

**ENERGY DEMAND AND SUSTAINABLE DEVELOPMENT: CHALLENGES FOR INTERNATIONAL OIL CORPORATIONS (IOCS) IN THE NIGER DELTA REGION OF NIGERIA**

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**ABSTRACT**

Addressing emerging trends in energy demand within the practical space of sustainable development remains a key issue on the agenda of governments, researchers and International Oil Corporations (IOCs) around the world. However, global population growth rate, economic prosperity in some parts of the world, regional and per capita poverty levels continue to provide justification for the ever expanding pressure on available natural resources with negative consequence for social and environmental sustainability. From extensive review of secondary materials and unstructured stakeholders engagements; the paper highlights key issues in energy security especially within the demand and supply interface. It contends that there will be more pressure on available energy resources especially as the sector attempts to address changing lifestyles of emerging economies, cope with growing world population and fuel the revenue of resource endowed poor countries. In the light of this, it was proposed that a new path to sustainable development based on comprehensive stakeholders commitment, inclusive social investment, sound ethics and sustainable value creation should be the way forward.

**Keywords:** Energy, International, Demand, Corporations, Social, Management and Sustainable

## **INTRODUCTION**

Like every other sector in society, the oil and gas industry is subject to the dynamics of human needs which is more often decided in economic terms by the principle of demand and supply. The trend in energy production and consumption over the years has shown some kind of flux with lowlights coming as a result of the economic downturn in Europe and peaking as a result of the economic growth in Brazil, India, China and South Africa. In any case, the lesson for us is simple, as the world experiences growth in economics and demographics, demand for energy will peak significantly and this is by no means a linear trajectory.

As the International Energy Agency predicts, in 2035 oil and gas will meet around half of the world's energy requirements (IEA, 2013). The industry is expected to catalyze improvements in basic needs such as food, clothes and shelter as well as social needs such as education and public health. In other words, access to affordable and reliable energy is fundamental to reducing poverty, improving health, increasing productivity, enhancing competitiveness and promoting economic growth. In the course of providing this essential energy, the oil and gas industry stimulates economic activity as a major source of income, tax revenues and jobs along the supply chain. In clear terms, none of the Millennium Development Goals can be met without the discovery, production and supply of energy in the form of oil and gas (Accenture, 2012).

Amidst this optimism is the more challenging task of conducting energy sector activities within the practical space of sustainable development especially when we consider the fact that the energy sector is the single largest source of climate-changing greenhouse-gas emissions. Limiting these is an essential component of the sustainable development strategy of the oil and gas industry. As a result, in examining the sustainable development strategy in the oil and gas industry, the paper highlights key issues such as the need for energy, how this contradicts the practice of sustainability, the consequences and the challenges confronting International Oil Corporations (IOCs). Also, the paper examines current practices in addition to providing new proposals to achieving sustainable development.

## **THE NIGER DELTA: THE HOME OF IOCS**

The Niger Delta region of Nigeria is in the southern part of the nation, it is the section that the tributaries of the River Niger drain into the Atlantic Ocean. It occupies a total land area of about 112 square kilometers; it is seven percent (7%) of Nigeria's land mass (Social Development Integrated Centre, 2009; Nseabasi, 2010 and Etekpe, 2009). The Niger Delta region has a population of about 45 million people (24 % of Nigeria's total population); the region is one of the largest wetlands in the world, covering 70,000sqm (Balouga, 2006 and Nseabasi, 2010). The Niger Delta has five distinct ecological zones, namely: Mangrove forest and coastal vegetation; Fresh water swamp forest; Lowland and Rain forest; Derived Savannah and Montane region (Social Development Integrated Centre, 2009). Before oil and gas exploitation and other developments took their toll, the Niger Delta used to be very rich in biodiversity (Social Development Integrated Centre, 2009:33).

