



# Master's degree thesis

**LOG950 Logistics**

**Sustainable Procurement in the Ghana Oil and Gas Industry**

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## **Preface**

This master thesis marks the final stage of my master's degree in Logistics at Molde University College – Specialized University in Logistics. Within the two and a half years of my study in Molde University, I have had one of my best experiences in learning and education - a great learning environment and academically stimulating programs. I would therefore, like to express my special gratitude to the authorities and staff of Molde University College, for the opportunity and the great learning experience.

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“All things work together for good to those who love God”

Enoch Niboi

Molde, October 2018

## **Abstract**

The past half century has witnessed a clarion call on nations and organizations to address the issue of sustainability in their national policies and business operations. The oil and gas industry may be particularly vital in the issues of sustainability. The economic benefits to oil resource nations and participating organizations can be enormous, the social expectations can be overwhelming, and the environmental impact of the exploration activities of the oil and gas industry can be devastating. Sustainable procurement can serve as a balanced scorecard approach by the industry to resolving the tensions inherent in its efforts to reconcile its responsibilities towards profit, people and the planet; the so-called triple bottom line (TBL or 3BL) or the ‘three pillars’ of sustainability as entailed in the definition by the Brundtland Commission in 1987.

This research enquires how procurement policies and strategies in the Ghana oil and gas industry are aligned with the three pillars of sustainability and the factors that drive this alignment. The results of the research suggest that: (1) the economic aspect of sustainable procurement is consistent with most players in industry; (2) the up-stream sector displays a more balanced approach to sustainable procurement; (3) the down-stream sector organizations place more emphasis on the economic pillar of sustainable procurement compared to the social and environmental pillars. Regulations and value for money were found to be common drivers of sustainable procurement in the upstream exploration and operating industry and the downstream refinery industry. However, internal organizational culture, which was also found to be a key driving force of sustainability and sustainable procurement practices in the upstream sector, could only be described as a minor driver in the downstream sector.

Recommendations to encourage and improve sustainable procurement in the Ghana oil and gas industry included: (1) Replication of the upstream sector local content law in the downstream sector; (2) Develop a small number of sustainable procurement indicators, in the downstream sector, with gradual increments, to encourage industry achievement and facilitate effective monitoring; (3) Develop and implement policies and incentives, that encourage organizations to willingly adopt and practice sustainable procurement, rather than rely on just the pressures and drivers of sustainability such as laws and regulations, stakeholder pressures or loss of reputation.

**Keywords:** Sustainability; Procurement; Sustainable Procurement; Green Procurement; Triple Bottom Line; Social; Environmental; Economic; Value for money.

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# Chapter 1

## 1.0 Introduction

This study is on sustainable procurement, specifically in the Ghana oil and gas industry. The study interest is to examine how the sector meet its need for goods and services in sustainable ways and the motivation to implement sustainable procurement policies by industry players. The past half century has witnessed a clarion call on nations and organizations to address the issue of sustainability in their national policies and business operations. The Millennium Development Goals (MDGs) expressed widespread public concern about poverty, diseases, hunger, gender inequality, unmet schooling and environmental degradation and marked a historic and effective method of global mobilization to achieve this set of important social priorities worldwide. The MDGs is seen by civil society and policy makers as a contributing factor to the progress against poverty, hunger and disease and thus, a call for a continued global fight against poverty beyond 2015. In a world that is undergoing climatic change and other serious environmental ills, there is a global consensus on the need for environmental objectives, alongside poverty reduction objective in global policies formulation. Thus, the idea of Sustainable Development Goals (SDGs) has gained grounds because of the recognition of the urgency for global sustainable development. On September 25, 2015, 193 Member States of the United Nations adopted a set of goals to end poverty, protect the planet, and ensure prosperity for all as part of a new global sustainable development agenda, the SDGs. The SDGs are contained in paragraph 54 United Nations Resolution A/RES/70/1 of September 25, 2015 (United Nations 2015)

The term “sustainability” has been viewed and interpreted in different ways, ranging from a multi-dimensional term for business operations and management to an inter-generational philosophical position. With the passage of time, there has been a broader approach to the sustainability issues and initiative with an increasingly adoption of triple bottom line (i.e., environment, economic, and social) approach to sustainability. This is a paradigm shift from the early sustainability initiatives, which tended to focus on environmental issues (Ahi and Searcy 2013). The well-adopted and most often quoted definition of sustainability is that of the Brundtland Commission, World Commission on Environment and Development (1987) “development that meets the needs and aspirations of the present generation without compromising the ability of future generations to meet their needs.”

In their annual reports in 2004, an estimated 68 percent of the Global 250 firms generated a separate annual report on sustainability which considered the broader approach of the triple bottom line (i.e., environmental, social, and economic issues) in contrast to the primary emphasis on environmental reporting in 1999; in addition, supply chain-related issues were discussed in 80 percent of these reports (KPMG 2005). There has been a significant improvement in the quality of Corporate Responsibility reporting among the G250 firms and companies are getting better in the reporting of social and environmental trends and risks that affect their businesses. Including CR data in annual financial reports is now a firmly established global trend. Almost 3 in 5 companies do this now, compared with only 1 in 5 in 2011 and the current rate of Corporate Responsibility reporting among the G250 firms is over 90 percent (KPMG 2015). Sustainability as an important strategic goal is gaining increasing recognition by global organizations in the past few years (Closs, Cheri and Nathan 2011).

Sustainability in the supply chain management and business operations have been defined within the same concept of achieving present goals without jeopardizing future needs. According to Dyllick and Hockerts (2002), “Corporate sustainability can accordingly be defined as meeting the needs of a firm’s direct and indirect stakeholders (such as shareholders, employees, clients, pressure groups, communities etc.), without compromising its ability to meet the needs of future stakeholders as well”. Sustainable procurement can be defined as the pursuit of sustainable development objectives through the purchasing and supply process (Walker and Phillips, 2008). CIPS (2012) has defined sustainable procurement as “a process whereby organizations meet their needs for goods, services, construction works and utilities in a way that achieves value for money on a whole-life basis in terms of generating benefits not only to the organization, but also to society and the economy, whilst minimizing damage to the environment”.

## **1.1 Background of the Research (Research Motivation)**

Ghana is a West African country, bordering the Gulf of Guinea, between Cote d’Ivoire and Togo with an estimated population of 30 million. Considered a beacon of democracy in the sub-region, the country has remained politically stable and peaceful after the introduction of a constitutional democratic rule in 1992. The country has since, witnessed a quarter century of relatively economic sound management, a competitive business environment, and sustained reduction in poverty levels and a general economic improvement. Ghana is well-

endowed with natural resources and has a market-based economy with relatively few policy barriers to trade and investment in comparison with other countries in the region. Agriculture employs more than half of the workforce, mainly small landholders and accounts for about 20% of GDP. Gold, cocoa and oil exports are major sources of foreign exchange. Other export products include timber, tuna, bauxite, aluminum, manganese ore, diamonds and horticultural products. Ghana's economic growth has further been boosted by the expansion of the country's emerging oil industry, but the fall in oil prices since 2015 reduced by half Ghana's oil revenue. The country's 2016 GDP is estimated at \$120.8 billion (World Factbook 2016).

Ghana's mineral potential and its contribution to global minerals output, especially gold is well acknowledged. The mining industry contributed greatly to the impressive 14.4% GDP growth the economy chalked in 2011. According to the Bank of Ghana, the mining industry's contribution to total mechanized export was about 40% in 2011 (Ghana Chamber of Mines 2011); an economic growth peak largely boosted by the startup of oil production in Ghana (Ndaba 2010).

Despite the relative importance of mining (mineral extraction) to the Ghanaian economy, the sector has a long history of love-hate in Ghana. Mining has been regarded with suspicion and has been attacked for several reasons including: (1) the charge that the industry's adverse environmental and social effects are hardly ever addressed and most often ignored, resulting in detrimental consequences on the health, lives and livelihood of local mining communities; (2) the accusation that mining has failed to make the necessary positive impact on the overall economic fortunes of Ghana because of the poor or improper definition of fiscal terms and; (3) the perception and accusation that contracts, transactions and decisions about mining activities are not transparent, with limited or no public oversight (INSTITUTE OF ECONOMIC AFFAIRS-GHANA 2010). There is no doubt that the mining industry and Ghana's foremost income generating activity has not received the best of support from the general public, particularly local mining communities.

Ghana has also added oil resources to its numerous natural resources recently. In 2007, the former President Kuffour (2000-2008) announced enthusiastically, "With oil as a shot in the arm, we're going to fly" (BBC NEWS 2007). Since then the country has witnessed a huge public discussion: How much money will accrue from the oil production? What will be the social benefit of the oil discovery? How to avoid the so-called 'Resource Curse'?

The oil and natural gas industry is one of the world's biggest industries in terms of revenue value and an important driver of the world economy. According to Ernst & Young (2016)

global oil and gas activities in 2016 increased by 14% from the 2015 level to \$395 billion. The oil and gas industry has particularly served as a major source of income to nations and contributed significantly to the GDP of producing countries. Through nearly 40 years of operations, the oil and gas industry has created values in excess of NOK 7000 billion in current terms to the Norwegian economy. The oil and gas sector accounted for 26 per cent of national value creation in 2008; three times higher than in land-based industries and around 23 times the total value creation of the primary industries (FACTS 2009).

The global oil industry also provides significant profits, taxes and jobs. According to the ILO (2016) an estimated 6 million people are directly employed by the petroleum industry and an additional 60 million plus jobs are indirectly created by the industry. Despite this high employment, the petroleum industry still faces a shortage of skilled workers. Thus, there is more opportunity for job creation (direct and indirect) by the industry. Women are also finding an increasing job opportunity in the petroleum industry, but from a very low base. This may be because of harsh working conditions in the industry. It is therefore not surprising that countries that make new discoveries of oil tend to have high expectations of the benefits of this natural resource.

Oil and gas production, also, obviously creates a significant and varied negative impacts and costs to the environment, human health and culture. Within this context, pollution may be described as the most widespread and dangerous consequence of oil and gas industry activities. Virtually all activities within the production chain of the oil and gas industry, from the upstream exploration to the downstream refining activities, are associated with pollution. Gas emission, wastewaters, solid waste and aerosols generated during drilling, production, refining and transportation amount to over 800 different chemicals, among which, of course, prevail oil and petroleum product. These environmental effects can sometimes be devastating and the cost (environmental, social and economic) can persist over a significantly longer time. An example of such devastating is the Deepwater Horizon Oil Spill (BP oil spill or the Gulf of Mexico oil spill), an industrial disaster that began on 20 April 2010, in the Gulf of Mexico on the BP operated Macondo Prospect. Considered the largest marine oil spill in the history of the petroleum industry, the U.S. government estimated the total discharge at 4.9 million barrel. The spill lasted for months, fouling beaches across the region, killing coastal and marine wildlife, destroying vegetation, and seriously damaging seafood industries. The well operator, BP, was fined over \$18 billion. Along with fines, settlements, and clean-up costs, it is estimated that the spill cost BP over \$50 billion.

There is a consensus among nations of the world that the industrial and economic activities of man is depleting the environmental health of the earth and there is an urgent need to protect the world from further environmental damage. The Brundtland and Khalid report (1987), one of the earliest studies to look in detail at the challenges and effects of climate change and the need to preserve the earth's resources for future generations, highlighted the need for economic development in a sustainable manner without depleting natural resources to unsustainable levels and without putting too much pressure on the environment.

The petroleum industry is characterized by a complex operation, high financial investment and high risk. With the background of extreme locations, marginal oilfields, new global business trends, new technological developments and the volatility of oil and gas prices, the oil and gas industry is faced with the challenge of seeking better solutions to overcome these challenges, among others, to develop and implement new and innovative procurement strategies. It is also imperative that the oil and gas industry be looked upon as an individual and complex industry in its own right. The direct application of procurement lessons learnt in other industries, such as construction, may be inappropriate, as the oil and gas industries differ in many aspects relating to operation, construction and maintain phases between the two industries (Mohammad and Price 2004).

The accelerated global journey towards sustainable development has placed sustainable procurement on government agendas across the world, with governments linking their sustainable national development to the sustainable procurement in the key sectors of their economies (Walker, Mayo, et al. 2012). Sustainable procurement is increasingly becoming an important aspect of the journey towards national sustainable development goals for governments since public sector spending on goods and services is large. In 2013, governments spent, on average, 29% of the total general government expenditure on public procurement (OECD 2015). Like the public sector, procurement is a crucial pillar of services delivery for oil and gas industry because of the sheer volume of spending it represents. Well-governed oil and gas sector procurement can play a major role in fostering sector efficiency and establishing citizens' trust and support. Well-designed procurement systems in the industry can also contribute to achieving pressing policy goals such as innovation, environmental protection, job creation and the development of local communities and small and medium enterprises.

Like many other countries in the world, Ghana also links its sustainable national development to the sustainable procurement in the major sectors of its economy, such as the oil and gas industry, the mining industry, the agriculture and cash crop as well as the public sector. The linkage between the country's national development and sustainable procurement is reflected in many ways including laws and regulations to guide and safeguard sustainable procurement in these sectors. Notable among these regulations are the Petroleum (Local Content and Local Participation) Regulations 2013, L.I 2204 and the Ghana Petroleum Commission Act, 2011 (Act 821). These laws and regulations aim to use the procurement and supply chain management activities of the oil and gas industry as a catalyst for national economic growth. Sustainable procurement in this sector may thus, viewed as a strategic means of achieving the country's long-term economic development goals.

Sustainability is about long-term survival; environmentally, socially and economically. Sustainable business operations must therefore successfully reconcile the need to be environmentally and socially sustainable with the demands of a market-based system, whose key measurements of success are growth and profit. Sustainable procurement has been defined as “buying goods and services in environmentally, socially and economically conscious ways” (Walker et al, 2012).

Given the problems which have beset the extraction industry and the diverse expectations and dimensions that the discovery and exploitation of oil and gas presents, it is imperative that appropriate measures are taken, and policies implemented to remedy such problems in the oil and gas sector. The oil and gas industry may be particularly vital in the issues of sustainability. The economic benefits to oil resource nations and participating organizations can be enormous, the social expectations can be overwhelming, and the environmental impact of the exploration activities of the oil and gas industry can be devastating. Sustainable procurement can serve as a balanced scorecard approach by the industry to resolving the tensions inherent in its efforts to reconcile its responsibilities towards profit, people and the planet; the so-called triple bottom line (TBL or 3BL) or the ‘three pillars’ of sustainability as entailed in the definition by the Brundtland Commission in 1987.

## **1.2 Research Gap**

There has been some research on extractive industry of the natural resource rich country, Ghana. However, most of these researches (example, INSTITUTE OF ECONOMIC AFFAIRS-GHANA 2010; Ndaba 2010) have been on the mining and non-oil extractive industry, as the oil and gas resource was only discovered in 2007 and extraction began in 2010, and to a large extent, the socio-economic issues of the extractive resource industry of Ghana.

Since the discovery of oil in commercial quantities in July 2007, the country has witnessed a huge public discussion: How much money will accrue from the oil production? What will be the social benefit of the oil discovery? How to avoid the so-called 'Resource Curse'? The public anticipation of the oil benefits is very high, but the participants in the discussion often lack basic information on the direct and indirect possible effects and benefits of the discovery. In Ghana, the industry, policy makers and stakeholders seem to be concerned with the socio-economic effects of the industry's operations with much emphasis and priority placed on the expected financial benefits and associated social development from the exploration of the mineral resources. It is therefore not surprising that in 2007, the former President Kuffour (2000-2008) announced enthusiastically, "With oil as a shot in the arm, we're going to fly" (BBC NEWS 2007).

