2012).

¹⁷Wikipedia, the free encyclopedia (2015), 'Carbon Credit'.

¹⁸Nigeria: Carbon Credit Development for Flare Reduction Projects, (Guidebook June 2006, ICF Consulting Ltd.; Tipple 'E' Systems Associations Ltd.).

¹⁹Ibid, at p.9.

²⁰ Ibid, at p. 9.

Nigeria being a member of the United Nations, became a party to the United Nations Framework Convention on Climate Change (UNFCCC), which it signed on June 13, 1992 and ratified in August 1994. On December 10, 2004 Nigeria ratified the Kyoto Protocol and the Protocol came into force in Nigeria on March 10, 2005. It must be noted that Nigeria has never, (though half-heartedly) derogated from its obligations towards the UNFCCC and the Kyoto Protocol. The Kyoto Protocol works on three-fold mechanisms: The International Emission Trading: The Clean Development Mechanism (CDM) and the Joint Implementation (JI). The last two, CDM and JI are initiated as a financial tool under the Kyoto Protocol to facilitate the transfer of “clean” technology between countries in return for emissions reduction credits”.²¹

Nigeria therefore, is a veritable ground for the carbon credit trading.

8. Extant Laws

In line with international best environmental practices, Nigeria has put in place several national laws fashioned to regulate greenhouse gas emissions resulting from its extractive industries. Some of them are:

- Constitution of the Federal Republic of Nigeria 1999 (as amended)
- National Environmental Standards and Regulations Enforcement Agency Act²²
- Oil and Pipelines Act²³
- Petroleum Act²⁴
- Associated Gas Re-Injection Act²⁵
- Hydrocarbon Oil Refineries Act²⁶
- Nigeria Extractive Industries Transparency Initiative Act²⁷
- National Oil Spill Detection Response Agency (Establishment) Act²⁸
- Nigeria National Petroleum Corporation (NNPC) Act²⁹
- Oil in Navigable Waters Act³⁰

These national laws and dozens of other Regulations as laudable and impressive as they are, remain poorly implemented and not enforced.

Punishments are very light and the oil companies prefer to pay the fines and penalties which are very paltry and non-deterrent as compared with the huge profits they continue to make by greenhouse gas emissions.

In Nigeria, mines, minerals, including oilfields, oil mining, geological surveys and natural gas are listed as item number 39 in the Second Schedule. Legislative Powers, Part I, Exclusive Legislative List, the Constitution of the Federal Republic of Nigeria (as amended) 1999. Thus, any activity pertaining to hydrocarbon and emanating from oil and natural gas production falls within the domain of the Federal Government of Nigeria.

This brings carbon credit trading activities within the jurisdiction of the Federal Government authorities. It is their exclusive preserve to the exclusion of the component states of the federation.³¹

9. Institutional Responsibility

The functional and institutional responsibility for managing Nigeria’s natural resources behooves exclusively on Federal authorities. Carbon credit trading comes within this sphere. The National Environmental Standards and Regulations Enforcement Agency under the auspices of the Federal Ministry of Environment has the responsibility of managing Nigeria’s environmental protection and conservation of natural resources. This it does in collaboration with other Federal Ministries, Departments and Agencies with functional responsibility in this area. The primary mandate of the Ministry of Environment is to achieve environmental objectives as enunciated in section 20 of the Constitution of the Federal Republic of Nigeria (as amended), whose basic premise is “to protect and improve the water, air, land, forest, and wildlife of Nigeria”.³²

The Federal Ministry of Environment is the coordinating body for environmental policies at the national level. It manages and coordinates CDM activities, thus, carbon credit projects.

²¹Ibid, at p.28.

²² Cap. N164, L.F.N. 2010.

²³ Cap. 07, L.F.N. 2010.

²⁴ Cap. P10, L.F.N. 2010.

²⁵ Cap. A25, L.F.N. 2010.

²⁶ Cap. H5, L.F.N. 2010.

²⁷ Cap. N159, L.F.N. 2010.

²⁸ Cap. N157, L.F.N. 2010.

²⁹ Cap. N123, L.F.N. 2010.

³⁰ Cap. O5, L.F.N. 2010.

³¹ A.G. Federation v. A.G., Abia State & 35 ORS., (2001) 6 M.J.S.C., 69.

³² Theodore Okonkwo, *ibid*, p. 601.