## MAP OF THE NIGER DELTA

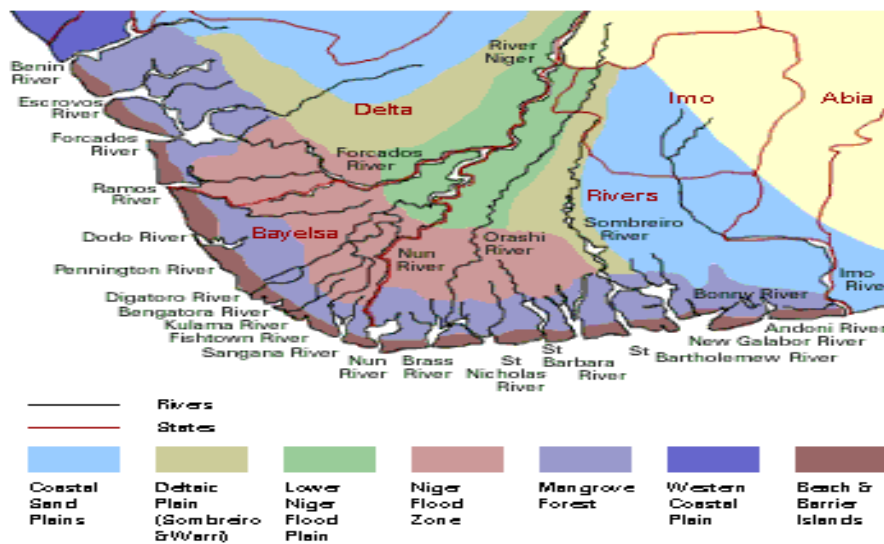


Figure 1:1 Source: Urhobo Historical Society (2012:1)

There are ten major deltas in the world; the Niger Delta is the second largest delta in the world and the largest in Africa (Nseabasi, 2010; Etekpe, 2009 and Ogomudia Report, 2001). The region, according to Asuni (2009) is home to about 140 different ethnic groups (2009). But to the Social Development Integrated Centre (2009), there are about 40 ethnic groups in the region and 250 languages and dialects. Formally, the Niger Delta is made up of nine out of the country's 36 states. Table 1:1 contains the ten most viable deltas in the world.

Table 1: 1 Ten most Viable Deltas in the World

S/N	Name of Delta	Location	Size
1	Mekong Delta	China – Asia	49,520 Kilometres
2	Mississippi Delta	United State of America–North America	3,705 Kilometres
3	Niger Delta	Nigeria – Africa	70,000 sq Kilometres
4	Yangtze Delta	China – Asia	?
5	Pearl Delta	China – Asia	?
6	Nile Delta	Egypt – Africa	3,349 sq Kilometres
7	Okavango Delta	Angola –Africa	16,000 sq Kilometers
8	Orinoco Delta	Venezuela–South America	2,140 sq Kilometers
9	Mahoakam Delta	Indonesia – Asia	?
10	Mackenzie Delta	Canada –North America	1,738 sq Kilometers

Source: Etekpe (2007:25)

The Niger Delta region of Nigeria is one of the most blessed deltas in the world, both in human and material assets. It is estimated to have more than 32 billion barrels of oil reserve and about 104.7 million cubic feet of gas deposit but it is one of the most undeveloped regions in Nigeria with widespread and entrenched poverty (Ayodele, 2010:3). The following in Table 1:2 according to the Directory of Oil and Gas (2014) are the prominent IOCs that are operating in the Niger Delta:

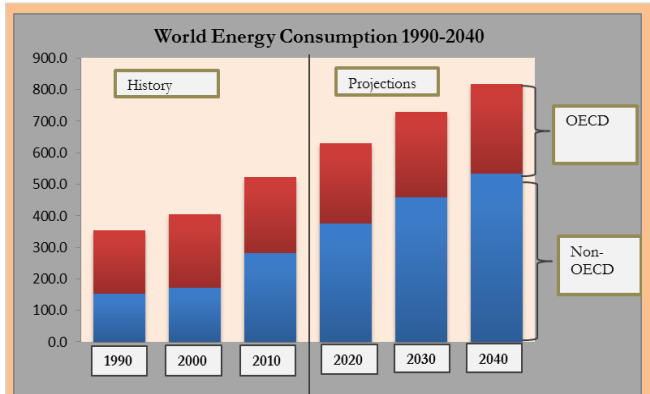
**Table 1:2 Major multinationals that have operated/operating in Nigeria**