Despite the importance of the oil and gas industry to the development of Ghana, not much study have been done on the broader sustainability (environmental, economic and social) of the industry, much less the sustainable procurement industry in Ghana. Much of the discussion in the industry has focused on the expected social benefits from the industry and very little attention has been paid to the holistic approach of the sustainability of the industry. This study aims to explore the sustainability of the oil industry through its procurement activities. The study will focus on the dimensions of sustainable procurement, the drivers of sustainable procurement and the implementation of sustainable procurement policies in the industry. This study will pave the way for further research into, for example, how sustainable procurement in the oil and gas sector can be applied to support the economic development of Ghana and the best practices of sustainable procurements in the Ghana oil industry.

## **1.3 Statement of Purpose**

The research will cover sustainable procurement issues in the oil and gas industry with a focus on the Ghanaian industry. Sustainable procurement has been defined as "buying goods



and services in environmentally, socially and economically conscious ways” (Walker et al, 2012). The main issues of sustainability to be tackled in the research are the factors/forces that drive the industry’s sustainable procurement activities; prioritized activities of sustainability by the industry; and the industry’s procurement or procurement policy implications on sustainability. To accomplish this, the study shall focus on three main players in the Ghana oil and gas industry: (1) the purchasing organizations; (2) the supply organizations and; (3) the regulatory institutions.

This study is based on the knowledge and concept of the Triple Bottom Line. Although specific definitions vary, sustainability and sustainable development embraces the so-called TBL approach to human wellbeing. Almost all the world’s societies acknowledge that their quest for sustainable development is a journey towards the achievement of a balance between economic development, environmental sustainability and social inclusion even though the specific objectives may differ globally, between and within countries. The importance and urgency of the TBL arises from the new global consciousness brought by earth science and the rapid changes being witnessed by the globe. The world is experiencing a new era in which human activity is playing a central role in shaping and determining (some observers may say threatening) its existence.

The TBL has emerged as a paradigm for sustainable development, whereby meeting the needs of the present and of future generations are classed under three dimensions: environmental, social and economic (Dyllick and Hockerts, 2002), and that the business models used by many organizations increasingly seek to include environmental aspects of performance in line with the triple bottom line concept (Birkin, Cashman, et al. 2009).

However, evidence suggests that many organizations have taken a rather diminished view of sustainability, with a narrow focus on environmentally orientated topics such as eco-efficiency (Cozens et al., 1999; Dyllick and Hockerts, 2002; Ball et al., 2006). While environmental issues are key aspects of sustainability, it is acknowledged that the economic and social dimensions need equal attention, yet they are lacking in many corporate agendas (Sharma and Ruud, 2003; von-Geibler et al., 2006; Yongvanich and Gutherie, 2006; Diniz and Fabbe-Costes, 2007).

The importance of an integrated approach to sustainability lies in the interrelationship of the three elements. For example, the effect of economic growth and increased productivity may

increase an organization's carbon footprint and environmental effects yet lead to the development of long-term employment opportunities for local communities (Kirchgeorg and Winn 2006). Given its position and its ability to influence external organizations in the supply chain, the role of procurement in driving forward the corporate sustainability agenda is critical (Green et al., 1996; Seuring, 2004).

Based on these and existing research and literature this study seeks to answer the following research questions:

1. What are the drivers of sustainable procurement in the Ghana oil and gas industry?
2. How are the elements of sustainable procurement prioritized in the Ghana oil and gas industry?
3. How does the procurement policies of the Ghana oil and gas industry impact on the elements of sustainable procurement?

## **1.4 Significance of the Study**

The Ghanaian oil and gas industry is still an infant industry in the sense that the discovery and exploration of oil in Ghana was achieved in just about half a decade ago. However, there is a high public expectation of the economic benefits of the discovery within the shortest possible time. Meanwhile, the industry also has to deal with the issue of environmental safety and ultimately secure a positive return on shareholder investment. In 2007, the former President Kuffour (2000-2008) announced enthusiastically, "With oil as a shot in the arm, we're going to fly" (BBC NEWS 2007). Since then the country has witnessed a huge public discussion: How much money will accrue from the oil production? What will be the social benefit of the oil discovery? How to avoid the so-called 'Resource Curse'? The public anticipation of the oil benefits is very high, but the participants in the discussion often lack basic information on the direct and indirect possible effects and benefits of the discovery. Sustainable procurement in the industry could be one of the key approaches to meeting the rather high public anticipation of benefits and at the same time curb the likely effects of environmental degradation and the national conflicts associated with oil explorations especially in developing countries such as Ghana. As indicated by Green et al. (1996) and Seuring (2004) the role of procurement in driving forward the corporate sustainability

agenda is critical due to its position and its ability to influence external organizations in the supply chain.

This study's significance lies in revealing how the industry positions its purchasing activities in order to achieve the tripple bottom line expectations. More particularly, the study seeks to identify the level of local industry participation in the oil and gas industry through the purchasing and supply chain activities of the industry. Again, the research seeks to identify how the purchasing and supply chain activities of the oil and gas industry protect the natural environment or otherwisw. This study may lead to further studies into, for example, how sustainable procurement in the oil and gas sector can be applied to support the economic development of Ghana and the best practices of sustainable procurements in the Ghana oil industry to ensure sustainable development.

## **1.5 Structure and Organization of Study**

This thesis consists of seven chapters. Chapter 1 presents a brief introduction and background to Ghana oil and gas industry. The chapter goes on to describe the research gap and the objectives of the study. The relevance of the research is then discussed as conclusion of the chapter.

The next part, chapter 2, starts with a brief introduction of Ghana and then goes on to have an overview of the Ghana Oil and Gas industry. The discussions here cover issues relating to technical facts such as the location of the oil, estimated quantities and the quality of the oil; economic facts including ownership, major organizations involved and the expected benefits; and the oil policies of the government of Ghana such as the Local Content and Local Participation law and the Ghana Petroleum Commission Act, 2011.

Chapter 3 is the literature review which will go through some relevant literature. The chapter contains literatures on the triple bottom line (TBL) as the main concept of this research. First, the general principles and dimensions of the TBL are outlined and discussed. Then the individual elements of the TBL framework are discussed. The chapter goes on to further discuss procurement within the within the concept of the triple bottom line. This leads to the discussions of sustainable procurement and its elements and models.

Chapter 4 discusses the research methodology and the research method used in the theses and the explanations or justification for the choices made.

Chapter 5 presents the findings of the research. Data from the interviews conducted by the researcher, which forms the basis of the research's primary data, and information from other secondary sources including company annual reports, company journals, articles, textbooks, conference reports, newspaper reports, the internet etc. are the main bases of the researcher's presentation of findings and subsequent analysis and discussions.

Chapter 6 is the discussion section of the study and gives the researcher's interpretation of the research findings. The interpretation of the research findings is then compared with existing literature, as presented in chapter 3, to check out for similarities or conflicts with the existing literature.

Chapter 7 is the concluding chapter of the study and contains the summary and conclusion of the research; recommendations on policy direction and implementation; research limitations; and further research recommendations.

## **Chapter 2**

### **2.0 Introduction**

Chapter 2 starts with a brief introduction of Ghana, the country focus of this research, and then goes on to have an overview of the Ghana Oil and Gas industry. The discussions here cover issues relating to technical facts such as the location of the oil, estimated quantities and the quality of the oil; economic facts including ownership, major organizations involved and the expected benefits and; the oil policies of the government of Ghana such as the Local Content and Local Participation law and the Ghana Petroleum Commission Act, 2011. The supply chain and the major players within the supply chain of the industry is also briefly discussed.

### **2.1 Facts about Ghana**

Ghana was the first sub-Saharan country in colonial Africa to gain its independence (1957). Ghana has been a stable democratic state since 1992, after enduring a series of coup and long period of a long period of military rule. Since then, the country has witnessed a relatively stable and peaceful political environment and is regarded as one of the most stable African democracies. Ghana has a population of approximately 30 million. Ghana has a young age structure, with approximately 57% of the population under the age of 25. A quarter century of relatively sound management, a competitive business environment, and sustained reductions in poverty levels has resulted in a relatively strong and robust economy within the sub-region even though the country still has economic and social issues to deal with on its continued economic development journey. Ghana is well-endowed with natural resources and has a market-based economy with relatively few policy barriers to trade and investment in comparison with other countries in the sub-region. Major export commodities include oil, gold, cocoa, timber, tuna, bauxite, aluminum, manganese ore, diamonds, horticultural products. The country's 2016 GDP is estimated at \$120.8 billion (CIA WORLD FACTBOOK 2016).

### **2.2 Overview of the Ghana oil and gas recourse**

Article 257(6) of the Ghanaian Constitution of 1992 states: "Every mineral in its natural state in, under or upon any land in Ghana, rivers, streams, water courses throughout Ghana,

the exclusive economic zone and any area covered by the territorial sea or continental shelf is the property of the Republic of Ghana and shall be vested in the President on behalf of, and in trust for the people of Ghana" (THE CONSTITUTION OF THE REPUBLIC OF GHANA 1992). However, in 2004 Ghana sold the right for offshore oil exploration and production (also known as blocks) to different international companies. Subsequently, Tullow Oil and Kosmos Energy discovered oil in commercial quantities in the western region of Ghana in July 2007. The area was named "Jubilee Field". Development of the production site started right away and in December 2010 oil production was officially launched. Further discoveries have been made since 2007. The Tweneboa Field seems to be a second major discovery.

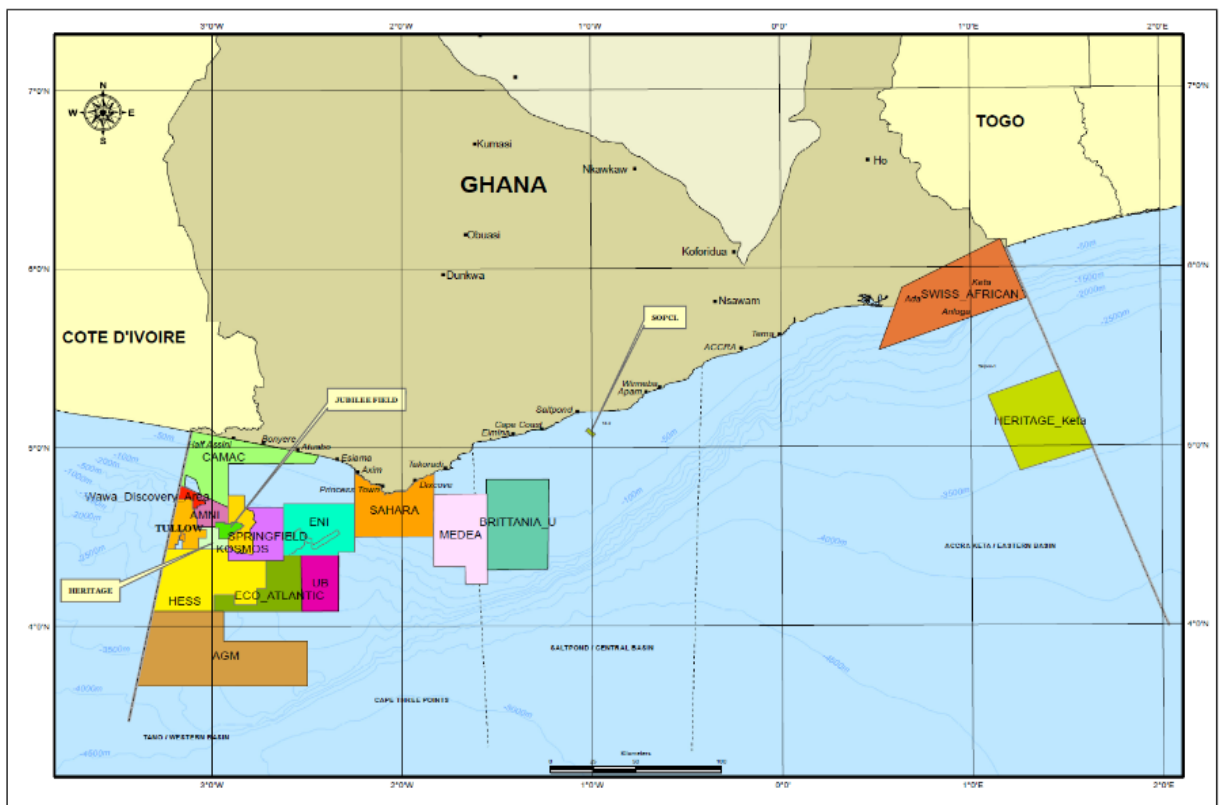


Image 1: Ghana's offshore activity map (GNPC 2016)

## 2.2.1 Technical Facts

### 2.2.1.1 Where is the Oil?

The Jubilee field is located 60 km off the Ghanaian coast, in the Gulf of Guinea, near the Côte d'Ivoire border. It is spread out in the Deepwater Tano and West Cape Three Points

blocks. The wells are at a water depth between 1,100 and 1,300 meters and at a total depth between 3,400 and 4,200 meters. The field covers approximately 110 km<sup>2</sup>.

The Tweneboa Enyenra Ntomme (TEN) oil field was discovered by Tullow Oil in 2009. It is in the Deepwater Tano license, and lies around 20 kilometers (12 mi) west of Tullow's Jubilee Oil Field. The Tweneboa Enyenra Ntomme Oil Field covers an area of more than 800 square kilometers (310 square miles). There are also several smaller wells close by apart from these major findings. The companies engaged in the discovery have discovered more than 15 wells in the western Ghanaian sea territory (offshoretechnology.com 2017).

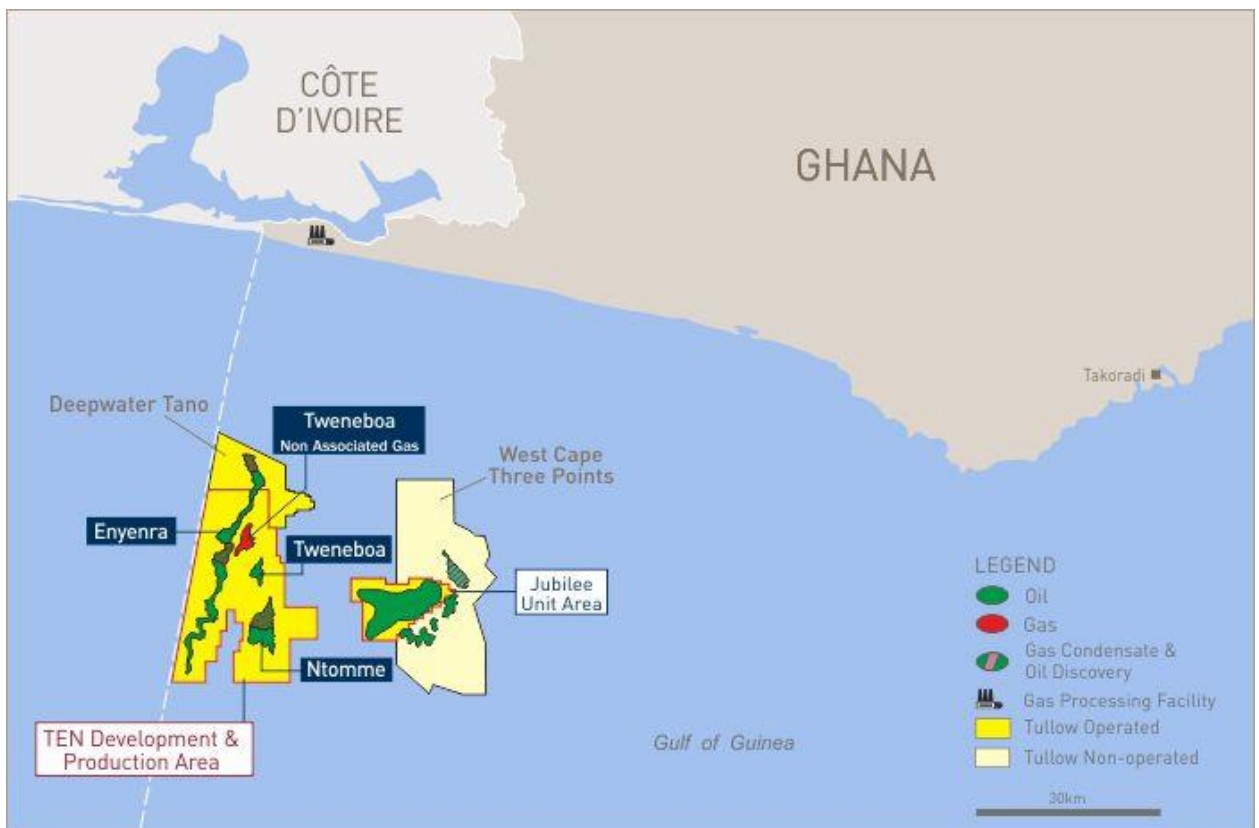


Image 1: Ghana's Oil Findings (Tullow Oil 2017).