There are other stakeholders and organizations that are relevant in CDM implementation. Such stakeholders cut across but not limited to “the industrial sector, forestry, power sector, oil and gas producing and consuming activities and transport sector”³³ Apart from the Federal Ministry of Environment, the following Ministries and Agencies are also key to the implementation of the nation’s environmental mandate: National Oils and Spills Detection and Response Agency (NOSDRA); National Council on Environment; Standards Organization of Nigeria(SON); Department of Petroleum Resources (DPR); Federal Ministry of Petroleum Resources, Federal Ministry of Works and Housing; Federal Ministry of Transport, Aviation and Communication, Nigerian National Petroleum Corporation (NNPC), Non-Governmental Organizations and Donors and International Development Agencies. One way or the other, these bodies play a role in policing greenhouse gas emissions.

10. Nigeria’s Carbon Exchange Trade Platform

This platform, endorsed by the United Nations Global Compact (UNGC), the World Bank Group and other key players in the climate change program, is supported locally by the Bank of Industry, Zenith Bank, Eco bank and UNDP Nigeria.

The platform supports companies to internally place a price and pay-off to offset their carbon footprints generated by using fossil fuel energy. The offset payments would be used to finance local non-carbon emission trading mechanism³⁴. There are not many emissions (carbon) trading companies in Nigeria. The few that operate are: Carbon Market Data,³⁵ Macmillan LLP,³⁶ SGS,³⁷ Elysium – Carbon Trade & Investment,³⁸ Trading Green Ltd.,³⁹ Carbon Trade Exchange Ltd.,⁴⁰ Biobase Meihua Trading Co., Ltd.,⁴¹ Advanced Global Trading/AGT Alternative Investments;⁴² Global Emissions Systems Inc.;⁴³ CDTi – Cleantech Emissions Control.⁴⁴

These greenhouse gas emission trading companies are exploring Nigeria’s carbon credit market by placing price on carbon system. This is on the strength of the United Nations Global Compact Program for carbon emission trade. The carbon credit market in Nigeria if properly managed not only will help reduce greenhouse gas emissions, and promote clean and sustainable energy technology investments, it also will create employment for the youth. However, there are fears whether Nigeria’s Federal government would support efforts to implement and enforce enabling laws and regulations as well as enact new ones that will capture the global policies on climate change.

11. Carbon Trading: How Ready is Nigeria?

Experts have averred that Nigeria can make over N34 billion on sale of carbon credit, only if the country could muscle the political will to implement the Clean Development Mechanism and Reducing Emission from Deforestation and Degradation (REDD), projects.⁴⁵

Nigeria currently has ‘at least one CDM voluntary carbon market in each of the 774 local government area council in the country’.⁴⁶ According to an expert,⁴⁷ ‘in our projection at 20% scenario of deforestation avoidance projected rate at \$15 per ton of carbon dioxide, Nigeria carbon credit sequestration capacity through the project’s implementation of these projects, it is estimated to generate equivalent of \$229,605,000 USD per year which translates to about N34.44 billion per year’.

Nigeria remain a veritable ground for carbon credit trading and being a signatory to the Kyoto Protocol, the country can easily key into the CDM and JI projects.

Carbon – Limits Nigeria (C-L Nigeria), a joint venture operating in Nigeria is focused on developing the country’s CDM market. The primary focus of C – L Nigeria is on the development and registration of projects under the Clean Development Mechanism (CDM) of the Kyoto Protocol. As noted earlier on, CDM projects reduce their GHG emissions and Nigeria under the Kyoto Protocol has the right to develop CDM projects ‘in order to help mitigate climate change and contribute to sustainable development’.⁴⁸

³³Ibid at p. 16.

³⁴

³⁵Based in London, United Kingdom.

³⁶Based in Toronto, Ontario, Canada

³⁷Based in Geneva, Switzerland.

³⁸Based in Yakum, Israel.

³⁹Based in Bangkok, Thailand.

⁴⁰Sydney, Australia.

⁴¹Jinan, China.

⁴²Dubai, United Arab Emirates.

⁴³Whitby, Ontario, Canada.

⁴⁴Oxnard, California, USA.

⁴⁵Laide Akinbode, ‘Carbon Credit: Nigeria to Generate Over N34b’, Vanguard (Nigeria), February 14, 2011.

⁴⁶Ibid.

⁴⁷Mrs. Oluremi Adikwu – Bakare, co-ordinator of UNISPACE and Global Oxygen Development (GOD), *ibid*.

⁴⁸CLN, Carbon Limits Nigeria and its partner Carbon Limits Norway have under development, for clients, projects representing more than 50 million tons CO₂ in emission reductions. The main areas of interest are the upstream oil and gas sector, industrial energy efficiency improvements in the electrical sector. Attention is also paid to renewable energy projects.

Nigeria relies heavily on its oil and gas production to fund her government and provide infrastructure for the citizen. It therefore, becomes very imperative for the local and international oil and gas companies operating in the country to be part of a sustainable energy future.