<i>N0s</i>	<i>Names of companies</i>
1	Addax Petroleum Development (Nigeria)
2	Addax Petroleum Exploration (Nigeria)
3	Agip Energy & Natural Resources (Nigeria)
4	Brass Exploration
5	Chevron Nigeria
6	Conoco Energy Nigeria
7	Conoco Petroleum Nigeria
8	Elf Petroleum Nigeria (EPNL)
9	Esso Exploration & Production (Nigeria) (EEPNL)
10	Hardy Oil Nigeria
11	Mobil Producing Nigeria
12	Nexen Petroleum Nigeria
13	Nigerian Agip Exploration (NAE)
14	Nigerian Agip Oil (NAOC)
15	Petroleo Brasileiro Nigeria
16	Phillips Oil Company (Nigeria)
17	Shell Nigeria Exploration & Production (SNEPCO)
18	Shell Petroleum Development Company Of Nigeria
19	Star Deep Water Petroleum
20	Statoil Nigeria
21	Syntroleum Nigeria
22	Texaco Nigeria Outer Shelf
23	Texaco Overseas (Nigeria) Petroleum (TOPCON)
24	Total Upstream Nigeria

**Directory of the Nigerian Oil and Gas Industry (2014:1)**

## THE NEED FOR ENERGY

The International Energy Outlook (2013) projects that world energy consumption will grow by 56 percent between 2010 and 2040 (see chart to the right). A rational equation underpinning the progressive need for energy rests on the mathematical relationship between variables such as population growth rate, economic growth or prosperity and increase in per-capita income. While this growth path is not a linear process, economic and financial crunches tend to slow down global energy consumption affecting the demand and supply nexus. Nevertheless, this scenario represents some kind of human-need transition as is the case with Europe.



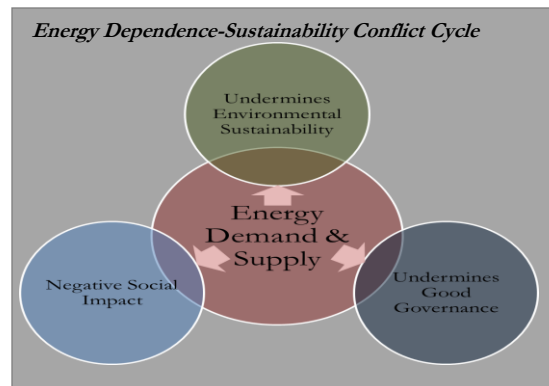
By far the most significant variable in the need for energy around the world is the rate of population growth. According to an analysis of historical human energy use published by Western Oregon University, the energy we each use for our activities has grown almost thirty times from our early agricultural days to the consumption we now see in developed countries (Paul, 2007). The world's population has increased by a similar amount in that time, from 200 million in 1 CE to an estimated 7 billion today. The growing population is not good for the world's resources. Fossil fuel consumption (coal, gas, oil, etc.) is not slowing down, we need to reduce greenhouse-gas emissions and the fossil fuel resources are limited in the world (Paul, 2007).

The demand for energy around the world does not only increase rapidly due to population growth, but also due to the economic growth and associated increase in wealth and electricity use of people in developing countries. Consequently, in any scenario of economic success, the demand for energy will continue to expand. Although the world is still recovering from the 2008-2009 global recession, more regions are experiencing economic prosperity especially Brazil, India, China and South Africa. In other words, developing countries in Asia, Latin America, the Middle East, and Africa account for most of the present world energy need with familiar reasons. Income elasticity of demand for energy is high, and as per capita incomes grow people want their energy needs met—just as people in industrialized countries did before them. This simply translates to more pressure on available energy resources to feed growth, changing lifestyles of emerging economies and also boost income of resource rich poor countries.

Consequently, extensive pressure will mount on conventional (deep offshore, deeper in earth crust, tight oil and gas) and expensive to develop (shale oil and gas) sources. As we know, these sources of energy are nonrenewable and as such finite. The progressive increase in energy demand will drive changes that are likely to make fossil fuels scarce and expensive forcing technology innovation in alternative energy sources. In this regard, more options (geothermal, biomass, nuclear, hydro, solar power, wind, water) naturally fall on the table of actors in the industry if energy security is to be achieved.

## HOW DOES ENERGY DEPENDENCE CONFLICT WITH SUSTAINABLE DEVELOPMENT?

The attempt by the oil and gas industry to meet world energy demand carries significant costs of its own. The extraction, refinement, transportation and storage of fuels carry an immense environmental burden, as does its ultimate consumption, and disposal of related waste products. History shown that increased energy use and mechanization brings with own burden with respect to the environment, governance and life in general. In other words, as population continues to grow economic prosperity expands across regions, demand for



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energy increases. The urge to meet this demand conflicts in the most deleterious way with sustainable development by undermining environmental sustainability, good governance and producing negative social impacts.