### 2.2.1.2 How much Oil is there?

#### *The Jubilee Field*

There have been varying figures of the amount of oil expected in the Jubilee field. Reports by offshore oil exploration and production companies and stakeholders such as the Ghanaian news-papers, vary between 1 and 2 billion barrels of crude oil. However, it is quite often not stated whether the authors are referring to the total amount or the recoverable, and it can

only be assumed, the total amount is meant. As only 30-50% of a total field amount will be recovered, this could make a huge difference. The Central Intelligence Agency in its 2017 publication of the World Factbook reported a total oil reserve of 660 million bbl for Ghana as at January 1, 2016 (World Factbook 2017).

### **2.2.1.3 The Quality of the Oil**

The crude oil from the Jubilee field is light and sweet. In the oil refinery industry lightness and sweetness is an indication of quality and sweet and light oil indicates high quality. Independent laboratory analysis says that the crude oil has an API Gravity of 37.6 degrees and a Sulphur content of 0.25 % (weight), with no unusual characteristics. This type of crude oil is considered as high quality and therefore attractive for worldwide refineries. The Jubilee oil can therefore compete with the international price reference oils and be sold for the official oil price.

## **2.2.2 Economical Facts**

### **2.2.2.1 Who Owns the Oil?**

Article 257(6) of the Ghanaian Constitution of 1992 states: "Every mineral in its natural state in, under or upon any land in Ghana, rivers, streams, water courses throughout Ghana, the exclusive economic zone and any area covered by the territorial sea or continental shelf is the property of the Republic of Ghana and shall be vested in the President on behalf of, and in trust for the people of Ghana" (THE CONSTITUTION OF THE REPUBLIC OF GHANA 1992). However, in 2004 the Ghana sold the right for offshore oil exploration and production (also known as blocks) to different international companies. Subsequently, Tullow Oil and Kosmos Energy discovered oil in commercial quantities in the western region of Ghana in July 2007. The area was named "Jubilee Field". Development of the production site started right away and in December 2010 oil production was officially launched. Further discoveries have been made since 2007.

In October 2008, Tullow was appointed as the Jubilee Field Operator and set about working with the Government of Ghana and the partners on developing the field to bring Ghana its first major oil production. In July 2009, the Jubilee Field Phase 1 Development Plan and



Unitization Agreement was formally approved by the Minister of Energy in Ghana on behalf of the Government of Ghana. The first oil was achieved from the Jubilee field in November 2010, following a successful development programme, which included the building of a Floating Production Storage and Offloading (FPSO). This was some 40 months after the initial discovery well which represents the fastest ever comprehensive full scale deep-water development (Tullow Oil 2017).

## **2.3 Ghana oil and gas supply chain and Industry Players**

The supply chain of the Ghana petroleum industry, like any other oil and gas industry supply chain, includes the global processes of exploration, extraction, refining, transportation and the marketing of petroleum products. The industry is usually divided into three major components: upstream, midstream and downstream. The upstream industry is sometimes known as the exploration and production (E&P) sector and typically involves the activities of finding and producing crude oil and natural gas. The midstream provides the vital link between the far-flung petroleum producing areas and the population centers where most consumers are located. The midstream industry processes, stores, markets and transports commodities such as crude oil, natural gas, natural gas liquids (NGLs, mainly ethane, propane and butane) and sulphur. The downstream industry includes activities such as oil refineries, petrochemical plants, petroleum products distributors, retail outlets and natural gas distribution companies.

### **2.3.1 Upstream Industry (Operation and Extraction)**

The upstream industry is made up of major independent oil exploration and operating companies such as Hess, Tullow and Kosmos, local Ghanaian organizations including the Ghana National Petroleum Corporation as well as service providers (GNPC 2016). However, in October 2008, Tullow was appointed as the Jubilee Field Operator and set about working with the Government of Ghana and the partners on developing the field to bring Ghana its first major oil production. In July 2009, the Jubilee Field Phase 1 Development Plan and Unitization Agreement was formally approved by the Minister of Energy in Ghana on behalf of the Government of Ghana. The first oil was achieved from the Jubilee field in November 2010, following a successful development programme, which included the building of a Floating Production Storage and Offloading (FPSO). This was some 40 months

after the initial discovery well which represents the fastest ever comprehensive full scale deep-water development (Tullow Oil 2017).

### **2.3.2 Downstream (Refinery)**

The state owned Tema Oil Refinery (*TOR*) is the premier and only refinery in Ghana. The refinery was established in 1963 and was among the first eight refineries in Africa as at the time. The state-owned refinery is a 45,000 barrel per stream day (bpsd) capacity Crude Distillation Unit and supplies this quantity out of the national demand of 65,000 bpsd. Tema Oil Refinery (*TOR*) Limited refines and distills many forms of petroleum products including: Gasoline (Petrol), Liquefied Petroleum Gas (LPG), Kerosene, Gas Oil (Diesel), Aviation Turbine Kerosene (Jet A1), Naphtha, Premix, Fuel Oil and Cracked Fuels.

With the discovery of oil and gas in Ghana, Tema Oil Refinery (*TOR*) has positioned itself to improve and expand its infrastructure to ensure availability of petroleum products and the reliability of *TOR* as a major producer of petroleum products in the Ghanaian market and the ECOWAS Sub region. *TOR* intends to become the first choice for Bulk Distribution Companies (BDC) for finished petroleum products. The refinery has improved its current capacity to produce and store petroleum products. The total storage of the refinery for both crude oil and finished petroleum products has increased from 340,000 metric tonnes to 1,000,000 metric tonnes and the storage capacity of LPG has also increased from 7,560 to 10,560 metric tonnes. The refinery provides storage services for the Bulk Distribution Companies for a fee subject to availability of storage space (*TOR* 2017).

Other players within the downstream industry include the Bulk Oil Storage and Transport (BOST) Company Limited which has a dual role of petroleum storage and transport and gas distribution in the country as well as oil marketing companies such as SHELL Ghana, GOIL and TOTAL.

## **2.3.4 Regulators**

### **2.3.4.1 Petroleum Commission**

The Petroleum Commission was established in July 2011 by an Act of Parliament, Act 821, with the following mission: "To promote, regulate and manage the efficient conduct of upstream petroleum operations and all allied activities and the utilization of petroleum resources on a sustainable basis for the overall benefit of the citizens of Ghana."

key activities of the commission include the promotion of local content and local participation in the upstream petroleum industry, and the creation of the best possible values through prudent and sustainable management of the oil and gas resources, promoting good community relationship, compliance, health and safety, environmental protection as well as licensing and permit (Petroleum Commission Ghana 2017).

### **2.3.4.2 National Petroleum Authority**

The National Petroleum Authority was established by an Act of Parliament (NPA Act 2005, ACT 691) to regulate, oversee and monitor the downstream petroleum industry in Ghana. As a Regulator, the Authority ensures efficiency, profitability, fairness, and at the same time value for money to the consumers in the downstream petroleum industry. The downstream petroleum industry in Ghana encompasses all activities involved in the refining and importation of crude oil as well as the marketing, sale and distribution of refined petroleum products in Ghana. The various commercial activities of the industry include: importation, exportation, processing, refining, storage, sales, marketing, distribution, shipment and transportation of petroleum products.

The downstream petroleum industry is one of the key sub-sectors and a major contributor to the country's Gross Domestic Product (GDP). According to 2014 estimates, the sector currently provides employment to over 5,000 service providers and accounts for an annual sales value of about GHS12 billion (US\$4.01billion), which is about 10% of the country's GDP. The industry works closely with International suppliers like Vitol, BP, Trafigura, Glencore etc., which supply about 80% of the country's petroleum product needs (NPA 2017).

### **2.3.4.3 Environmental Protection Agency (EPA)**

The Environmental Protection Agency (EPA) is a statutory agency established in 1994 by an act of Parliament (Act 490) to deal with environmental protection, regulation of activities which may have effects on the environment, pesticides control and related environmental issues. The EPA has nineteen (19) clearly spelt out functions which are meant to ensure safe environment. Among these are the following:

- to advise the appropriate ministry on the formulation of policies on the environment, most importantly, to make recommendations on environmental protection
- to issue environmental permits and pollution reduction notices for controlling the volume, component, types and effects of emissions, waste discharge, deposits or any other source of pollutants and of substances which are dangerous to the quality of the environment
- to issue notice in the form of directives, procedures or warnings to any organization or person for the purpose of controlling the intensity and volume of noise in the environment
- to prescribe guidelines and standards relating to the pollution of land, water and air
- to ensure compliance with the laid down environmental impact assessment procedures in respect of existing projects as well as the planning and execution of development projects
- to initiate and encourage formal and informal education programmes to create the necessary public awareness of the environment and its importance to the sustainability of the economic and social life of the country (EPA 2017).

The recent discovery and production of oil in the country has perhaps made the role of the EPA in protecting the environment more critical than ever.

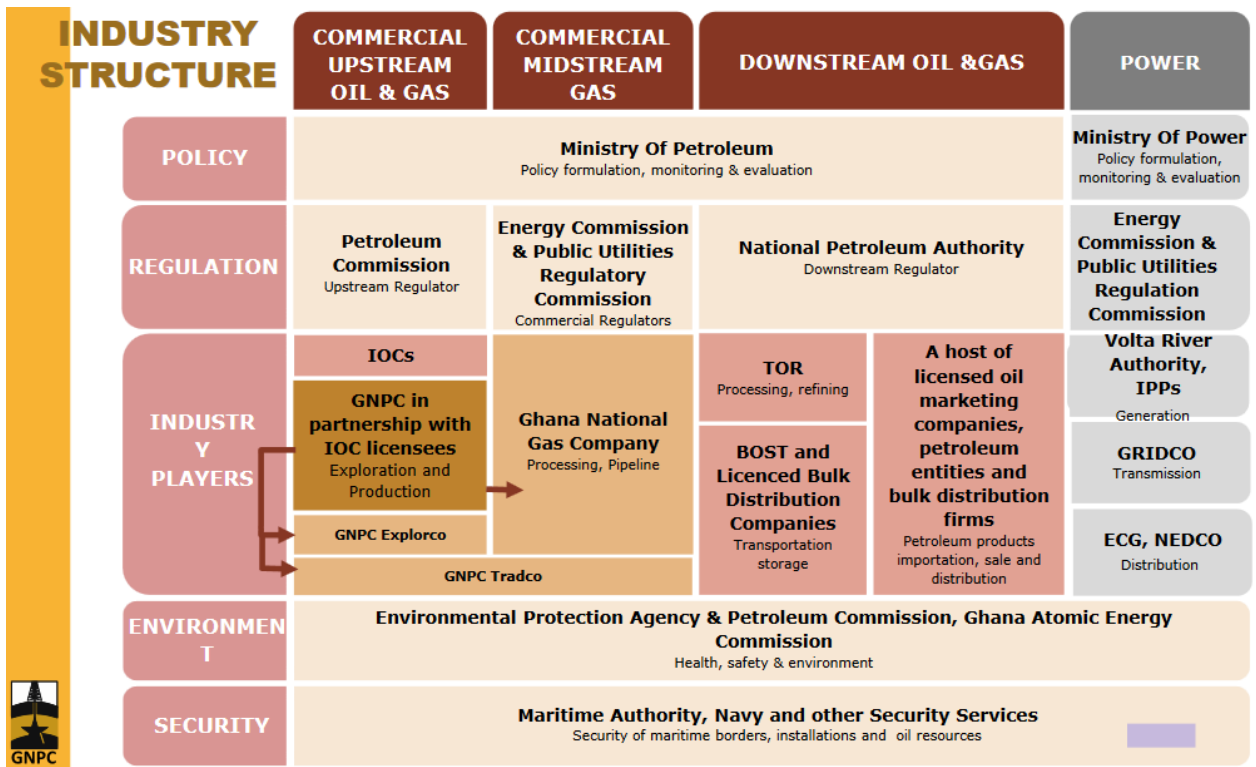


Image 2: Ghana Oil and Gas Industry Structure (GNPC 2016)

## 2.4 Procurement Policy of the Ghana oil and gas industry

Like many other countries in the world, Ghana also links its sustainable national development to the sustainable procurement in the major sectors of its economy, such as the oil and gas industry, the mining industry, the agriculture and cash crops as well as the public sector. The linkage between the country’s national development and sustainable procurement is reflected in many ways including laws and regulations to guide and safeguard sustainable procurement in these sectors. Notable among these regulations are the Petroleum (Local Content and Local Participation) Regulations 2013, L.I 2204 and the Ghana Petroleum Commission Act, 2011 (Act 821). These laws and regulations aim to use the procurement and supply chain management activities of the oil and gas industry as a catalyst for national economic growth. Sustainable procurement in this sector may thus, be viewed as a strategic means of achieving the country’s long term economic development goals.

## **2.4.1 Regulations (Local Content and Local Participation)**

On 5th July 2013, the Minister responsible for Energy in exercise of the power conferred on him by section 22 of the Petroleum Commission Act, 2011 (Act 821), made the Petroleum (Local Content and Local Participation) Regulations. Among other things, the regulations aim to stimulate local community economic growth and ensure local participation in the upstream oil industry through the procurement and supply chain management activities of the oil and gas industry.

### **2.4.1.1 Purpose of Regulations**

Section 1 of the Regulations state the purpose of the regulations as follows:

- (a) promote the maximization of value-addition and job creation through the use of local expertise, goods and services, businesses and financing in the petroleum industry value chain and their retention in the country;
- (b) develop local capacities in the petroleum industry value chain through education, skills transfer and expertise development, transfer of technology and know-how and active research and development programmes;
- (c) achieve the minimum local employment level and in-country spending for the provision of the goods and services in the petroleum industry value chain as specified in the First Schedule;
- (d) increase the capability and international competitiveness of domestic businesses;
- (e) create petroleum and related supportive industries that will sustain economic development;
- (f) achieve and maintain a degree of control for Ghanaians over development initiatives for local stakeholders;
- (g) provide for a robust and transparent monitoring and reporting system to ensure delivery of local content policy objectives;
- (h) provide for the submission of the local content plan and related sub-plans by contractors, subcontractors, licensees and any other allied entity involved in the petroleum industry including
  - (i) the provision of goods and services;
  - (ii) the transfer to the Corporation or the Commission and Ghanaians of advanced technology and skills related to petroleum activities;

(iii) a recruitment and training programme; and  
(i) supervision, coordination, implementation and monitoring of local content (Republic of Ghana 2013).

#### **2.4.1.2 Local Content Requirement**

Among other provisions, section 3 of the Petroleum (Local Content and Local Participation) Regulations 2013 states that “A contractor, subcontractor, licensee, the Corporation or other allied entity carrying out a petroleum activity shall ensure that local content is a component of the petroleum activities engaged in by that contractor, subcontractor, and licensee, the Corporation or other allied entity” (Republic of Ghana 2013).

#### **2.4.1.3 Preference to Indigenous Ghanaian Companies**

Section 11 of the regulations states that “A contractor, subcontractor, licensee or other allied entity shall establish and implement a bidding process for the acquisition of goods and services to give preference to indigenous Ghanaian companies” (Republic of Ghana 2013).