According to the Chief executives of major oil and gas companies⁴⁹ governments around the world and the United Nations Framework Convention on Climate Change (UNFCCC) should introduce carbon pricing systems and create clear, stable, ambitious policy frameworks that could eventually connect national systems.

These would reduce uncertainty and encourage the most cost effective ways of reducing carbon emissions widely⁵⁰.

This 'paying for carbon letter' by the companies is very 'unprecedented'. The oil and gas major companies now acknowledge the importance of climate change challenge and how it affects 'energy to human life and well-being'. They have admitted the present greenhouse gas emissions is in excess of what the Intergovernmental Panel on Climate Change says is needed to limit global temperature rise to no more than 2 degrees centigrade. It appears the oil and gas majors are now 'ready to contribute solutions'. How far these lofty statements could be translated into actions in developing countries like Nigeria where the major oil and gas companies operate with impunity is yet to be seen. Nigeria is a country that reward oil and gas companies operating in the country 'for their failure to abide by the law'.⁵¹

The idea of carbon credit trading and greening Nigeria is being keyed into by individuals, companies, local, state and federal governments. The social media currently hypes on the need for all citizens to participate in carbon credit trading.⁵²

There are many companies that sell carbon credits to companies and individual customers. However, the quality of the carbon credits must be based on the validation process and 'sophistication of the fund or development company that acted as the sponsor to the carbon project'.⁵³

In Nigeria, CDM awareness has increased, though most projects are mainly oil and natural gas based.⁵⁴

Carbon credit trading transactions are under negotiation, not only in Nigeria, but in Africa. Recently, the first-ever carbon credit transaction in West Africa was recorded.⁵⁵

Nigeria belongs to the energy carbon credit markets in the developing countries and is creating opportunities for clean technologies through the CDM projects. A look at the carbon credit trading companies already poised to capture the Nigeria carbon credit market shows that they are all from the Annex 1 countries except a very few of them.

In Nigeria there is the Kwale-Okpai CDM project, projected to reduce emissions by an estimated 1,496,934 metric tons of CO₂.

Nigeria has six registered CDM projects. Out of these, two are for the recovery of associated gas that would otherwise be flared at Kwale and the recovery of marketing gas that would otherwise be flared at Asuokpu/Umutu marginal field in Nigeria.

If properly harnessed and managed, carbon credits trading can provide additional revenue streams for the country.

It is an economic opportunity for Nigeria by tapping into its abundant natural and renewable resources for more sustainable energy, thereby deriving economic and developmental benefits from the global partners. By placing a market value on activities that can reduce GHG emissions, the carbon market can be used as a tool to finance CDM projects. Carbon credit markets can be a mechanism to channel new investments into Energy Security for Nigeria. If the political and business environment in Nigeria is rightly articulated by the governments of the federation, carbon credit trading could become Nigeria's biggest commodity market. This is however not without challenges.

12. Challenges

Carbon markets now face major challenges not only in Nigeria, but the world over. A leaked World Bank report confirmed carbon market collapse.⁵⁶ The Bank outlined three problems with carbon markets:⁵⁷

'demand factors' – without deep emission targets there is no demand for carbon credits, which is now worsened by the current economic crises.

'Supply' – there are not enough carbon credits on the market to meet the demands for them that does not currently exist.

'market rules and institutions' – the world is ready to finance CDM projects.

⁴⁹ BG Group Plc., BP Plc., Eni S.P.A., Royal Dutch plc., Statoil ASA and Total SA.

⁵⁰ The six companies set out their position in a joint letter from their chief executives to the UNFCCC Executive Secretary and the President of the COP21 ahead of the UNFCCC's COP21 climate meetings.

⁵¹ 'Carbon Trading in Africa', Climate Finance Africa, Briefing Paper Series, Pan Africa Climate Justice Alliance.

⁵² Carbon Credit Network is now on facebook.

⁵³ Global Biofuels Ltd., 'Carbon Credit'.

⁵⁴ Global Biofuels Limited, is well-positioned to earn carbon credits from the farm, power generation and biofuels.

⁵⁵ Leading Carbon finance group in Africa, Investisseurs & Partenaires (I&P) has entered into the first-ever carbon credits transaction involving a Seller and a Buyer from West Africa. The transaction which is between I&P and Volta Cars Rental Services (VRS), a car-leasing company operating in West Africa – was structured by ecosure afrique. Under the transaction, VRS customers can offset the carbon emissions of its vehicles leased in Ghana, Cote d'Ivoire and Senegal.

⁵⁶ Chris Lang, 'Leaked World Bank Report Confirms Carbon Market Collapse', 29, September, 2011.

⁵⁷ Ibid.