While future changes in population, technology, and economic growth are unknown, what is clear is that energy production and consumption conflicts with the theoretical and practical foundation of sustainable development (Stephen, 1998). First in this energy dependence-sustainable development conflict nexus, is the negative effect it has on the *environment* which historically falls at the heart of the global sustainability debate. As energy demand increases, industrial activities within the sector will also expand to ensure effective supply of related products. The process of meeting energy needs necessitates further pressure on natural resources which negatively affects the eco-systemic balance and conflicts with the tenet of environmental sustainability.

In addition to adverse environmental impact, demand and supply of energy creates conditions that undermine *good governance* especially in resource endowed regions. This unhealthy political/governance situation is more often experienced in developing countries of Africa where the *Resource Curse Thesis*<sup>1</sup> has been significantly validated. Regimes and elites that economically benefit from rich energy resources rarely share oil revenues with their people, deepening economic disparity in the countries and at times creating resource-driven tension and crises (Humphreys, et al, 2010).

It is important to note that the unequal distribution of wealth derived from natural resource exploitation by rogue regimes undermine other sectors of society in terms of their growth potentials. In other words, when revenue is not properly channeled to other sectors of society, it becomes easy to have a vulnerable socio-economic milieu characterized by widespread youth unemployment, poverty and hunger. These in turn creates necessary and sufficient conditions for all forms

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<sup>1</sup> Resource curse is a highly absurd condition in which countries with abundance of non-renewable resources experience stagnant growth or even economic contraction that leads to underdevelopment. The resource curse occurs in a nation when it begins to focus all of its energies on a single industry, such as mining, and neglects other major sectors. As a result, the nation becomes overly dependent on the price of commodities, and overall gross domestic product becomes extremely volatile. Additionally, government corruption often results when proper resource rights and an income distribution framework is not established in the society, resulting in unfair regulation of the industry. The resource curse is most often witnessed in emerging markets following a major natural resource discovery.

of social vices that range from gang wars, militia activities, prostitution to illicit economic activities such as kidnapping and oil theft. All of these have significant negative effect on sustainable development. The Niger Delta region of Nigeria represents an understanding of how bad resource governance has translated into negative *social impacts*<sup>2</sup>.

Sustainable development is simply the development that meets the needs of the current generation with both the natural and the human resources that will not compromise or endanger the needs and lives of future generation's abilities and survival to meet their own needs. Therefore, sustainable development in crude oil producing regions such as the Niger Delta is about preserving the environment and leaving some of the crude oil resources for the future. It also includes providing income-generating skills for the youths so that they can take care of themselves in the future, with or without the crude oil. This explains why sustainable development abhors environmental degradation of all types and excessive consumption of a key natural resource in a particular environment.

### **CONSEQUENCES AND CHALLENGES OF EXPANDING ENERGY DEMANDS**

The interplay of adverse externalities (environmental, governance and social impacts) resulting from energy demand and supply constitute far reaching negative consequences for business and society. However, policy and academic concerns have been more focused on the problem of global climatic change which in itself can undermine governance and social sustainability.

Industrial activities that lead to the burning of fossil fuels (coal, oil, natural gas) and biomass (wood, crop residues, dung) produces carbon dioxide (CO<sub>2</sub>) gas as well as energy. Carbon dioxide is a "greenhouse gas," which traps infrared radiation (heat) from escaping the atmosphere, affecting the earth's thermal balance. The oil and gas industry is known to be the largest source of greenhouse gas emissions and therefore a major driver of climate change (Rebecca & Daniel, 2010 and Paul, 2007) Global warming-induced natural disasters and these have the capacity to create challenges that demands emergency response. The world's poor will be put in the most risk, as richer countries are more able to adapt to climate change. Developed countries will be responsible for aid efforts as well as responding to crises from climate-induced mass migration. Recent studies found that the gravest consequences of climate change could threaten to destabilize governments, intensify terrorist actions, and displace hundreds of millions of people due to increasingly frequent and severe natural disasters, higher incidences of diseases such as malaria, rising sea levels, and food and water shortages (Rebecca and Daniel, 2010).