#### **2.4.1.4 Basis of Bid Evaluation**

The Basis of bid evaluation are contained in section 12 of the regulation as follows:

- (1) A contractor, subcontractor, licensee or other allied entity shall not award a contract based solely on the principle of the lowest bidder.
- (2) Where an indigenous Ghanaian company has the capacity to execute the job, that indigenous Ghanaian company shall not be disqualified exclusively on the basis that it is not the lowest financial bidder.
- (3) Where the total value of the bid of a qualified indigenous Ghanaian company does not exceed the lowest bid by more than ten percent, the contract shall be awarded to that indigenous Ghanaian company.
- (4) Where during an evaluation of bids, the bids are adjudged to be equal, the bid containing the highest level of local content shall be selected.
- (5) Where a non-indigenous Ghanaian company is required to provide goods and services to a contractor, subcontractor, licensee, or other allied entity, that non-indigenous Ghanaian company shall:

- (a) incorporate a company in Ghana as provided in regulation 4(5) and operate it from Ghana; and
  - (b) provide the goods and services in association with an indigenous Ghanaian company, where practicable.
- (6) The Commission shall establish bid evaluation guidelines in accordance with applicable laws and regulations for ensuring that the year on year progression of the local content objectives of these Regulations are met (Republic of Ghana 2013).



## **Chapter 3**

### **3.0 Literature Review**

Chapter 3 is the literature review, which will go through some relevant literature. This chapter contains a review of prior, relevant literature to this academic project and creates the foundation for this research and the subsequent discussions advancement of knowledge in sustainability and sustainable procurement in the Ghana oil and gas industry. The chapter contains literature reviews on sustainability and the models of sustainability; procurement and sustainable procurement; and the drivers of sustainability and sustainable procurement.

### **3.1 Introduction**

In recent decades, there has been a global concern about the non-renewability of natural resources as a factor limiting production and its inherent threat to long-term economic growth caused by natural resource depletion and environmental deterioration. The past decades have therefore witnessed a clarion call on nations and organizations to address the issue of sustainability in their national policies and business operations. The Millennium Development Goals (MDGs) expressed widespread public concern about poverty, diseases, hunger, gender inequality, unmet schooling and environmental degradation and marked a historic and effective method of global mobilization to achieve this set of important social priorities worldwide. Civil society and policy makers see the MDGs as a contributing factor to the progress against poverty, hunger and disease and thus, a call for a continued global fight against poverty beyond 2015. In a world that is undergoing climatic change and other serious environmental ills, there is a global consensus on the need for environmental objectives alongside poverty reduction objective in global policies formulation. Thus, the idea of Sustainable Development Goals (SDGs) has gained grounds because of the recognition of the urgency for global sustainable development. On September 25, 2015, 193 Member States of the United Nations adopted a set of goals to end poverty, protect the planet, and ensure prosperity for all as part of a new global sustainable development agenda, the SDGs. The SDGs are contained in paragraph 54 United Nations Resolution A/RES/70/1 of September 25, 2015 (United Nations 2015)

## 3.2 Sustainability

Sustainability may be described as the ability of an activity to be maintained at a similar level into the future. It involves taking ‘a long-term view when making decisions, to ensure that meeting our own needs does not compromise the needs of others both today and for the future generations’ (CIPS 2012a). The sustainability concept was developed in the 1960s as a result of an increasing concern about environmental degradation resulting from the poor management of the earth’s resources. Sustainability was adopted as a common political goal as the environment became increasingly important as a world issue. The Organisation for Economic Cooperation and Development (OECD) was created in 1960 to encourage and promote policies that would achieve ‘the highest sustainable economic growth and employment and a rising standard of living in Member countries, while maintaining financial stability, and thus to contribute to the development of the world economy’ (OECD, 2001).

The term “sustainability” has been viewed and interpreted in different ways, ranging from a multi-dimensional term for business operations and management to an inter-generational philosophical position. With the passage of time, there has been a broader approach to the sustainability issues and initiative with an increasingly adoption of triple bottom line (i.e., environment, economic, and social) approach to sustainability. This is a paradigm shift from the early sustainability initiatives which tended to focus on environmental issues (Ahi and Searcy 2013). Sustainability, thus, may be referred to as the notion that activity that can be undertaken on an indefinite basis is sustainable; anything that cannot is unsustainable. By common consensus, sustainability is thought to consist of three major over-lapping and interactive elements: economic; social; and an environmental component. The well-adopted and most often quoted definition of sustainability is that of the Brundtland Commission, World Commission on Environment and Development (1987) “development that meets the needs and aspirations of the present generation without compromising the ability of future generations to meet their needs”.

Following this definition and new objective of sustainability, the international community has had to focus on diverse agendas rather than relying solely on the environmental agenda. In 2002, at The World Summit on Sustainable Development (WSSD), held in Johannesburg, South Africa, the term’s breakthrough as a catch word in academia as well as in the media was eventually made. The application of the sustainability concept was broadened to include

economic and social issues besides the traditional focus on environmental issues. Moreover, a vast variety of actors in the political arena were tasked with various roles and responsibilities for sustainable development agenda. Business and industry were explicitly mentioned here. The Report of the World Summit on Sustainable Development (United Nations 2002) states that:

[. . .] “we assume a collective responsibility to advance and strengthen the interdependent and mutually reinforcing pillars of sustainable development – economic development, social development and environmental protection – at the local, national, regional and global levels” (United Nations 2002, P1).

Sustainability initiatives are receiving broad support from the public and governments with the global recognition to preserve the earth’s resources as we seek better lives and societies. Even firms are realizing that sustainability action is required to protect their brands. According to Siegel (2009) the importance of sustainability as a corporate strategic goal is increasingly gaining recognition among global organization over the past few years. Political, commercial and regulatory actions to enhance global sustainability typically have received broad support and may also have significantly contributed to the improved global sustainability. ‘Sustainable development’ extends the concerns and issues of development by considering natural, social and human capital in the development process in addition to the primary monetary capital consideration. Restrictions of economic development growth and consumption which deplete these (natural, social and human capital) is favored (Kahn 1995).

Table 1.0

Element	Criteria
Economic Sustainability	Growth Development Productivity Trickle Down
Environmental Sustainability	Eco-System Integrity Carrying capacity Biodiversity
Social Sustainability	Equity Empowerment Accessibility Participation Sharing Cultural Identity Institutional Sustainability

The paradigm of sustainable development in Agenda 21 as elaborated by Kahn (1995)

### 3.2.1 Environmental Sustainability

The concept of sustainability has rather been viewed in a limited scope by many organizations and individuals, particularly those relatively new to sustainability, as green issues and environmental issues have been synonymous with sustainability (Hopkins, et al. 2009; Montiel 2008). Biodiversity preservation, which primarily deals with managing and reducing waste emissions and depletion rates of renewable sources, has become the main target for sustainability policies (Lang and Murphy, *Business and Sustainability: An Introduction* 2014) and Goodland dubs this strategy as the “maintenance of natural capital” (Goodland 1995). Environmental sustainability involves ecosystem integrity, carrying capacity and biodiversity. It requires that natural capital be maintained as a source of economic inputs and as a sink for wastes. Resources must be harvested no faster than they can be regenerated. Wastes must be emitted no faster than they can be assimilated by the environment (Kahn, 1995). The OECD Environmental Strategy for the First Decade of the 21st Century defines four specific criteria of environmental sustainability that summarize the main points of the debate (OECD 2001):

- I. Regeneration: Renewable resources must be used in an efficient manner such that their use shall not exceed their rates of natural regeneration.
- II. Substitutability: Non-renewable resources must be used in an efficient manner and within levels which can be substituted by renewable resources or other forms of capital.
- III. Assimilation: Releases of polluting and hazardous substances to the environment must be kept at the assimilative capacity of the environment.
- IV. Avoiding Irreversibility: Human activities that may cause irreversible effects on the environment and ecosystems must be avoided.

It is an undeniable fact that the exploration and exploitation of oil and gas resources does not only have economic implications for a country, but also comes with major environmental challenges. The activities of the oil and gas industry have major influence on the environment and thus a vital area of sustainability consideration. Activities in the offshore sector of the oil and gas industry such as exploration may have their effects on marine life, soil, air and the general ecosystem. From the extraction of raw materials, the manufacturing of a product through to its use and disposal, every product or service bought by an organization to aid the production of its products or services, has environmental impacts throughout this life-cycle. The growth in industrial activity over the last few centuries has increased the risk of pollution affecting water, air and the terrestrial environments and ultimately plant, animal and human life (Poch, et al. 2004).

This is especially so in the oil and gas industry considering the sophistication of equipment used and the nature of business operations in that sector. Products purchased and used by the sector must be environmentally friendly, in the sense that its manufacture, use, or disposal will have the barest minimum impact on the environment or possibly a zero impact on the environment. Sustainable environmental procurement may be one of the ways of achieving this environmental feat. This will require the purchase and usage of products and services that promote the protection and safeguarding of the of the environment. For example, the use of energy should be moderate, emission should be minimal and the method of manufacturing should take advantage of reverse logistics. The impact of oil and gas exploration and production on the environment arises at various stages of oil and gas activities from the initial exploration stage, production stage and the decommissioning of the production activities. There is a broad range of environmental issues from the use of

chemicals, accidental spills and oil discharges from daily operations, emissions into the atmosphere and noise.

### **3.2.2 Economic Sustainability**

Sustainability is a long-term business orientation and long-term survival; economically, environmentally and socially. Sustainable business operations must therefore successfully reconcile the need to be socially and environmentally responsible and sustainable with the demands of a market-based system, whose key measurements of success are profit and growth.

Economic sustainability has evolved into two major aspects, sustainable development (Anand and Sen 2000) and sustainable business strategies (Doane and Macgillivray 2001; Dyllick and Hockerts 2002). The first concept of sustainability considers the wealth of nations as its starting point (THE WORLD BANK 2006) and wealth, human development, and sustainability are considered as interrelated and closely linked (Anand and Sen 2000). The wealth of nations or human development, are deemed sustainable if utility (production and consumption levels) does not decline at any point along the development path (Pezzey 1989). Economic sustainability implies self-sustaining economic development and growth (Copus and Crabtree 1996).

The second concept of economic sustainability which is the focus of this study is frequently dubbed “the business of staying in business” (Doane and MacGillivray 2001) and concerns viable business strategies which are ultimately linked to the concepts of effectiveness and efficiency (Lang and Murphy 2014). Found and Rich argue that the ultimate goal of economic sustainability is the planning and implementation of profitable and successful investments that guarantee the survival of the business firm (Found and Rich 2006). Accordingly, Found and Rich further argued that sustainable business strategies are dependent on the management of three types of economic capital: financial capital, tangible capital (such as machinery), and intangible capital (such as knowledge and reputation). Intangible capital point to the importance of cultural and social capital in sustaining “economic” capital, hence capital and labor (Found and Rich 2006). This concept of sustainable business strategy can be defined as “meeting the needs of a firm’s direct and indirect stakeholders (such as shareholders, employees, clients, pressure groups,

communities etc.) without compromising its ability to meet the needs of future stakeholders as well” (Dyllick and Hockerts 2002: 131). Will Hutton (2001), cited in Doane and MacGillivray (2001), argued that economic sustainability is "the criteria by how a pound of profit is made is a building block in the creation of a just capitalism; progressive profitability must replace simple financial profitability as the sole yardstick of business success".

### **3.2.3 Socio-Political Sustainability**

The concept of sustainability is the recognition of the interdependence of ecological, economic and social systems - the three pillars of sustainability. With profit maximization and economic survival as the main objective of the firm, it is common practice for firms and decision-makers to address the economic pillar of sustainability. Over the last decade, there has been an increasing concern on the impact of human activities on the environment and thus, increasing effort has been directed at the environmental pillar. Until recently, however, there has not been a clear definition of the pillar associated with the social dimension of sustainability. Discussion of the social sustainability has received little attention in the literature, and when discussed, has focused on legislative issues or human health and safety rather than the ethical and cultural ramifications of decisions (Seuring, 2004; Kleindorfer, Kalyan and Luk 2005; Linton, Klassen and Vaidyanat 2007).

Social sustainability is a multi-dimensional concept and involves a wide-ranging issue, with the underlying question ‘what are the social goals of sustainable development?’, which is open to a diverse and multitude of answers, with no consensus on how these goals are defined (Hopwood et al., 2005; Littig and Griessler 2005). Despite recent European policies focus on social cohesion and ‘sustainable communities’ there has been little theoretical debate on defining social sustainability; an example of what might be described as the policy agenda overtaking the research agenda (Dempsey, et al. 2011). The ‘Bristol Accord’ signed up to by EU member states details a common European approach to ‘sustainable communities’, which builds on previous EU initiatives including the Aalborg Charter and Agenda 21. Sustainable communities are here defined as ‘places where people want to live and work, now and in the future. They meet the diverse needs of existing and future residents, are sensitive to their environment, and contribute to a high quality of life. They are safe and inclusive, well planned, built and run, and offer equality of opportunity and good services for all’ (ODPM, 2006, p. 12). Such a definition highlights the physical (here, urban) context in which communities exist (Dempsey, et al. 2011).

Despite the anthropocentric focus of the definition of sustainability (Hopwood et al., 2005), the definition of social sustainability has surprisingly received very little attention in built environment disciplines (Dempsey, et al. 2011). Related concepts are more readily examined and discussed within a physical context, such as ‘social capital’, which has a focus on the empowerment of local communities and strengthening civic participation via social interaction and sense of community among all members/residents (Mitlin and Satterthwaite 2006; Putnam 2000).

The importance of sustainability as a corporate strategic goal is increasingly gaining recognition among global organization over the past few years (Siegel 2009). In principle, any organization that adopts the ‘interlocking circles’ model of sustainability should directly include social sustainability as a concern equal to economic and environmental sustainability. In practice, however, this has not been the case (McKenzie, 2004). Stephen McKenzie (2004) defined social sustainability as “a life-enhancing condition within communities, and a process within communities that can achieve that condition”. Social sustainability encompasses philosophies of equity, accessibility, empowerment, sharing, participation, institutional stability and cultural identity. It has the objective of preserving the environment through economic development and poverty alleviation (Basiago 1998).

### **3.2.4 Concentric Circles Model of Sustainability**

The interrelationship between the environmental, economic and social aspects of sustainability is usually represented by one of two models (Barron and Gauntlett 2002). The first model features three concentric spheres; the ‘economic’ and ‘social’ spheres are depicted as dependent on the health of the environmental sphere. Early research on sustainable procurement suggested that a transitional route toward full sustainability can be achieved by focusing on the environmental aspects of the supply chain (Green et al., 1998). This theory is supported by empirical research from the pharmaceutical industry, suggesting that a focus on the environmental dimension of sustainability frequently provides financial savings, which has the additional benefit of contributing to economic sustainability, thus addressing two of the three dimensions of the triple bottom line (Veleva, et al. 2003).



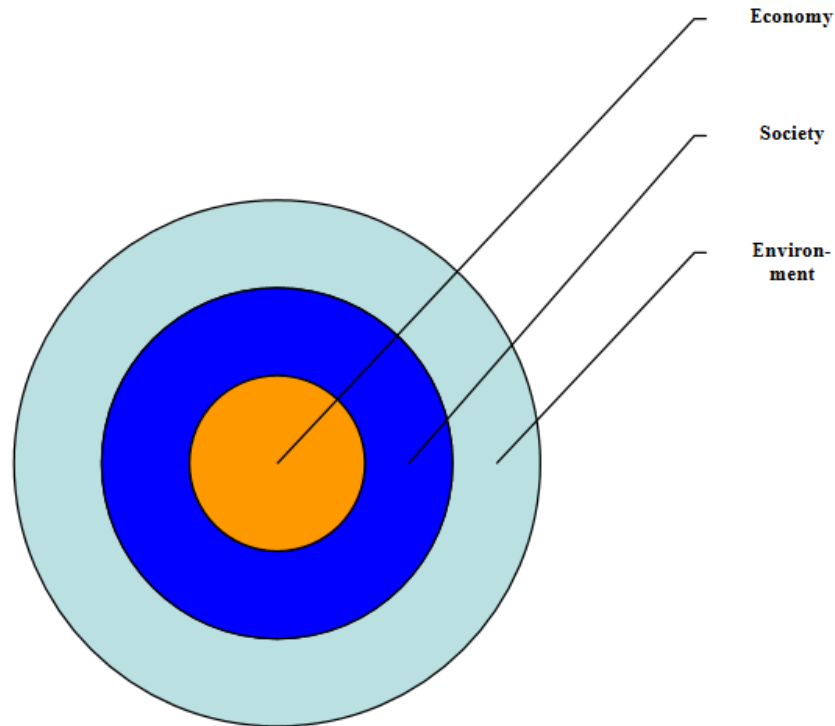


Figure 3.1 Concentric Circles Model of Sustainability

### 3.2.5 Interlocking Circles Model of Sustainability (Triple Bottom Line)

The second model of sustainability which is more recent but still widespread mode of thinking is that the three spheres of influence are best represented equally. This is depicted in the ‘interlocking circles’ model. The term ‘triple bottom line’ (TBL) was coined by Elkington (1998) to highlight the need for organizations to measure in all three area of economic, social and environmental sustainability equally.