Critics also believe that carbon credits trading does not reduce emissions, it merely moves them from one place to another. Therefore, it cannot help stabilize greenhouse gas (GHG) concentrations on the scale or at the speed necessary to prevent runaway climate change⁵⁸

For Nigeria, there is the challenge of addressing policies and regulations.⁵⁹ Laws regulating oil and natural gas extraction industries in Nigeria are very unsuccessful. They are not enforced and the operators prefer to pay penalties which are paltry or to bribe their way through and continue with flaring. Even judicial pronouncements did not deter them, when a Federal High Court on July 20, 2005 in the case of Jonah Gbemre ruled that flaring at oil installations in the Delta State is illegal, harmful to the health and environment of the plaintiffs and therefore, constitutes a violation of their rights to life as guaranteed by the Constitution of the Federal Republic of Nigeria and reinforced by the African Charter on Human and Peoples Rights.⁶⁰

It has also been argued and rightly though⁶¹ that this judgment is not “effectively binding” as it is most likely to end up in the Supreme Court, and until resolved may delay the CDM projects in Nigeria.

An English environmentalist says that carbon credits are an excuse for business as usual with regard to pollution.⁶²

However, proponents think otherwise as they insist that carbon credits actually reduce carbon emissions, ‘changing the business as usual and therefore, address the root cause of climate change’.⁶³

CDM projects can raise indigenous land rights issues as those who are likely to be displaced or adversely affected or ‘otherwise find the use of forest resources curtailed’. Carbon credits trading can also create ‘perverse incentives’. They certainly in some cases provide incentives to emit more, ‘so that emitting entities can later get credit for reducing emissions from an artificially high baseline’⁶⁴. Such scenario also plays out in Nigeria, where oil and natural resource extractive companies flare off 40 percent of the natural gas produced. The Agip Oil Company plan to build plants to generate electricity from gas they produce and then claim 1.5 million carbon credits annually. Also, Pan Ocean Oil Corporation recently applied for carbon credits in exchange for processing its own waste gas in Nigeria. This has been called ‘outrageous’ and this is correctly so since flaring is unlawful in Nigeria. It is criminal in nature.⁶⁵ Presently, as it stands, it would be inconclusive to assess the actual results of carbon credits trading as this is wholly a new regime of carbon reduction strategy. There are fears nevertheless, that some carbon traders are likely to manipulate the system in order to make more financial gains, ‘rather than help solve the issue of greenhouse gas emissions.’⁶⁶

Other challenges include: widespread instances of individuals and investor companies buying worthless carbon credits that do not yield any reductions in carbon emissions; industrial companies profiting from doing very little – or from gaining carbon credits on the basis of efficiency gains from which they have already benefited from; brokers providing services of doubtful value and a shortage of verification system making it difficult for buyers to verify and assess the true value of carbon credit.

Carbon credit projects in developing countries have attracted strong criticisms – the international greenhouse gas emissions trading system is seriously flawed.⁶⁷ Most of the CDM projects in Nigeria do not reduce emissions as either due to default or corruption in high places, most of the CDM projects in Nigeria fail to meet the requirements set by the UN Framework Convention on Climate Change.

13. Role of the Judiciary

The basic law in Nigeria in litigation is section 6(6) (a) and (b) of the Constitution of the Federal Republic of Nigeria 1999 (as amended). This provision⁶⁸ vests the judicial powers of the Federation in the Judicial Courts to which this section relates, being courts established for the federation.⁶⁹ The content of the judicial powers vested in accordance with the Constitution⁷⁰ are outlined as extending, notwithstanding anything to the contrary in the Constitution, to all inherent powers and sanctions of a court of law.⁷¹ The judicial powers also shall extend to all matters between persons in Nigeria, and to all actions and proceedings relating thereto, for the

⁵⁸Chris Lang, *ibid*.

⁵⁹ ICF International, ‘Nigeria: Carbon Credit Development, for Flare Reduction Projects’, Guidebook, June 2006.

⁶⁰Jonah Gbemre v. Shell P.D.C. Suit No.FHC/CS/B/2005.

⁶¹ICF International, *ibid*.

⁶²George Monbiot, ‘Selling Indulgences’, (Monbiot.com, 2006 – 10 – 19).

⁶³Roberts, David, ‘An Observation on the Offset Debate – Many Offset Critics Appear to be Shadowboxing’, (2007 – 07 -11).

⁶⁴ This is especially the case for offsets with a high profit margin. For example, one Chinese company generated \$500 million in carbon offsets by installing a \$5million in cinerator to burn HFCs produced by the manufacturer of refrigerants. The huge profits provided incentives to create new factories or expand existing factories solely for the purpose of increasing production of HFCs and then destroying the resultant pollutants to generate offsets. This is environmentally undesirable and also undermines other offset projects by causing offset prices to collapse.