The challenge of managing sustainable development for the oil and gas industry would be a compelling discourse at any point in time. But it is particularly relevant in this time of dramatic change in the world's energy needs. Growing demand and increasingly complex operating environments are making the delivery of reliable, affordable energy one of the biggest challenges of today. At the same time, regions of the world where energy resources are concentrated are often most in need of sustained economic development.

Oil and gas industry intervention in sustainable development also requires the right set of policies to encourage broad investment across the full economic and social spectrum. This is primarily the role of government. However, fragile political

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<sup>2</sup> Negative social impacts have helped in the Niger Delta region to enhance vices such as prostitutions, dependency, crass materialism and abandonment of positive cultures that promotes unity, patriotism, love, peace and brotherhood.

and governance systems especially in resource endowed developing countries pose significant challenge to IOCs in their attempt to champion sustainable development initiatives.

Additionally, widespread adverse socio-economic conditions such as poverty and youth unemployment in host communities act as enablers for various kinds of social vices which all together threaten the long term viability of IOCs. These social risks which manifest in the form of conflicts, ethnic militia, organized oil theft, kidnapping etc., more often pose significant constrain to IOCs in terms of balancing energy production activities with those that enable the delivery of social value and by extension sustainable development (Onaolapo, 2012)

Increasingly the energy industry is confronted with managing an ever expanding stakeholder base with a range of theoretical choices. Whatever the choice, a framework that drives the mutual dependence of corporations/businesses and society so that both business decisions and social policies follow the principle of shared values is critical to achieving sustainable development.

Addressing the world's energy needs is a way to advance society and also to advance sustainable value creation for the oil and gas industry – while balancing positive economic, environmental, and social gains across the globe. As Hart (2005) has observed, *IOCs* for better or worse, are at the front line of globalization. It is also pertinent to add that this puts them in a similar but reverse position as champions of sustainable development. By this, IOCs can play a role in providing opportunities for building economic and social values in the communities where they operate. While this is a steep challenge in a world where the population is growing and the gap between rich and poor is wide, IOCs have progressively engaged in activities that mitigate adverse impacts in their areas of operation. These impact management approaches range from land and resettlement, biodiversity conservation, cultural heritage and environment/social impact assessment among others.

Further, the oil and gas industry through exploration, extraction, marketing and refining benefit all by enabling and driving widespread economic and social development in it. For itself, however, the industry as part of its sustainable development strategy engages in social investment programmes that encourage local content and capacity building as well as job creation and technology transfer. Looking ahead, the energy industry will be at the forefront of innovative approaches that will enable new technologies to meet both energy demand and sustainable development, but this has to be done under a new paradigm.

## **NEW PROPOSAL FOR IOCS**

In a world that is becoming more connected and interdependent than ever before, sustainable development is not an option but an imperative. To ensure we maintain prosperity and a healthy environment for our future generations, we have to embrace innovative technologies and renewable energy on a scale we have never seen before. This would mean taking the energy industry to a new height of corporate environmental management and social achievement. However, this cannot be realized independently from the communities and other actors in society. Thus whether we continue to rely on conventional non-renewable sources or unconventional renewable sources to meet global energy needs, sustainable development strategy in the oil and gas Industry will have to be built on a sound model that drives shared value in the operating environment. I submit to Hart's position that "By creating a new, more inclusive brand that incorporates previously excluded voices,



concerns, and interests, the corporate sector could become the catalyst for a truly sustainable form of global development—and prosper in the process” (Hart, 2005).

Based on this, a new corporate sustainable development strategy must be founded on effective stakeholder interaction and integration (Onaolapo, 2012). We therefore, propose a new strategy (*see model below*) that is built on the premise that a sound stakeholder interaction will generate possible solutions and actions necessary for a sustainable *integrational* strategy. Within this framework lies the imperative to mainstream community perception, opinions, and concerns into the sustainable development policies and procedures of the energy industry. Figure 1: 2 explains the concept in details.