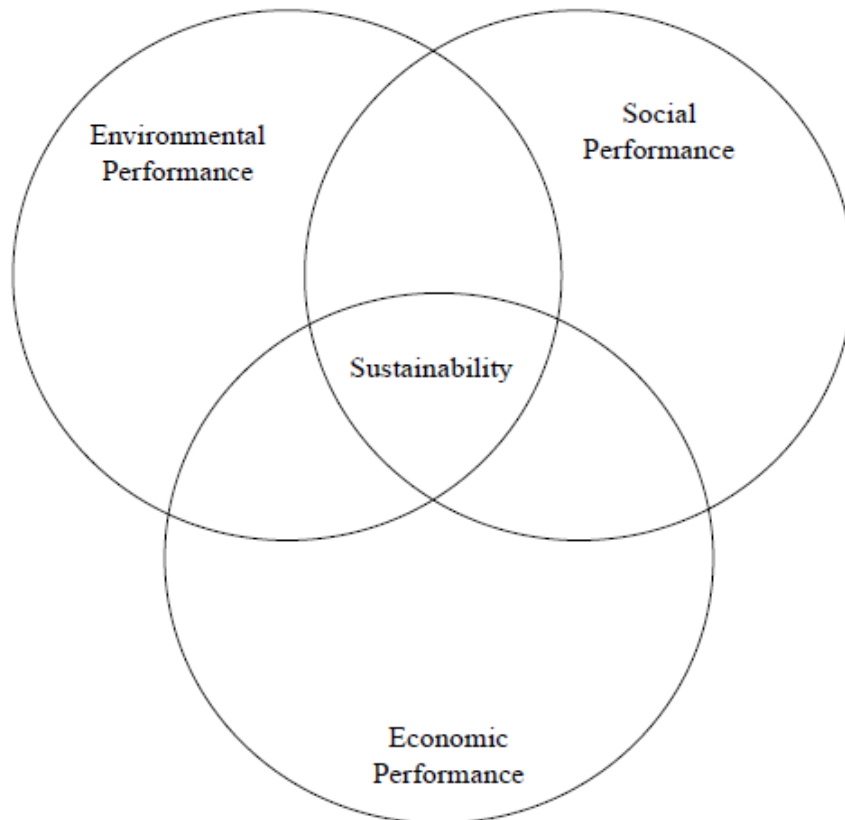


Figure 3.2 Interlocking Circles Model of Sustainability (Craig R. Carter, Dale S. Rogers, 2008)

With the increasing knowledge and demands by consumers and stakeholders on businesses to be not only accountable to themselves and shareholders, but also to the general public, businesses are increasingly participating in self-regulatory and co-regulatory arrangements along national governments and international organizations regulations as well as civil society and public demands. These self-regulatory and co-regulatory arrangements cuts across multiple political jurisdictions and arenas from international relations to the community level. Accounting and transparency standards, fair trade and energy consumption labels and emissions trading, as well as forest certification are well known examples of the increasing role of business in the dynamic regulatory space (Eberlein, et al. 2014). The importance of sustainability as a corporate strategic goal is increasingly gaining recognition among global organization over the past few years (Siegel 2009).

While enhancing shareholder value continues to remain the fundamental tenet of any business, today's environment requires a broader perspective of value considerations from

the business communities. Policy makers, consumers and the general business stakeholder are increasingly considering the environmental and social impact of the products and services and demanding organizations to be accountable in these regards. Domestic and multinational organizations are now faced with the challenge of creating new, environmentally sustainable products and services and socially-responsive initiatives, while remaining profitable and enhancing shareholder value.

The triple bottom line (TBL) has emerged as a paradigm for sustainable development, whereby meeting the needs of the present and of future generations is classed under three dimensions: environmental, social and economic (Dyllick and Hockerts, 2002), and that the business models used by many organizations increasingly seek to include environmental aspects of performance in line with the triple bottom line (TBL) concept (Birkin et al., 2009). According to Closs et al. (2011) the adaptation of an effective globally sustainable enterprise strategies can result in: (1) improved profit by improving significantly, the operational efficiency of organizations —reducing global waste and cost; (2) minimizing dependence on scarce environmental and natural resources—raw materials, water and; (3) development of people and local communities—commitment to acceptable global working conditions and best practices and compliance with regulatory requirements. the effective management of the triple bottom line—focusing on economic, environmental and social performance (profit, planet, people) is widely believed as a catalyst in improving efficiency and profitability over the long term (Closs, Speier and Meacham 2011).

The first step to implementing sustainable procurement is to identify and assess the various “components of sustainability” (Krause et al., 2009). The elements of the triple bottom line (Elkington, 1998) are now acknowledged in the literature (Carter and Rogers, 2008): and economic performance (the financial consideration of business and shareholder value creation), environmental stewardship (preservation of the natural environment and natural resources, waste minimization and reduced emission); social equity which relates to the firm’s purchasing social responsibility (such as human rights, local community and people development, cultural diversity, fairness and safety). The broader perspective on sustainability aligns with the view that sustainability needs to balance economic considerations with socio-political systems and environmental needs (Fiorino, 2010) and the many organizations increasingly seek to include environmental aspects of performance in their business models in line with the triple bottom line concept (Birkin et al., 2009b).

The TBL approach suggests that besides economic and shareholder value creation, organizations need to engage in activities that ensure environmental preservation and society development. By adopting the triple bottom line approach, an organization takes a responsible position on economic prosperity, environmental quality, and social justice (Bai and Sarkis 2010).

### **3.3 Procurement**

One of the most influential theorists on procurement Van Weele defines procurement simply as “all activities required in order to get a product from the supplier to its final destination” (Weele and Puil 2014). This definition encompasses the purchasing function itself, specification development, supply selection, negotiation of price and terms, determination of inventory levels, transportation, inspection and quality control, supplier monitoring and analysis as well as maintaining a strategic relationship with suppliers.

Lysons and Farrington (2006) described procurement as a process undertaken by an organisational unit which has the responsibility of procuring or assisting user departments in the organisation to procure, in the most efficient way, required goods and services at the right quantity, quality, time and price, as well as the effective and efficient management of suppliers (Lysons and Farrington 2006). The procurement function therefore involves activities such as supply market monitoring and the identification of potential sources of supply; evaluation and selection of supplier; providing input and advice for product or service specification for new and modified purchases; negotiating and developing contracts; processing procurement and stock replenishment requisition; and expediting and managing contracts (CIPS 2012c). The procurement process therefore embraces a broader process than the purchasing process and reflects a more strategic, relational, integrated and proactive role of the modern organisation’s procurement function.

The procurement policies and strategies of an organisation in any sector is therefore, probably the most important action and the defining point of the organisations’ and by extension the industry sector stance on sustainability and sustainable procurement. The effects of the driving forces of sustainable procurement such as cost, laws and regulations, natural resource conservation, stakeholder pressures and internal organisational culture and

the prioritisation of the three elements of sustainable procurement (social, economic and environmental) are all reflected in the procurement and procurement activities of the organisation.

### **3.4 Sustainable Procurement**

Governments across the world are increasingly concerned with addressing sustainable development objectives, which were outlined by the Brundtland Commission as “development that meets the needs and aspirations of the present generation without compromising the ability of future generations to meet their needs” (WCED, 1987) and the reconsideration of the way that the procurement of goods and services, termed sustainable procurement are done is one way in which governments are attempting to meet sustainability goals (Walker et al. 2012).

In line with the triple bottom line (TBL) concept many organizations in recent times are increasingly seeking to include environmental aspects of performance in their business models (Birkin et al., 2009). The TBL has gained recognition as a model for sustainable development, whereby environmental, economic and social considerations are made in meeting the needs of the present and of future generations (Dyllick and Hockerts, 2002). To achieve this holistic sustainable development, the organization’s strategy formulation and implementation needs to extend along its supply chain (Green et al., 1996). For example, firms seeking to improve their environmental performance may adopt a close relation and collaboration with suppliers to cut down on materials’ toxicity or reduce the amount of packaging used in supplies (Sharfman et al., 2009). The need to look outside an organization’s internal boundaries highlights the importance of the role of procurement in achieving the sustainable development agenda. This is reflected in the high volume of case research relating to green supply chain management and sustainable procurement (for example Bowen et al., 2001; Zsidisin and Siferd, 2001; Dyllick and Hockerts, 2002; Rao, 2002; Seitz and Wells, 2006). Early research on sustainable procurement suggested that a transitional route toward full sustainability can be achieved by focusing on the environmental aspects of the supply chain (Green et al., 1996). This theory is supported by empirical research from the pharmaceutical industry, suggesting that a focus on the environmental dimension of sustainability frequently provides financial savings, which has the additional benefit of contributing to economic sustainability, thus addressing two of the

three dimensions of the triple bottom line (Veleva et al., 2003). There is, however, the need for further empirical study of how sustainability is integrated into the procurement strategies of organizations as research in the field of sustainable procurement is still in its infancy (Linton et al., 2007).

Given its position and its ability to influence external organizations in the supply chain, the role of procurement in driving forward the corporate sustainability agenda is critical (Green *et al.*, 1996; Seuring, 2004). However, the available procurement frameworks for assessing the sustainability of suppliers such as ISO 14001, take a rather limited view of sustainability, concentrating only on environmental standards (Corbett and Kirsch 2001) and the complexity, formal procedures and structures of sustainability can also serve as a barrier, particularly for SMEs (Perrini and Tencati. 2006).

The UK Sustainable Procurement Task Force (Procuring the Future) defines sustainable procurement as: ‘A process whereby organisations meet their needs for goods, services, works and utilities in a way that achieves value for money on a whole-life basis in terms of generating benefits not only to the organisation, but also to society and the economy, whilst minimizing damage to the environment’ (UK Sustainable Procurement Task Force 2006). ‘Sustainable procurement is a process that ensures only goods and services that are really needed are purchased and buying items or services whose net effect of production, delivery, use and disposal minimize negative impacts and encourage positive outcomes for the environment, economy and society’ (British Standards Institution 2017).

The British Standards Institution Sustainable Procurement Guide (BSI 2011) suggests four main objectives for sustainable procurement:

- (i) To minimize the negative environmental impact of goods and services or works throughout their life cycle and the supply chain (e.g. the generation and disposal of hazardous waste, air quality and the general impacts on health and well-being)
- (ii) To ensure a minimum level of demand for non-renewable resources (For example, using resource-efficient products such as energy-efficient appliances and products containing recycled content, reducing purchases and consumption, the use of fuel-efficient vehicles)
- (iii) To promote fair trading by ensuring the application of fair contract prices and terms that at least meet minimum employment standards, human rights and ethical standards

- (iv) To promote equality and diversity throughout the supply chain. The goal of the supply chain should be to reflect the demographics and diversity the communities and societies within which they operate and should provide opportunities for and promote the small and medium scale enterprises (SMEs) and voluntary sector organizations. Sustainable procurement should also support the training and skills development of the citizen in these societies. In summary, sustainable procurement should aim at minimizing the negative outcomes and promoting positive outcomes for the economy, society and the environment.

### **3.4.1 Sustainable Economic Procurement**

According to CIPS (2012), the economic drivers of sustainable procurement are concerned with increasing economic value to the procurement processes to ensure a sustainable firm in the long term. These drivers are focused on securing value for money for purchased products and services; adding value through procurement efficiencies and effectiveness, supplier involvement and supplier relationship; efficient cost management and budgetary control; ethical trading to support the long-term financial viability of suppliers and supply markets, including ethical tendering and negotiation with suppliers, sustainable pricing and timely payment of supplier to guarantee their business continuity and supply security.

The oil and gas industry is a complex and highly capital-intensive which requires very high investments in exploration, operation and maintenance. The exploration and operation activities of the industry also involves very technical and complex products, services and technologies. The oil and gas commodity market is also characterized by a high degree of price volatility. The industry's purchasing function consequently has a tall responsibility of safeguarding their purchases and investments and achieving value for money for their companies. This is especially essential as the oil and gas market has exhibited a downward trend in prices in the most recent years. The oil and gas industry in Ghana must therefore balance their socio/political and environmental responsivity with the very essence of their existence, to make profit.

### **3.4.2 Sustainable Environmental Procurement**

The drive for globalization and its accompanying pressure prompted the global industry to improve their environmental performance (Zhu and Sarkis 2006). Consequently, the conservation of natural resources and protection of the environment has become a complete necessity at national and international levels (Kumar , Somnath and Vinay 2012). Sustainable supply chain management (SSCM), also known as green supply chain management or environmental supply chain management (ESCM) combines green manufacturing and materials management, green procurement, green distribution/marketing, eco-accounting and reverse logistics (Kumar , Somnath and Vinay 2012). Environmental procurement, sometimes refferred to as ‘green’ procurement, captures issues such as: mitigation of climate change; conservation of natural resources; emission and waste management; ‘green’ materials specifications; ‘green design and innovation; environmental standards within the supply chain; and disposal and recycling in the supply chain (CIPS 2012a)

### **3.4.3 Sustainable Social Procurement**

In recent times, the social aspect of sustainability has gained recognition and prominence in business focused literature. This may be particularly so because of the growing awareness and interest of the stakeholder and the consequential increase in reputational risk faced by organization that ignore issues such as child labor, fair trading and community development in their procurement and supply chain. Jones et al. (2010) argued that the social pillar of sustainability is the responsibility and commitment of organisations in ensuring they positively impact on the communities within which they conduct their business. The social dimension of sustainability involves companies implementing and conducting business in an ethical manner (Beheiry et al., 2006).

Social procurement may be viewed as the creation of social value through the use of purchasing power (Barraket and Weissman 2009). ‘Responsible procurement’ is a term that is sometimes used ‘to describe procurement practices that combine commercial considerations with social, labour and environmental performance’ (Reponsible Purchasing Initiative, Taking the Lead 2007). However, the term ‘responsible procurement’ is usually used to refer more specifically to the social dimension of sustainability, concerned with



issues of community development, working conditions and labour relations, fair trading, social inclusion and diversity, social justice, human rights, and the responsible use of market power- particularly in the supply markets of developing countries. The social procurement initiatives of the organisation can affect all individuals and communities involved and it is the responsibility of the purchasing organization to select and develop the social and environmental standards they require of their supply base (CIPS 2012a).