⁶⁵Oilwatch.org’s Michael Karikpo says “it’s like a criminal demanding money to stop committing crimes”.

⁶⁶‘ECX bans CERS from big hydro projects over EU eligibility uncertainty’, Point Carbon, River News, 9 October 2007.

⁶⁷Wikileaks reveals that most Indian claims are ineligible, Natureonline, 27 September 2011.

⁶⁸ Section 6(I), Constitution of the Federal Republic of Nigeria 1999 (as amended).

⁶⁹*Ibid*.

⁷⁰Section 6, *ibid*.

⁷¹ Section 6(a), *ibid*.

determination of any question as to the civil rights and obligations of that person.⁷² In legal parlance, these provisions relate to *locus standi* principle, which the Nigerian Judicial Courts have affirmed severally.⁷³ The Plaintiff must have justiciable dispute with the defendant.⁷⁴

The implication of this constitutional provision and several case law is that an individual, investor or company involved in climate change – carbon credit trade transactions in Nigeria who feels aggrieved in matters relating to such transactions ‘between persons, or between government or authority and to any person in Nigeria has the right to go to court to seek remedy.’⁷⁵

It is also noteworthy that if the civil cause and matters relate to ‘mines and minerals (including oil fields, oil mining, geological surveys and natural gas)’, the Federal High Court shall have and exercise jurisdiction to the exclusion of any other court.⁷⁶ The Nigerian courts have pronounced severally on this.⁷⁷

Since carbon credit trading is caught by section 251(n) of the Constitution, it follows that any civil matter arising there from falls within the domain of the Federal High Court and no other.

In *Jonah Gbemre (For himself and as representing Iwherekan Community in Delta State Nigeria) v. Shell Petroleum Development Company of Nigeria Ltd & Ors.*, the plaintiff requested the Federal High Court, Benin Division to declare that *Gas Flaring* is illegal, harmful to their health and environment and therefore constitutes a violation of their right to life as guaranteed by the constitution of the Federal Republic of Nigeria and reinforced by the African Charter on Human and Peoples’ Rights.

Judgment was delivered on the 14th day of November, 2005 by JUSTICE V.C. NWOKORIE granting the reliefs sought for by the Iwherekan Community.

Among the reliefs granted by the court are:

A declaration that the constitutional guaranteed fundamental rights to life and dignity of human person provided in sections 33(1) and 34(1) of the Constitution of the Federal Republic of Nigeria, 1999 and reinforced by Articles 4, 16 and 24 of the African Charter on Human and Peoples’ Rights (Ratification and Enforcement) Act, Cap. A9, Vol. 1, Laws of the Federation of Nigeria, 2004 inevitably includes the right to clean, poison free, pollution- free and healthy environment.

A declaration that the actions of SHELL and NNPC in continuing to flare gas in the course of their oil exploration and production activities in IWHEREKAN community is a violation of their fundamental right to life (including healthy environment) and dignity of human person guaranteed by sections 33(1) and 34(1) of the Constitution of the Federal Republic of Nigeria, 1999 and reinforced by Articles 4, 16 and 24 of the African Charter on Human and Peoples’ Rights (Ratification and Enforcement) Act, Cap. A9, Vol., Laws of the Federation of Nigeria, 2004.

A declaration that the failure of SHELL and NNPC to carry out environmental impact assessment in the applicant’s community concerning the effects of their gas flaring activities is a violation of section 2(2) of the Environmental Impact Assessment Act, Cap. E12, Vol.6, Laws of the Federation of Nigeria, 2004 and contributed to the violation of the applicant’s said fundamental rights to life and dignity of human person.

A declaration that the provisions of section 3(2) (a) (b) of the Associated Gas Re-Injection Act, Cap. A25, Vol. 1 Laws of the Federation of Nigeria, 2004 and section 1 of the Associated Gas Re-Injection (Continued Flaring of Gas) Regulations S. 1. 43 of 1984 under which continued flaring of gas in Nigeria may be allowed are inconsistent with the applicant’s right to life and/or dignity of human person enshrined in sections 33(1) and 34(1) of the Constitution of the Federal Republic of Nigeria, 1999 and Articles 4, 16 and 24 of the African Charter on Human and Peoples’ Rights (Ratification and Enforcement) Act, Cap. A9, Vol. 1, Laws of the Federation of Nigeria, 2004 and are therefore unconstitutional, null and void by virtue of section 1 (3) of the same Constitution.

AN ORDER of perpetual injunction restraining SHELL and NNPC by themselves or by agents, servants, contractors or workers or otherwise howsoever from further flaring of gas in IWHEREKAN community.