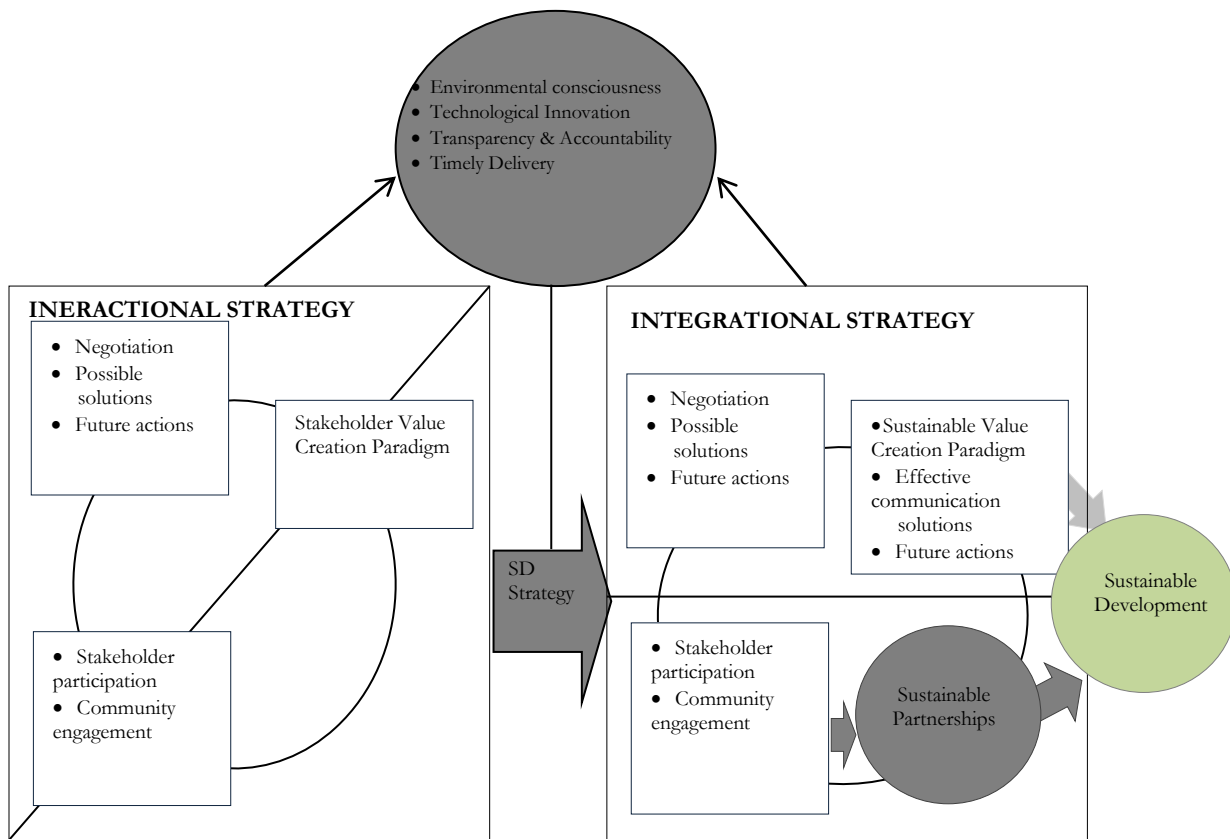


Figure 1:2 New Sustainable Development Strategy for the Energy Industry. **Source:** Onaolapo, (2012:31)

The new model supports stakeholder value creation perspectives such as value network, blended value, business ecosystem etc. It will as a matter of necessity provide a framework for wide consultation, proactive engagement and implementation of sustainable development programmes that take into consideration a sound environmental management and social investment

frameworks. The ability of a corporation to incorporate the concerns of its stakeholders is what defines its effectiveness in terms of relationship (which in our case we refer to as interaction), business and sustainable development. This aligns strongly with Hart's submission that:

Sustainable global enterprise thus represents the potential for a new private sector-based approach to development that creates profitable businesses that simultaneously raise the quality of life for the world's poor, respect cultural diversity, and conserve the ecological integrity of the planet for future generations. Making such a societal contribution while simultaneously creating shareholder value will take real imagination and a fresh approach to business strategy (Hart, 2005:22).

## CONCLUSION

The relationship between energy demand and unsustainable outcomes is already well articulated in academic and policy documents. This has also attracted a plethora of social interventions by governments, IOCs and sustainable development practitioners across the world. This notwithstanding, social risks arising from unsustainable energy production continue to pose problems for IOCs especially in developing areas like Nigeria's Niger Delta.

It is therefore the conclusion of this study that for IOCs to champion effective sustainable development interventions in their areas of operations they must as a matter of necessity evolve frameworks that rest on interaction with and integration of local people in the design of such sustainability frameworks. In this sense, comprehensive stakeholder engagement, inclusive social investment, sound ethics/compliance and sustainable value creation are very critical to this framework.