### **3.4.4 Sustainable Product/Services**

From the above literature reviews of economic, environmental and social sustainable procurement, a sustainable procured product can be described as a product that guarantees value for money for the purchasing organization that safeguards the integrity of the environment in its usage or operation that has been sourced in an ethical manner. The (CIPS 2012d) indicated that a sustainable product should be characterized by the following features:

- i. Providing value for money and fit for purpose
- ii. Resource efficient and energy efficient
- iii. Manufactured using the minimum possible virgin materials
- iv. Manufactured using the maximum possible post-consumer materials
- v. Non-polluting (or at least, causing the least possible pollution)
- vi. Durable, easy to upgrade and repairable
- vii. Re-usable and recyclable
- viii. Ethically source

## **3.5 Drivers of sustainability and sustainable procurement**

Elkington (1999) suggested a number of key drivers for sustainability: markets; value; corporate governance; transparency; partnership and lifecycle technology. The Chartered Institute of Procurement and Supply (CIPS 2012a) highlighted some essential reasons for the increasing focus on sustainable procurement including: increasing knowledge of the potential negative impact of the international supply chain; the growing resource scarcity and its resultant rising costs; public, political and activist (stakeholder) pressure for greater corporate responsibility and accountability; the increasing need for competitiveness through cost savings and the achievement of value for money; the reputational risk of unsustainable

business practices; government policies, regulations; and initiatives and frameworks such as standardization, codes of practice and certifications. Additionally, the changes required to embed sustainable procurement in an organization may be driven (or restrained) by a number of an organization's internal factor: mission, vision and objective; attitude of senior management; CSR policies; risk management policies and processes; mechanism for performance management; and resource availability (CIPS 2012a).

Stakeholder groups including environmental campaign groups, non-governmental aid groups as well as local community are particularly effective in exerting pressure on enterprises. According to Hughey and Sulkowski (2012), with the increasing public awareness of, and concern about, environmental and social issues, companies that disclose more information on their operations are perceived by society as more reputable than organizations that release little or no information about their operations. The generation and diffusion of green practices is often driven by government regulation, institutional pressure from domestic and foreign counterparts and competitors, and knowledge infusion (Zhu and Sarkis 2004).

While Porter (1991) suggested that environmental regulations and subsequent actions by organizations can create competitive advantage, Marcil (1992) argues that environmental regulations increase the cost of business operations and thus create an operational barrier. Wu and Dunn (1995) suggests that compliance with environmental regulations is only a short-term response by organizations. In a survey of 60 UK manufacturers, Holt and Ghobadian (2009) found that, on average, internal drivers and legislation are the two most important factors influencing the UK manufacturer's decision to adopt green supply chain.

Barriers to greening the supply chain include "greenwashing", that is the mere presence to support and reinforce sustainability without any real commitment on the part of the organization; cost, particularly the initial cost of adoption of green practice and its associated cost of business process reengineering; internal inertia or deliberate resistance to change within the firm or its supply chain; non-commitment of suppliers; over-regulation and overburdening of targets for businesses; and the peculiarities of the industry, as the cost of greening is largely dependent on the technologies, systems and processes of the industry (Zhu and Sarkis, 2006; Sarkis et al., 2011). Carter and Carter (1998), therefore suggested that government regulations are not a significant driver to environmental purchasing.

## Chapter 4

### 4.0 Research Methodology

Research methodology involves the discussion of the underlying reasoning behind the use of particular research methods. Methods in turn refers to the technical procedures applied in carrying out the research (Schneider 2014). Chapter four discusses the research methodology and the research method used in the theses.

### 4.1 Research Philosophy

The research philosophy a researcher adopt contains important assumptions about the way in which the researcher views the world. These assumptions will underpin the research strategy and the methods the researcher choose as part of that strategy (Saunders, Lewis and Thornhill 2009).

Research philosophy relates to the development of knowledge and the nature of that knowledge and the main influence on the philosophy a researcher adopt is likely to be the researcher's particular view of the relationship between knowledge and the process by which it is developed although practical considerations should be made (Saunders, Lewis and Thornhill 2009).

Saunders et al (2009), revealed that paradigm is a way of examining social phenomena from which particular understandings of these phenomena can be gained and explanations attempted.

There is, however, the ontological question, "What is the structure and type of truth and, consequently, what is at hand that can be recognized and known about it?"; the epistemological inquiry and question is: "What is the connection amid the knower or could-be knower and what could be known"; the Axiology issue and question, "what is the researcher's view of the role of values in research?"; and the procedural and methodological question and issue is: "How could the investigator and inquirer set out regarding discovering whatsoever he or she deemed could be known in relation to?". To this, Saunders et al (2009), further suggested four research philosophies in management research: (i) Positivism; (ii) Realism; (iii) Interpretivism and; (iv) Pragmatism.

Positivism could be regarded as a research approach and strategy that is rooted on the principle and doctrine that truth and reality is free and independent of the viewer and

observer (Aliyu, et al. 2014). A positivist investigator has the notion or idea that the world or universe conforms to an unchanging and permanent rules and laws of causation and happenings; that there exist an intricacy and complexity that could be overcome by reductionism; and with the intention of asserting an importance and emphasis on impartiality, measurement, objectivity and repeatability. These scholars have equally a realist and an independent and objective analysis and view of the universe. The methodologies frequently used by positivist researcher and investigators comprise: quantitative analysis, confirmatory analysis, laboratory experiments, nomothetic experiments and deduction (Olesen, 2004; Saunders, et al. 2009).

In a situation whereby positivism is merely not the ontological point, then there occurs a problem of which options to positivism are at hand. In view of the ontological position of positivism, as explained above, the options are those ontological stances that do not rely on a truth or reality independent or free of the observer: the non-positivist ontological points of view. Owing to the fact that the observer contributes a greater part in the establishment of truth and reality, and is more often than not believed to do this by means of the observer's intellect, some writers are of the opinion that the opposite of positivist research paradigm is rationalism (Goles and Hirschheim 2000). One of the fields of rationalism is the notion or doctrine that the researcher or observer constructs reality or truth and that, at the end, all of realism is just a fabrication of the individual researcher or observer's thoughts (Aliyu, et al. 2014).

One of such non-positivism ontological standpoint is the interpretive paradigm. An interpretivist researcher or inquirer advocates that there is no worldwide and universal truth. This type of researcher understands, comprehends and give meaning to phenomena from his/her own outline of orientation and reference. Such researcher holds the view that impartiality and indifferent is impracticable and realism or practicality of background and background is imperative. These writers have equally a subjective or relativist view or conception of the world. The methodologies in most cases used by interpretivist researcher and scholars consist of: field experiments, idiographic experiments induction, exploratory analysis and qualitative analysis (Saunders et al, 2009).

This research reflects the philosophy of non-positivism and thus, follows the path of the interpretive research paradigm. The research presentation therefore, to some extent, reflects the researcher's understanding and interpretation of the subject of sustainable procurement in the Ghana oil and gas industry, from the research data. Again, the research is an

exploratory research, which aims at a better understanding of the subject of sustainability and sustainable procurement in the Ghana oil and gas industry and adopts the qualitative research analysis.

## **4.2 Research Objective**

Wacker (1998) asserted that depending on the purpose of the research, the objective of a research can generally be looked at in two broad ways: (1) theory building and (2) fact finding. The main purpose of theory-building research is to create a holistic knowledge that can be applied to multiple instances by explaining who, how, when, what, where and why certain phenomena will occur. Theory-building research gathers evidence to test the occurrence of an already predicted phenomena. Fact-finding research on the other hand gathers evidence and then use it to discover if relationships exist. Fact-finding research goes further to explain how and why particular phenomena occurred.

This master thesis best fits the characteristics of a fact-finding research. Data is gathered and the information is used to determine if relationships exist. The research also attempts to explain why and how the specific phenomena of sustainable procurement occur within the petroleum industry.

## **4.3 Research Approach**

Bryman and Bell (2015), indicated that there are two main approaches to the relationship between theory and research: (1) deductive, where the researcher deduces one or more theoretical hypotheses and subjects them to empirical study; and (2) inductive, where the researcher's empirical findings and observations build new theory into a certain theoretical domain.

As described by Saunders et al (2009), researchers who adapt the inductive research approach are mainly concerned with the understanding the context or what is happening. The inductive approach has the advantage of flexibility and can be applied in a flexibly structured research because inductive approach researchers focus on understanding the problem, which can be explained in various alternative ways (Saunders et al, 2009; Rose et al 2014).

Deductive researchers work, is a top-down approach with the theory being the starting point of the research and the testing the theory via the hypothesis to add or contradict the theory (Creswell and Clark 2007). In contrast with the inductive research approach, Saunders et al

(2009), explained that deductive research approach is about testing the theory using a five-step research process as follows: (1) developing the hypothesis from the theory, (2) breaking down the hypothesis into the operational terms (3) testing the operational hypothesis, (4) examining the outcomes of the hypothesis testing in order to confirm the theory or to acquire further modification of the theory, and finally (5) the theory is to be modified based upon the findings of the analysis if necessary.

Deductive researchers use a more structured framework than the inductive approach (Wilson 2014) and the deductive research approach is usually adapted in the quantitative research (Saunders et al, 2009; Rose et al, 2015).

This study tries to build up the suggested theory from literature rather than testing the theory. As such, the study adapt the inductive research approach. By adapting the inductive research approach, the study would focus on understanding the research problems using flexibly structured study. Additionally, there would be no use of hypothesis. The focus of the study is to understand and explain the issue sustainable procurement in the Ghana oil and gas industry and to build up on the theory of sustainability and sustainable procurement based upon the collected data.

## **4.4 Research Strategy**

According to Bryman and Bell (2015), research strategies can be grouped into two major forms: (1) quantitative research, which adopts a quantification approach to the collection and analysis of data; and (2) qualitative research, which is more concerned with descriptive detail and explanation.

According to (Creswell, 1998, p. 15) ... 'Qualitative research is an inquiry process of understanding based on distinct methodological traditions on inquiry that explore a social or human problem. The researcher builds a complex, holistic picture, analysis words, reports details of informants, and conducts the study in a natural setting'. Qualitative research is based on the observations and interpretations of the perception of people regarding different events and it takes the snapshot of the people's perception in a natural setting (Guba and Lincoln 1994). 'We can never achieve a complete 'scientific' understanding of the human world. The best we can do is to arrive at a truth that makes a difference that opens up new possibilities for understanding' (McLeod, 2001, p. 4). According to Dahlberg and McCaig (2010), the choice of deductive or inductive research approach does not define the use of quantitative or qualitative research method. However, Straus and Corbin (1998) suggested

that inductive research approach is quite popular with the qualitative method of data analysis. (Strauss and Corbin 1998)

This study adopts the qualitative approach to research. The choice of a qualitative research methodology employed in this research is largely dependent upon the nature of the research problem. Morgan and Smircich (1980) argue that the appropriateness of a research method is determined by the nature of the social phenomena to be explored. According to Denzin and Lincoln (1994), qualitative implies and emphasizes on processes and meaning that are not subjected to rigorous examination, measurement (if measured at all), in terms of quantity, intensity, amount or frequency. Thus, there may be occasions, where researches may be interested in discovery, insights and interpretation rather than hypothesis testing, particularly in the social sciences (Merriam 1988). This study does not seek to test hypothesis but rather the researcher is interested in discovering or gaining more insight into the sustainable procurement activities of the Ghana oil and gas industry and interpreting these discoveries.

## **4.5 Research design**

Research design, according to Yin (2003), is a guide to the researcher in the identification and specification of the relevant research data to be collected and how such data should be collected and analysis. Saunders et al (2009) indicated that the research design is a general plan to answer the research questions and is closely linked to the research objective and suggested that researchers should differentiate between research design and research strategies. Saunders et al (2009) indicated that while research design involves the general plan for the study, research strategy concerns more with the techniques for data collection and analysis.

Bryman and Bell (2015, 53) discuss five types of research designs that are frequently used in social research: experimental design, cross-sectional design, case study design, longitudinal design and comparative design. Piekkari, Welch and Plakoyannaki (2009), however, indicated that the choice of the type of research design approach a researcher makes should be explicitly justified by the researcher. Following of this indication, and for the purpose of choosing and justifying the best research design for this study, I would like to discuss three of the proposed research design approaches by Bryman and Bell (2015, 53).

### **4.5.1 Case study**

The case study method is progressively popular among researchers despite the on-going discussion about case studies credibility and its limitations in association with other methods (Hyett, Kenny and Dickson-Swift. 2014). According to Leonard-Barton (1990), “a case study is the history of past or current phenomenon, drawn from multiple sources of evidence. It can include data from direct observations and systematic interviewing as well as from public and private archives. In fact, any fact relevant to the stream of events describing the phenomenon is a potential datum in a case study, since context is important” and Gerring, J. (2004) described case study as “an intensive study of a single unit for the purpose of understanding a larger class of (similar) units”. Yin (1984:23) defines the case study research method “as an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used.”

According to Yin (2003) a case study design should be considered when: (a) the aim of the study is to answer “how” and “why” questions; (b) the behaviour of those involved in the study cannot be manipulated by the researcher; (c) the research aims to cover contextual conditions because it is believed they are relevant to the phenomenon under study; or (d) the boundaries are not clear between the phenomenon and context.

An important issue for a case researcher to consider is whether it is prudent to conduct a single case study or if conducting a multiple case study will lead to a better understanding of the phenomenon (Baxter and Jack 2008).

#### **4.5.1.1 Single Case Study**

If the study only wants to focus on one single thing (for example a person from a specific group) or a single group (for example a group of people), a single case study is the best choice and when a study includes more than one single case, a multiple case study is needed (Yin 2003).



#### **4.5.1.2 Multiple Case Study**

Yin (2003) asserted that multiple case studies might be the appropriate research approach to argue either contrasting results for expected reasons or similar results in the studies. In this way, the researcher can clarify whether the findings are valuable or not (Eisenhardt 1991). However, Baxter & Jack (2008) indicated that multiple case studies might require enormous resource and thus, can be expensive and time consuming to implement.

#### **4.5.2 Cross-sectional design**

Cross-sectional research design requires the collection of data on more than one case and at a single point in time in order to collect a body of quantitative or quantifiable data in connection with two or more variables, which are then examined to detect patterns of association (Bryman and Bell 2015).

#### **4.5.3 Experimental design**

In experimental design, the researcher establishes two groups, which forms the basis for the experimental manipulation of the dependent variable. The treatment or experimental group receives the treatment and is compared against the group, which does not receive the treatment, called the controlled group. The dependent variable is measured before the experiment and after the experimental manipulation to enable the analysis of the before and after. Any difference between the two groups is then attributed to the manipulation of the independent variable.

#### **4.5.4 Choice of research design**

What distinguishes a case study from other research design is the fact that the researcher has an idiographic approach where the researcher is concerned with elucidating the unique features of the case. Cross-sectional research design on the other hand, has a nomothetic approach where researchers are concerned with generating statements that apply regardless of time and place. A simple rule of thumb to use in deciding between multiple case study and cross-sectional design is to identify the focus. Multiple-case studies focus on the cases and their unique contexts, whereas cross-sectional design is focused on producing general findings with little regard for the unique contexts of each case. (Bryman and Bell 2015)

Based on this, this researcher is inclined to believe that this study is a multiple case research design. The study is on sustainable procurement of two organizations within the Ghana oil and gas industry. Tullow Oil Ghana representing the up-stream sector and Tema Oil Refinery (TOR) representing the down-stream sector of the industry. Although these organizations both operate in the Ghana oil and gas industry, these two organizations present some unique features in that they operate within different sectors of the industry (upstream Tullow and downstream TOR) and different ownership structure (public owned TOR and private owned Tullow) as well as geographical coverage (national TOR and multinational Tullow). The research therefore answers the research questions with a focus on the unique context of each organization. With a multiple case study, it will be possible to compare the differences and similarities between the organizations in the two main sectors of the Ghana oil and gas industry with respect to the research questions. Voss C. et al (2002) indicated that case study research, aside from investigating the “why” and “how” questions, is also particularly suitable for developing new theory and ideas and may also be applied for testing and refining existing theories and therefore must be encouraged.

## **4.7 Research Method**

As mentioned earlier, research methods according to Saunders et al (2009), concerns with the techniques to collect and analyze the data. Yin (2003) suggested that a research method is a technique for gathering data through for example interviews, documentation, archival records, observations or physical artifacts. The following parts of the chapter discuss the important aspects of the research methods that will be used in this study.

### **4.7.1 Interview as the research method**

In selecting the method for primary data collection, researchers are often confronted with the issue of the appropriateness or the most appropriate method for the research in question: whether survey, focus groups or interviews for example will be most appropriate to the research effort. This study will use interviews as the main method for primary data collection.