AN ORDER directing the ATTORNEY GENERAL OF THE FEDERATION to immediately put in motion in conjunction with the FEDERAL EXECUTIVE COUNCIL a BILL before the National Assembly to amend the Associated Gas Re-injection Act to bring it in conformity with the constitutional provisions.⁷⁸

Unfortunately, apart from the case of *Jonah Gbemre*⁷⁹, there is no other known decided case by the Nigerian Courts on gas flaring (climate change).

Nigerian Courts remain ill-equipped in terms of exposure and knowledge of environmental matters as to enable the judges understand the principles involved. They mostly appear overwhelmed and confused by the technicalities and language involved in environmental matters. Matters are still decided on civil liability damages for tortious wrongs and not on environmental matters.⁸⁰ The legal rule of *Rylands v. Fletcher*,⁸¹ still holds sway.

⁷²Section 6(b), *ibid*.

⁷³A.G. Federation v. A.G. Abia State (2001) 11 NWLR (Pt. 725), 689, popularly known as the resource control case.

⁷⁴S.P.D.C.N.L. v Otoko (1990) 6 N.W.L.R. (Part 159), 693.

⁷⁵Adediran v. Interland Transport Limited (1992) 9 N.W.L.R. (Part 214), 155.

⁷⁶Section 251(n), of the Constitution, *ibid*.

⁷⁷Abel Isaiah v. Shell P.D.C. (2001) 6 N.S.C.Q.R., 542.

⁷⁸Suit No. FHC/CS/B/153/2005

⁷⁹*Ibid*.

⁸⁰Adediran v. Interland (*supra*); Dumex (Nigeria) Ltd, v. Ukperu; Braide v. Adoki 10 N.L.R. 15; Shell S.P.D.C. v. Otoko, (*supra*).

⁸¹(1866) L.R. 1, Ex. 265.

While not arguing against the role of tort in an environmental context,⁸² it is necessary to aggregate the tort principles and statutory environmental provisions to arrive at environmental protection, after all, environmental protection is a matter for regulation.⁸³

As sated earlier on, there is no single judicial decision on climate change in Nigeria, so we shall mention a few foreign cases.

In *Connecticut v. American Electric Power Co.*,⁸⁴ where the District Court found against the plaintiff in the climate change public nuisance case. It was held that the decision as to whether or not to grant an injunction and if so upon what terms would embroil the court in the 'identification and balancing of economic, environmental, foreign policy and national security interests'.⁸⁵ However on appeal, the Second Circuit Court of Appeals held that eight States and several land trusts had standing to assert a federal common law nuisance claim against six electric power companies on the basis that those companies, through their emissions of carbon dioxide, were large contributors to global warming, which the plaintiffs alleged caused or would cause harmful effects to human health⁸⁶.

In *Massachusetts v. Environmental Protection Agency*,⁸⁷ it was held that carbon dioxide constitutes a "pollutant" within the meaning of the Clean Air Act. In *Comer v. Murphy Oil U.S.A.*⁸⁸ it was held, that a putative class of private landowners along the Mississippi Gulf Coast had standing to assert a private nuisance claim under Mississippi Law against a number of companies which the plaintiffs alleged had contributed to global warming, thereby increasing the ferocity of Hurricane Katrina, and as a consequence their damages from Hurricane Katrina.

Other cases include, *Native Village of Kivalina v. Exxon Mobil Corp.*⁸⁹ (excessive emission of carbon dioxide and other greenhouse gases); *Steadfast Insurance Company v. The AES Corporation*⁹⁰ (global warming); and *Friends of the Earth, Inc. v. Mosbacher*⁹¹ (global warming).

The issue of justiciability of carbon credits transactions in Nigeria is quite a matter of time, though this might not happen in the nearest future due to unenabling judicial environment bedeviled by corruption, where the weak individual investor may not be possessed with the financial strength to 'fight' the financially buoyant oil and gas companies in the courts. The concept of carbon credits is a relatively new phenomenon, so is the legal consequences regulating the transactions. They are unsettled, and yet untested. There is virtually no direct case law on point, so it becomes incumbent upon the parties to carbon credits business to seek competent counsel and address all the key issues⁹². There are several legal issues that are likely to arise in future for determination by the courts: what constitutes carbon credit for legal purposes?⁹³ Is a carbon credit an interest in real property or personal property?⁹⁴ In the case of *Roseland Plantation LLC v. United States Fish and Wildlife Service*⁹⁵, a federal court in Louisiana held that "right to report, transfer, or sell carbon credits is part of the bundle of rights associated with property ownership". This case suggests that carbon credits are real property interest. We need a legislative solution as to the nature of carbon credits, otherwise, guidance should always be sought in case law and administrative pronouncements. Needless to say, that the nature of carbon credits must be determined from the character of the asset or activity from which it is created. It has been argued⁹⁶ that if a carbon credit is created from management of or sequestration upon real property, then likely, the carbon credit will be an interest in real property. If a carbon credit is created from activities arising out of the use of personal property, then likely the carbon credit will be personal property⁹⁷. Other legal issues that may arise in future are: Is carbon credit a mineral right? Is carbon credit tangible or intangible?