## REFERENCES

- Accenture (2012). *Sustainable Energy for All: Opportunities for the Oil and Gas Industry*. <http://www.accenture.com/SiteCollectionDocuments/PDF/Accenture-Sustainable-Energy-All-Opportunities-Oil-Gas-Industry.pdf>
- Asuni B. J. (2009). *Understanding the Armed Groups of the Niger Delta*, USA: Council for Foreign Relations, Working Papers, [www.cfr.org/content/.../CFR\\_WorkingPaper\\_2\\_NigerDelta.pdf](http://www.cfr.org/content/.../CFR_WorkingPaper_2_NigerDelta.pdf), sourced 22-06-12.
- Ayodele B. (2010). The Niger Delta Region of Nigeria and the Gulf of Guinea: The United States African Command (AFRICOM) as Security Option. *Journal of the Centre for Niger Delta Studies, Niger Delta University, Bayelsa-State*, Vol 4, December.
- Balouga, J (2006). *The Niger Delta: Defusing the Time Bomb*, International Association for Energy Economics, <https://www.iaee.org/documents/newsletterarticles/109balouga.pdf>, sourced: 13-08-13
- Directory of the Nigerian Oil and Gas Industry (2014)*, [http://www.nigeria-oil-gas.com/directory\\_of\\_the\\_nigerian\\_oil\\_&\\_gas\\_industry-33-1-2-c.html](http://www.nigeria-oil-gas.com/directory_of_the_nigerian_oil_&_gas_industry-33-1-2-c.html), accessed 21-02-15
- Etepkpe, A. (2009). *Policy Option and Adaptation: A Comparative Study of the Niger Delta and other Delta of the World*, Talent World Publishing, Lagos.
- Hart, S. L. (2005). *Capitalism at the Crossroads: The Unlimited Business Opportunities in Solving the World's Most Difficult Problems*. New Jersey, Pearson Education Inc., Publishing as Wharton School Publishing.

Humphreys, M. Sachs, D.J. and Stiglitz, J.E. (eds) (2007). *Escaping the Resource Curse*. New York, Colombia University Press.

IEA (2013). *International Energy Outlook 2013 with Projections to 2040*. U.S. Energy Information Administration Office of Energy Analysis U.S. Department of Energy

Nseabasi, S. Akpan (2010). *Kidnapping in Nigeria's Niger Delta: An Exploratory Study*, Journal of Social Science, 24(1):33-42, <http://www.krepublishers.com/02-Journals/JSS/JSS-24-0-000-10-Web/JSS-24-1-000-10-Abst-PDF/JSS-24-1-33-10-976-Akpan-N-S/JSS-24-1-33-10-976-Akpan-N-S-Tt.pdf>, sourced 12-07-12.

Onaolapo, B. (2012). *Organizational Effectiveness for Stakeholder Value Creation in the Nigerian Oil Industry: A Case Study of the Shell Petroleum Development Company of Nigeria*. Unpublished Master's Thesis submitted to the School of Oriental and African Studies Centre for Development, Environment and Policy. University of London.

Paul, C. (2007). *World Energy and Population Trends to 2100*. <http://www.paulchefurka.ca/WEAP/WEAP.html>

Rebecca L. & Daniel J. W. (2010). *Oil Dependence Is a Dangerous Habit Imports Threaten Our Security, Our Environment, and Our Economy*. Centre for American Progress.

Social Development Integrated Centre (2009), *Citizens Report on State and Local Government Budgets in the Niger Delta, 2008*, [www.citizensbudget.org](http://www.citizensbudget.org), retrieved, 25-07-13

Stephen, R. C. (1998). *Issues in Energy & Sustainable Development*. [http://web.mit.edu/connorsr/www/docs/Connors\\_SustDevel\\_Jun98.pdf](http://web.mit.edu/connorsr/www/docs/Connors_SustDevel_Jun98.pdf)

*The Ogomudia Committee Report* (2001), The Adaka Boro Center, <http://www.adakaboro.org/resources/ngtc2008/90-niger-delta-technical-committee-members>, retrieved 13-08-2013

Urhobo Historical Society, [www.waad.org](http://www.waad.org), sourced 27-07-12.

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