The choice of interview as the research method for collecting primary data is principally due to the choice of the research strategy for this study, qualitative research strategy. Kvale (1983, p.174) defines the qualitative research interview as "an interview, whose purpose is

to gather descriptions of the life-world of the interviewee with respect to interpretation of the meaning of the described phenomena". The collection these descriptions can be done in numerous ways, of which face-to-face interviews are the most common (Opdenakker 2006). In the quest for a comprehensive response, focus groups and interviews are the research methods most likely to offer the depth of information that might be useful and are also the most appropriate methods to resolve seemingly conflicting information, as the researcher is presented with the direct opportunity to ask about the apparent conflicting information (Harrell and Bradley 2009).

Many other authors and researches have also attributed a number of advantages to the use of personal interview as the method for data collection:

1. it has a greater potential of creating high response rate compared with a questionnaire survey (Austin 1981)
2. it prevents the respondent from receiving any form of assistance from others while formulating a response (Bailey 1987)
3. it is well suited for the exploration of beliefs, values, attitudes and motives (Smith 1975)
4. it provides the opportunity for the interviewer to observe non-verbal indicators and thus, to evaluate the validity of the respondent's answers (Gordon 1975)

#### **4.7.1.1 Interview design**

According to Gall, Gall and Borg (2003), there are four formats for interview design:

- Informal conversational interview – with this type of interview, the researcher relies on the spontaneous generation of questions and the interaction with the participant to guide the interview process rather than asking any specific type of questions.
- Semi-structured interview / general interview – this type of interview design is more structured but allows for some flexibility as the researcher can change questions or ask further probing questions based on participant response to previous questions. The advantage with the semi-structured interview design is that it ensures a focus on the same general areas of information in the collection of data from all respondents – it provides more focus than the conversational approach while still allowing some degree of freedom and adaptability in getting research information (McNamara 2009).
- Standardized open-ended interview – respondents are always asked identical questions, but the questions are worded so that responses are open-ended. The open-

ended nature of this type of interview design, that allows participants to fully express their viewpoints and experiences, makes it the most popular form of interviewing utilized in research studies. But there is difficulty in coding data.

- Closed fixed-response interview – where all interviewees are asked the same questions and asked to choose answers from among the same set of alternatives. (McNamara 2009)

Based on the above information and with interview as the main primary data gathering instrument for the research, the semi-structured interview design is selected as the most appropriate method for this study. Questions are carefully drafted to achieve the maximum coverage for the research purpose. Major questions were developed in the form of a general statement, which serves as the tone for subsequent sub-questions and further probing into the subject matter.

Again, semi-structured interview design was preferred over a structured interview because of the flexibility it offers in the approach of different respondents while still focusing on the same subject matter and area of data collection. This is important as this study has different organizations with unique background and circumstances even though they are all operating within the oil and gas industry. The researcher and interviewer, by using a semi-structured interview design, is thus organize the flow of interview in amore tailored way by having the flexibility to adjust the interview questions to the peculiar circumstance of the interviewee and to probe further if need be.

Again, a semi-structured interview design is favored over a standard open-ended interview because the open-ended interview will require the formulation of an interview guide and questions that can be applied to all the respondents of the interview. This may prove challenging due to the diverse nature and circumstances of the respondent organizations.

## **4.8 Collection of empirical data**

### **4.8.1 Sampling of Organizations and Respondents**

As indicated above, this research is a multiple case study of sustainable procurement in two organizations within the Ghana oil and gas industry. The petroleum industry is a very broad industry involving many players and organizations at the various levels of its operating activities (up-stream, mid-stream and down-stream). In effect, the supply chain activities of the industry tend to be wide-ranging with a complex network supply chain structure. To

have complete and comprehensive review or evaluation of the sustainable procurement of this rather wide industry with a complex supply chain structure would require a significant amount of resources (money, time, personnel and tools) which is unavailable for this research. Due to the limited availability of such recourses for this research and the need to be concise and focus on the research intersect (research questions), this paper had to adopt a two-case study approach in dealing with its research questions, focusing on the upstream and downstream sectors of the industry.

To find the appropriate answers and explanations to the questions that the research seeks to address, the researcher identified these case-study originations as the purchasers. Again, for the purpose of addressing the research interest (sustainable procurement) and the research questions appropriately, the supplier sector had a rather narrow focus only on fully owned local supplier organization or local-foreign partnership supplier companies that supply goods and services to the up-stream and down-stream case-study organization (Tullow and TOR). Again, due to resource limitation of time and money, these suppliers were further limited to only the first tier local and local-foreign partnership suppliers of the case organizations.

The regulators are the institutions mandated with the responsibilities of monitoring and regulating the activities of the industry players within the different levels of the supply chain.

#### **4.8.1.1 Tullow Oil Ghana (Upstream case-study organization)**

The upstream sector of the oil and gas industry includes several activities such as searching for potential underwater or underground oil and natural gas, drilling and exploratory wells, and subsequently drilling and operating the wells that recover and bring the crude oil or raw material gas to the surface. The Ghana oil and gas upstream industry is made up of majors (ENI Petroleum Co. Inc.), independent oil companies (Hess, Anadarko, Tullow, Kosmos etc.), NOC (PetroSA), LOCAL Ghanaian companies including E&P and service providers (GNPC 2016).

In October 2008, Tullow was appointed as the Jubilee Field Operator and set about working with the Government of Ghana and the partners on developing the field to bring Ghana its first major oil production. In July 2009, the Jubilee Field Phase 1 Development Plan and Unitization Agreement was formally approved by the Minister of Energy in Ghana on behalf of the Government of Ghana. The first oil was achieved from the Jubilee field in November 2010, following a successful development programme, which included the building of a

Floating Production Storage and Offloading (FPSO). This was some 40 months after the initial discovery well, which represents the fastest ever comprehensive full-scale deep-water development (Tullow Oil 2017). Tullow has since then been the lead operator of the Jubilee Field. Tullow Ghana is therefore selected as the case study for the upstream sector because it is the 'lead operator of the first and second oil fields' in the Ghanaian oil fields (Graphic 2017).

Tullow Oil is a leading independent oil and gas exploration and production company. The Group has interest in 90 explorations and production licenses across 16 countries, which are managed as three Business Delivery Teams: West Africa, East Africa and New Ventures (Tullow 2018b).

#### **4.8.1.2 Tema Oil Refinery (Downstream case-study organization)**

The activities of the downstream sector of the oil and gas industry include the refining of petroleum crude oil and the processing and purifying of raw natural gas, as well as the marketing and distribution of products derived from crude oil and natural gas. As such, the down-stream sector of the Ghana oil and gas industry is made up of organizations in the various activities within its supply chain. These organizations include the Tema Oil Refinery (TOR), involved in oil refinery and processing; Bulk Oil Storage and Distribution (BOST), responsible for the planning and development of transmission system to meet national demands and the development of strategic pipelines and storage facilities; and oil marketing and distribution companies such as GOIL, SHELL OIL, TOTAL OIL etc., among other sub-sector operators.

Again, due to the limited availability of resources for this research and the need to tailor the selection organization and activities to the research interest and research questions, the oil refinery and processing industry is selected as the case study organization of the downstream sector. This is because the oil and gas processing activity of the downstream involves activities that do not just largely impact on the environment but its supply chain can also be used to greatly improve local employment and development.

The state owned Tema Oil Refinery (TOR) is the premier and only refinery in Ghana. The refinery was established in 1963 and was among the first eight refineries in Africa as at the time. The state-owned refinery is a 45,000 barrel per stream day (bpsd) capacity Crude Distillation Unit and supplies this quantity out of the national demand of 65,000 bpsd. Tema Oil Refinery (TOR) Limited refines and distills many forms of petroleum products

including: Gasoline (Petrol), Liquefied Petroleum Gas (LPG), Kerosene, Gas Oil (Diesel), Aviation Turbine Kerosene (Jet A1), Naphtha, Premix, Fuel Oil and Cracked Fuels (TOR 2017).

With the discovery of oil and gas in Ghana, Tema Oil Refinery (*TOR*) has positioned itself to improve and expand its infrastructure to ensure availability of petroleum products and the reliability of TOR as a major producer of petroleum products in the Ghanaian market and the ECOWAS sub region. TOR intends to become the first choice for Bulk Distribution Companies (BDC) for finished petroleum products. The refinery has improved its current capacity to produce and store petroleum products. The total storage of the refinery for both crude oil and finished petroleum products has increased from 340,000 metric tonnes to 1,000,000 metric tonnes and the storage capacity of LPG has also increased from 7,560 to 10,560 metric tonnes. The refinery provides storage services for the Bulk Distribution Companies for a fee subject to availability of storage space (TOR 2017).

#### **4.8.1.3 Suppliers**

The Ghana oil and gas industry is made up of a complex supply net-work involving many levels of tiers and relationships and a diverse supplier base (local and locally owned suppliers, foreign and foreign owned suppliers, local and foreign supplier partner, small-scale suppliers, large scale suppliers, marginalized supplier groups such as female owned etc.). For the purpose of this research, the supplier in the Ghana oil and gas industry is limited to the first-tier fully locally owned or local-foreign partnership and joint venture supplier organizations of the case study organizations, namely Tullow Oil Ghana and TOR.

The possible supplier respondents were then selected from a list based on the reference from the case study organizations as well as from the search list from the internet and other sources of organization information such as telephone directory and Yellow Pages.

This study found it appropriate to include the suppliers of the case-study organizations as their feedback from the research interview could help better address the research questions. Particularly, research question three: ‘What are the implications of procurement policies on sustainability in the Ghana oil and gas industry?’

#### **4.8.1.4 Regulators**

The regulators are the institutions mandated with the responsibilities of monitoring and regulating the activities of the industry players within the different levels of the supply chain. In Ghana, there are three main regulatory bodies in the oil and gas industry namely National Petroleum Authority (the regulator of the down-stream sector); Petroleum Commission (the regulator of the up-stream sector); and the Environmental Protection Agency (environmental regulator in both up-stream and down-stream sectors). These were the institutional focus of the research with regards to regulations.

Again, this study found it appropriate to include the regulator of the industry in the interview respondent list as their contribution will further improve the study results. For example, Research question One ‘What are the major drivers of sustainable procurement in the Ghana oil and gas industry?’ may better be addresses if input from these regulators on for example the adherence or non-adherence to laws and regulation by the industry organization is considered.

#### **4.8.2 Field Research (Interview)**

A field research consisted of in-depth interviews with participants in the Ghana oil and gas industry was conducted to form the basic primary data for this research. A total of 15 interviews were conducted to form the main source of primary data for this research. This represents approximately 43% respondent rate of the total number of interview request made to the various players in the Ghana oil and gas industry. In all, a total number of 35 interview request were made and letters of interview request were sent personally by the researcher to the different organizations in the industry (purchasers, suppliers and regulators in accordance with the research interest and focused area). During the interview, I tried as much as possible to keep the interview duration within an hour. This was partly to avoid the issue of interview fatigue among the respondents and the possible resultant effect of inconsistent and inaccurate answers to my questions. More importantly, however, the respondents were very busy people who cannot spare too much of their time for the research interview. Further interviews were rescheduled with some of the respondents for clarification where the need be. Table 4.1 shows summary of the interviews conducted during the field research.



**Table 4.1**

<b>NO</b>	<b>Organization</b>	<b>Date</b>	<b>Department/Position</b>	<b>Duration</b>
	<b>Upstream Case-Study</b>			
1	Tullow Ghana	13/07/2017	Procurement Officer	30 minutes
2	Tullow Ghana	30/08/2017	Procurement Officer	45 minutes
	<b>Downstream Case-Study</b>			
3	Tema Oil Refinery (TOR)	06/07/2017	Senior Purchasing Officer	60 minutes
4	Tema oil Refinery (TOR)	23/08/2017	Principal Purchasing Officer	20 minutes
	<b>Upstream Suppliers</b>			
5	Zoomlion Oil Services Ltd	02/08/2017	Operations	50 minutes
6	Allship Logistics	16/08/2017	Logistics	45 minutes
7	Western Offshore Management & Consulting Services Ltd	18/08/2017	Marketing	50 minutes
8	Deep Sea Oil and Gas	11/08/2017	Logistics	40 minutes
	<b>Downstream Suppliers</b>			
9	SERVACO PPS	04/02/2017	Materials Manager	60 minutes
10	Hyedua Company Limited	10/08/2017	General Manager	30 minutes
11	Gulf Engineering Services Ltd	09/08/2017	Warehouse Manager	40 minutes
	<b>Upstream Regulators</b>			
12	Petroleum Commission	27/07/2017	Local Content Team	60 minutes
13	Environmental Protection Agency	19/07/2017	Petroleum Department	45 minutes
	<b>Downstream Regulators</b>			
14	National Petroleum Authority	25/08/2017	Licensing Officer	50 minutes
15	Environmental Protection Agency	19/07/2017	Petroleum Department	45 minutes

Summary of the interviews conducted during the field research

#### **4.8.2.1 Audio Recording and Transcribing**

The use of audio tapes as a tool when permitted by respondents in an interview facilitates the analysis of the responses better as it ensures the availability of identical replication of the contents of each interview (Barriball and While 1994). May (1989) has argued that the procedures used to log interview data must be given considerable attention due to the dynamic nature of interviewing and the subtle challenges of topic control and data interpretation. Audio taping is therefore the frequent method of choice, as it enables a detailed performance assessment of both the interviewer and the interviewee and reduces the chances of interviewer error such as incorrect data recording or cheating by logging answers to questions not asked (Barriball and While 1994).

During the field work for primary data collection for this study, interviews were recorded by the researcher, where the respondents agreed to it. Such recordings were then played over again to assist the researcher have clearer understanding of the interview responses. More importantly, the audio recording facilitated the quotation of respondents in the research report. In cases where the interviewees did not agree to audio recording, the researcher just had to listen and take notes of interview responses in a note pad. However, to ensure that the responses of interviewee have accurately been captured and recorded (written notes), the researcher repeats all key quotations to the interviewee for confirmation or further clarification in the course of the interview.

To further authenticate the responses from the interviewees, the researcher adapted the participant feedback strategy to check for the interpretive validity of the research. The researcher after every interview summarizes the interview responses to the respondent, in the way the researcher heard and understood them, for confirmation or further clarification by the respondents. This participants' feedback opportunity provides an agreed stance on information delivered and interpretation between the researcher and the respondent. Johnson (1997), suggested that participant feedback strategy can be one of the strategies by which qualitative reserachers can use to promote qualitative research validity.

Transcribing involves the reproduction of audio-recordings into written (word-processed) account using the actual words. However, as a research interviewer, the interview interest goes beyond only what the participants said, to the way they said it as well. This implies the researcher would need not only to record exactly what was said and by whom, but more importantly, also to try to give an indication of the tone in which the respondents responded as well as the respondents' non-verbal communications. The task of transcribing audio-

recorded interviews can therefore be to be time consuming. Reserachers and writers have recommend allowing five to six hours for transcription for every hour of speech (Saunders et al. 2009; Bryman and Bell, 2015). This time frame suggestion was applied in transcribing the interview and the interviews were transcribed as soon as possible after they are undertaken to avoid a situation of a build-up of audio-recordings and its associated transcription work.

To redudue the time needed to transcribe the audio-recordings, the data sampling aproch was adopted as recommended by Saunders et al. (2009). By appling the data sampling approach, we only transcribe those sections of each audio-recording that are pertinent to the research. First, the entire recording carefully listened to, at least twice to check for any possible missing statements f relevance. The sections transcribed are also carefully checked by going back to the audio recording.

### **4.8.3 Secondary Data**

Within business and management research secondary data, whether in the form of raw data or compiled data, are used most frequently as part of a survey or case study research strategy. However, secondary data are equally important in other research strategies, including experimental research, archival research and action research and there is no reason not to include secondary data in such research strategies (Saunders et al, 2009). Saunders et al (2009), further classified secondary data into three main sub-groups: documentary data, survey-based data, and those compiled from multiple sources.