As could be seen from the above issues discussed, the judiciary in Nigeria is yet to make its 'footprints' in environmental case law and in particular carbon credit transactions. The legal issues surrounding carbon credits are largely unsettled, and it is therefore very important that issues be properly addressed by parties in contracts in order to protect interests in carbon credits. This is very advisable until the law becomes settled.

⁸²Mark Wilde, *Civil Liability for Environmental Damage* (Wolters Kluwer, Law & Business, The Netherlands, Second Edition, 2013).

⁸³Ibid.

⁸⁴406 F. Supp. 2d, 265 (S.D.N.Y. 2005).

⁸⁵406 F. Supp. 2d, 265, 274, (S.D. N.Y, 2005).

⁸⁶*State of Connecticut v. Americana Electric Power, Inc.* 582F 3d 309 (2nd Cir. 2009).

⁸⁷549 U.S. 497 (2007).

⁸⁸585 F 3d 855 (5th Cir. 2009).

⁸⁹(2009) WL 3326113 (N.D. Cal.)

⁹⁰Cause No. 2008 – 858, 7th Circuit for Arlington County, Va.

⁹¹(2007) Dist. Court, N.D. California.

⁹²Michael D. Minton; Christine L. Weingart, 'Legal and Tax Issues of Carbon Credit Trading', (Environmental Services, Inc., 2015)

⁹³Ibid.

⁹⁴Ibid.

⁹⁵(2006) U.S. Dist., LEXIS 29334.

⁹⁶Michael D. Minton; Christine L. Weingart, *ibid.*

⁹⁷Ibid.

14. Conclusions

The evolving world of carbon credits, or offsets, remain a very confusing regime, particularly in developing countries like Nigeria, as there are various 'programs and offerings'. This program contains loopholes which enables carbon credits investors to benefit from destroying industrial waste⁹⁸.

The carbon credits are meant to be real, measurable and provable, but reports show that it is otherwise. The regulatory structure is not existing in Nigeria, therefore making the emissions estimates and the carbon credits themselves very doubtful. For a better and committed carbon emissions regime in Nigeria, there is need for the Annex 1 countries whose companies operate in the country to assist secure improved 'emissions trading schemes' that would focus on better measurement, reporting and verification. The structure of the trading scheme in the face of current economic climate remain a great concern, as greedy and fraudulent investors are bound to manipulate the system.

As carbon credits business gains momentum in Nigeria and around the world, questions and issues are bound to arise - how can one be certain these projects are sequestering and preventing the release of the amount of carbon claimed and will carbon offsets solve climate change? These questions need to be addressed by players and stakeholders in the system.

Overall, carbon credits improve the environment by reducing the amount of greenhouse gases in the earth's atmosphere. It leads to better air and water quality and healthier communities.⁹⁹

However, the potential developmental impacts of carbon credits schemes must always be assessed.¹⁰⁰

Putting a price on carbon encourages new ways to reduce greenhouse gases, thus, providing funding for CDM projects.

Carbon trading in Africa, has however been attacked as not credible.¹⁰¹ According to Dr. Yacob Mulugetta:

the argument that carbon trading offers real benefits to the poor in Africa is simply not credible. What is puzzling being the persistence of the proponents of carbon markets, who continue to cling onto these ideas in the face of mounting evidence that carbon trading does not deliver results commensurate to the effort invested in it...fundamental inequality is behind the climate problem, and the search for solutions must involve industrialized societies making fundamental structural changes to their lifestyles, energy practices and their production and consumption systems.¹⁰²

There is some truth in the above statement as it relates to Nigeria's gas flaring in CDM and the perverse incentives inherent in the registered CDM projects where figures are being manipulated. All in all, Nigeria needs sincere and committed regime of carbon credits that is transparent and proactive.

15. References

- i. Amechi Ogbonna, 'Nigeria Missing on Treaty List to End Gas Flare Out by 2030', The Sun (Nigeria), April 21, 2015.
- ii. 'Brands and Carbon Offsets', Carbon Offsets Daily, (2008 – 08 – 01).
- iii. 'Carbon Offset', (Collins English Dictionary Complete and Unabridged, 11th Edition). Retrieved October 21, 2015 from CollinsDictionary.com.
- iv. 'Carbon Trading in Africa', Climate Finance Africa, Briefing Paper Series, Pan Africa Climate Justice Alliance.
- v. 'Climate Change Glossary, EPA Victoria', (Environment Protection Authority, Victoria. Retrieved October 21, 2015)
- vi. Chris Lang, 'Leaked World Bank Report Confirms Carbon Market Collapse', 29, September, 2011.
- vii. Dr. Yacob Mulugetta, Senior Energy & Climate Specialist, United Nations Economic Commission for Africa.
- viii. ECI, 'Carbon Offset', (University of Oxford Environmental Change Institute, Retrieved 21 October, 2015).
- ix. 'Ecosystem Marketplace, New Energy, Finance State of the Voluntary Carbon Markets' (2009).
- x. George Monbiot, 'Selling Indulgences', (Monbiot.com, 2006 – 10 – 19).
- xi. Goodward, Jenna; Kelly, Alexia, 'Bottom Line on Offsets' (August 2010, World Resources Institute).
- xii. Howard A. Latin, 'Do Carbon Offset Programs Really Help Pollution Control?', Mother Earth News, (August, 2014).
- xiii. Howard A. Latin, Climate Change Failures, (World Scientific, 2012).
- xiv. ICF International, 'Nigeria: Carbon Credit Development, for Flare Reduction Projects', Guidebook, June 2006.
- xv. Laide Akinbode, 'Carbon Credit: Nigeria to Generate Over N34b', Vanguard (Nigeria), February 14, 2011.
- xvi. Mark Wilde, Civil Liability for Environmental Damage (Wolters Kluwer, Law & Business, The Netherlands, Second Edition, 2013).
- xvii. Michael D. Minton; Christine L. Weingart, 'Legal and Tax Issues of Carbon Credit Trading', (Environmental Services, Inc., 2015).
- xviii. Nigeria: Carbon Credit Development for Flare Reduction Projects, (Guidebook June 2006, ICF Consulting Ltd.; Tipple 'E' Systems Associations Ltd.).
- xix. Okonkwo Theodore, The Law of Environmental Liability, 3rd Edition, (Lagos, Nigeria; 2014), pp. 323 – 335.

⁹⁸Richard Hodson, 'Carbon-credit Scheme linked to increased greenhouse – gas production', Nature, (nature.com, 24August, 2015). Evidence published in Nature Climate Change, shows that several Russian chemical plants increased production of highly potent greenhouse gas waste to "unprecedented levels" after they could reap financial benefits from their disposal.

⁹⁹Pacific Carbon Trust, 'What are the benefits of Offsets?' Pacific Carbon Trust, (2014).

¹⁰⁰'Can standards for voluntary carbon offsets ensure development benefits', (Overseas Development Institute, 2007)

¹⁰¹Dr. Yacob Mulugetta, Senior Energy & Climate Specialist, United Nations Economic Commission for Africa.

¹⁰²Ibid.

- xx. Pacific Carbon Trust, 'What are the benefits of Offsets?' Pacific Carbon Trust, (2014).
- xxi. Richard Hodson (24 August 2015), 'Carbon-Credit Scheme Linked to Increased Greenhouse – Gas Production', Nature News, (Nature Publishing Group, Macmillan Publishers Limited, 2015).
- xxii. Richard Hodson, 'Carbon-credit Scheme linked to increased greenhouse – gas production', Nature, (nature.com, 24 August, 2015). Evidence published in Nature Climate Change, shows that several Russian chemical plants increased production of highly potent greenhouse gas waste to "unprecedented levels" after they could reap financial benefits from their disposal.
- xxiii. Roberts, David, 'An Observation on the Offset Debate – Many Offset Critics Appear to be Shadowboxing', (2007 – 07 -11).
- xxiv. Section 20, Nigeria's Constitution 1999 (as amended) provides: 'The State shall protect and improve the environment and safeguard the water, air and land, forest and wildlife of Nigeria'.
- xxv. Section 6(I), Constitution of the Federal Republic of Nigeria 1999 (as amended). 'State and Trends of the Carbon Market' (PDF), (World Bank, 2007).
- xxvi. Selin, Noell, 'Carbon Offset...Britannica Online Encyclopedia', (Encyclopedia Britannica Inc. Retrieved 21 October, 2015).
- xxvii. 'State and Trends of the Carbon Market' (PDF), (World Bank, 2007).
- xxviii. Ubong Ukpong, 'Reps Query Nigeria's Absence at Zero Gas Flaring Conference', National Mirror (Nigeria), October 21, 2015.
- xxix. Wikipedia, the free encyclopedia (2015), 'Carbon Credit'.