This study therefore used secondary data in addition to the primary data gathered through field interviews. However, to indicate the choice of secondary data used study and justify the choice, I could like to briefly describe the various secondary classifications as suggested by Saunders (2009).

#### **4.8.3.1 Documentary secondary data**

This type of secondary data includes written materials such as books, journal, magazine articles, newspapers, administrative and public records, notices, minutes of meetings, correspondence (including emails), diaries, reports to shareholders and transcripts of speeches. These written materials can be important sources of raw data in their own right, as well as a storage medium for compiled data. Written documentary data could be used to generate statistical measures such as data on profitability or absenteeism derived from company records.

#### **4.8.3.2 Survey-based secondary data**

Saunders et al 2009, described survey-based secondary data as data collected using a survey strategy, usually by questionnaires which have already been analyzed for their original research purpose. Such data normally refer to organizations, people or households and will have been collected through one of three distinct sub-types of survey strategy: ad hoc surveys, continuous/regular surveys or censuses.

#### **4.8.3.3 Multiple-source secondary data**

Multiple-source secondary data can be based entirely on survey or on documentary secondary data, or the combination of the two. The key issue is that different data sets have been combined to form another data set prior to the researcher accessing the data.

#### **4.8.3.4 Choice of secondary data**

Based on the above description of the various classifications of secondary data, this researcher would want to believe that he adopted the documentary secondary data as its main source of secondary data. The researcher used written materials such as books, journal, magazine articles, newspapers, administrative and public records, notices and company reports to supplement the primary data. Again, the documentary secondary data serves better the qualitative research strategy of this study. The researcher can also fall on written documents to provide qualitative data such as managers' espoused reasons for decisions (Bryman, 1989).

The use of documentary secondary data is an important supplement to the research's primary data, and also to compensate for the shortfalls or limitations of interview as the primary data collection method. Given that people may sometimes say one thing and act in the exact opposite, the documentary data can also act as a way of cross-checking information gathered from the interviews and observations. As indicated by Saunders et al (2009), documentary secondary data can be used to help triangulate findings based on other data, such as primary data collected through interviews. Again, such documentary data was adopted by the researcher as may assist the interviewer by serving as a guideline to inquiry during the interview.

This research made little or no use of the survey-based secondary data as a form of secondary data. The because survey-based secondary data will best suit quantitative research strategy which is outside the domain of this research.

## **4.9 Research Validity and Reliability**

The discussions of ‘validity’ in research have been traditionally associated with quantitative research method (Johnson 1997) and the issue of whether or not to apply the concept of ‘validity’ to qualitative research have, however, been mixed. At the extreme, some qualitative researchers (e.g., Smith, 1984) have suggested that the traditional quantitative criteria of validity and reliability are irrelevant to qualitative research. But, Patton (2002) indicated that when judging the quality of the study of qualitative researches, reliability and validity are the two important factors to consider. Johnson (1997) indicated that validity in qualitative research, usually refers to qualitative research that is credible, plausible, trustworthy and thus, defensible, and therefore suggested five types of validity: (1) Descriptive validity; (2) Interpretive validity; (3) Theoretical validity; (4) Internal validity and; (5) External validity, that can be applied to qualitative research and some strategies that can be used to promote and maximize research validity in qualitative research. Following on the suggestion of Johnson (1997), this study applied two of qualitative research validity types and their strategies, as applied to this research, in promoting the validity of the study as follows:

### **4.9.1 Descriptive validity**

Deductive validity refers to the factual accuracy of the account as reported by the qualitative researcher. The key questions to address in this type of validity in qualitative research are: Did what was reported as taking place in the group being study did actually take place? and Was this happening reported accurately by the researcher? Thus, descriptive validity refers to accuracy in reporting descriptive information. The importance of this type of validity lies in the fact that description is a major objective in nearly all qualitative research. Johnson (1997) further indicated that one effective strategy that can be used to obtain descriptive strategy is investigator triangulation which involves the use of multiple observers to record and describe the research participants’ behavior and the context in which they were located. To improve the descriptive validity of the study, the researcher applied the triangulation strategy validity strategy as suggested by (Johnson, 1997). This was done by cross-checking information and conclusions through the use of multiple procedures and sources. The use of secondary sources, for example, particularly served as a source for the cross-checking of primary data obtained from the field through interviews. Again, where needed and where

possible the researcher cross-checked the information given by a respondent by interviewing another respondent from the same organization within the same field or department.

### **4.9.2 Interpretive validity**

According to Johnson (1997) interpretive validity is obtained to the degree that the participants' viewpoints, thoughts, intentions and experiences are accurately understood and reported by the qualitative researcher. In other words, interpretive validity refers to the researcher accurately portraying the meaning attached by participants to the study interest. More specifically, it refers to the degree to which the qualitative researcher accurately understood and portrayed the participants' thoughts, viewpoints, intentions, feelings and experiences, in the research report. Johnson (1997), suggested that participant feedback is an important strategy for testing interpretive validity.

To check and improve on the interpretive validity of this study, the researcher applied the participant feedback strategy. To achieve this, the researcher after every interview summarizes the interview responses to the respondent, in the way the researcher heard and understood them, for confirmation or further clarification by the respondents. This participants' feedback opportunity provides an agreed stance on information delivered and interpretation between the researcher and the respondent. Johnson (1997) further suggested that the use of many low inference descriptors, such as verbatim, the lowest inference descriptor, could be helpful in experiencing the participants' actual language, dialect and personal meaning. Again, the researcher as much as possible used the exact words of participants in the research report.

### **4.9.3 Internal validity**

Internal validity refers to the degree to which a researcher is justified in concluding that an observed relationship is causal (Cook and Campbell 1979). This criterion therefore seeks to establish a causal relationship, whereby certain conditions are believed to be precipitated by other conditions and can be achieved through the general analysis strategy of examining conflicting explanations, through pattern matching, explanation building and logic models (Yin 2003). However, Johnson (1997) indicated that qualitative researcher are often not interest in cause and effect relationship, however, examined all conflicting explanations from interviewees by repeating same questions to respondents by phrasing the question in another way.

#### **4.9.4 External validity**

External validity is important when the researcher intends to generalize from a set of research findings to other people, setting, and times (Cook and Campbell 1979) Johnson, 1997, however, asserted that generalization is typically outside the major purpose of qualitative research due to at least two preasons: (1) random selection is the best way to generalize from a sample to a population, but the people and settings examined by qualitative research are really randomly selected, making qualitative research weak in the form of population validity focused on generalization to population and (2) some qualitative researchers are more interested in showing or documenting particular findings or what is unique about a certain group or people, or a certain event rather than universalistic findings or findings that broadly applicable.

This research covers the broad areas of the upstream and downstream sectors of the Ghana oil and gas industry. However, I am not too sure the extent to which the results of this study can be generalized mainly because the case-study organizations are unique entities with unique characteristic (private and public owned; national and multinational; up-stream and downstream), and this I believe may affect or influence the individual organization's polities and attitude towards sustainability and sustainably procurement.

#### **4.9.5 Research Reliability**

Yin (2003), indicated that the objective of the reliability text is to ensure that the results of a research are consistent over time and that a replication of the research under the same methodology will produce similar results. The goal of research reliability test is to minimize the errors and biases in the study and Ellram (1996), suggested two techniques for reliability test in case-study: use of a case study protocol, and development of a case study data base. Yin (2003, p. 67) agrees that the "protocol is a major way of increasing the reliability of case study research".

A Case Study Protocol "is a set of comprehensive guidelines that is an integral part of the case research design and contains the procedures for conducting the research, the research instrument itself, and the guidelines for data analysis" and the development of a Case Study Protocol, forces the researcher to consider all issues relevant to the research which in turn contributes to more rigorous (case) research that has greater internal and external validity (Pervan and Maimbo 2005).

This research design began with a clear definition of the research questions and then the selection of cases, crafting of the research instruments (data collection methods and research strategy). The research then proceeded to conduct field interviews and gather other secondary data, followed by an analysis of the data (with reference to the research questions). Research findings are then compared with literature to bring out similarities and conflicts with the existing literatures. Finally, the research is brought to conclusion with indication of contributions to existing knowledge and literature on the issue of sustainable procurement.

Yin (2003) indicated that triangulation addresses the issues of construct validity as well as reliability. He presents four types of triangulation: (i) of data source (data triangulation); (ii) of perspectives to the same data set (theory triangulation); (iii) among different evaluators (investigator triangulation); (iv) of methods (methodological triangulation). This study addresses the first type of triangulation – using multiple sources of evidence. Apart from face-to-face interview, this study used other secondary data such as documents, archival records, reports and notices.

To this extent, the way of data collection (data triangulation) and design of this research (presence of a case study protocol), the researcher can say that this study complies with the research quality criteria of reliability and validity.

## **4.10 Analyzing the Qualitative Data**

Saunders et al. (2009) suggested a number of inductively based analytical procedures to analyse qualitative data. These are: (i) data display and analysis; (ii) template analysis; (iii) analytic induction; (iv) grounded theory; (v) discourse analysis; (vi) narrative analysis. A brief explanations of the procedures are as follows:

**Data display and analysis:** This is based on the work of Miles and Huberman (1994), whose book focuses on the process of ‘doing analysis’. For them, the process of analysis consists of three simultaneous sub-processes of data reduction, data display and drawing and verifying conclusions. Data reduction involves simplifying and summarising the data collected with the aim of transforming the data and condensing it. This can be done through the production of interview or observation summaries, document summaries, coding and categorising data and perhaps, constructing a narrative. Data display involves the



organisation and assembling of the data into summary diagrammatic or visual displays. The two main families of data display are matrices and networks (Miles and Huberman 1994). The data displays are helpful in recognising relationships and patterns in the data, and drawing conclusions and verification. A data display allows the researcher to make comparisons between the elements of the data and to identify any relationships, trends or patterns that may be evident and key themes: making it worthy of further exploration and analysis. In this way, the use of data displays can help the researcher to interpret her data and to draw meaning from it. Data display and analysis is suited to an inductive strategy to analyse qualitative data, although it is also compatible with a more deductive strategy (Saunders et al. 2009).

**Template analysis:** Template analysis is a style of thematic analysis that balances a relative high degree of structure in the process of analysing textual data with the flexibility to adapt it to the needs of a particular study (Gillian and Cassell 2012). A template is essentially a list of the codes or categories that represent the themes revealed from the data that have been collected. Like the data display approach explained above, template analysis combines a deductive and an inductive approach to qualitative analysis in the sense that codes can be predetermined and then amended or added to as data are collected and analysed. Template analysis involves developing categories and attaching these to units of data. Data are coded and analysed to identify and explore themes, patterns and relationships. The template approach allows codes and categories to be shown hierarchically to help this analytical process.

King (2004) provides a number of ways of differentiating template analysis from procedures used in a grounded theory strategy, which he says it resembles. Grounded theory, does not permit the prior specification of any codes to analyse data, holding as it does to a more purely inductive analytical approach as far as is practically possible. Grounded theory is also more structured than template analysis, specifying a set of procedures that must be used (Strauss and Corbin 2008). In this sense King (2004) comments that grounded theory is much more prescriptive whilst template analysis is similar to the data display and analysis approach in that it offers a more flexible route to analysis, which would allow you to amend its use to the needs of your own research project.

**Analytic induction:** This is an inductive version of the explanation-building procedure. Johnson (2004:165) defines analytic induction as 'the intensive examination of a strategically selected number of cases so as to empirically establish the causes of a specific phenomenon'. An inductively led approach to analysing qualitative data, therefore begins with a less defined explanation of the phenomenon to be explored, which is not derived from

existing theory. This explanation, or proposition, is then tested through a case study that is selected purposively to allow the phenomenon to be explored (Saunders et al 2009).

**Grounded theory:** Grounded theory is a general methodology with systematic guidelines for gathering and analyzing data to generate a theory around the core or central theme that emerges from data. The fundamental premise of “grounded theory” is the fact that researchers can and should develop theory from rigorous analyses of empirical data. The analytic process consists of coding data; developing, checking, and integrating theoretical categories; and writing analytic narratives throughout inquiry (Charmaz and Belgrave 2015)

**Discourse analysis:** Discourse analysis considers how language, both spoken and written, enacts social and cultural perspectives and identities. In particular, it explores how language (discourse) in the form of talk and text both constructs and simultaneously reproduces and/or changes the social world rather than using it as a means to reveal the social world as a phenomenon (Phillips and Hardy 2002). The focus here is on identifying how this reproduction or change occurs. Given these concerns, it is not surprising that researchers using discourse analysis usually adopt a subjectivist ontology. In choosing a discourse analysis approach the researcher would be exploring the use of language in specific contexts such as holiday brochures to construct a social reality of a package holiday or the minutes of meetings to reflect the meaning of the meeting from the perspective of the chairperson (Saunders et al. 2009).

**Narrative analysis:** Depending on the nature of the research question and objectives, the methods used for data collection and the data that are produced, narrative analysis may be a suitable option for the researcher. Narrative analysis may be used either as the principal means to analyse qualitative data, or as a complementary means. In this way, narrative analysis may be used by the researcher as a means to explore relationships and linkages, and socially constructed explanations that naturally occur within narrative accounts, where fragmentation of these into categories and themes would therefore be rendered unnecessary (Saunders et al. 2009).

In recent years, stories and story telling have become more frequently used in organisational research although they are still in their infancy (Gabriel and Griffiths 2004). Stories have been defined as narratives which have both plots and characters and generate emotion in the story teller and their audience using elaboration and poetic licence (Gabriel 2000). For data collected as stories through, for example, semi or unstructured interviews, the requirements for accuracy are often less important than the points that are made and what these points symbolise, and how they bring to light particular issues such as organisational culture,

politics, and change (Gabriel and Griffiths 2004). Consequently, whilst such narratives may not always present facts, they provide meaning to the facts (Saunders et al. 2009).

This study does not seek to build a theory around the core or central theme that emerges from the qualitative data as the fundamental premise of “grounded theory” demands. Again, the study will not use any form of categorization or coding, as is the case for Data Display and Analysis and Template Analysis. This research adapts the narrative approach as the principal means of analysing its qualitative data. Aided by the semi-structured interview design, the study tells the story of sustainability and sustainable procurement in the Ghana oil and gas industry.

## Chapter 5

### 5.0 RESEARCH FINDINGS

Chapter 5 presents the findings of the research. Data from the interviews conducted by the researcher, which forms the basis of the research's primary data, and information from other secondary sources including company annual reports, company journals, articles, textbooks, conference reports, newspaper reports, the internet etc. are the main bases of the researcher's presentation of findings and subsequent analysis and discussions.

The following contents are the research findings on the research questions. These findings are based on the field interviews (primary data) as well as other secondary data from the individual organizations and the industry at large.

#### 5.1 RESEARCH QUESTION ONE

**What are the drivers of sustainable procurement in the Ghana oil and gas industry?**

The starting point in exploring the sustainability and its practice in any industry would perhaps be to determine the factors or forces that motivate the industry in its decisions and policies on sustainability. Research question one explores the major external and internal drivers of sustainable procurement in the Ghana oil and gas industry.

The study on the drivers of sustainable procurement in the Ghana oil and gas industry did not find any significant differences or deviations from the existing literature (as discussed in section 3.5). The responses from the interviewees from Tullow Oil and Tema Oil Refinery (the case study organizations) regarding the factors that motivate their organizations to practice sustainable procurement indicate that there are both external and internal motivations to the practice of sustainability and sustainable procurement. Information gathered from other secondary sources such as newspapers, administrative and public information (including information on companies' website) and notices, also largely support the assertion of the interviewees regarding the main drivers of sustainable procurement in the industry. For example, procurement practitioners in the industry identified issues such as value for money, government regulations, stakeholder influence, corporate reputation and

CSR, stakeholder accountability and internal organizational culture as the driving forces behind their sustainable procurement practices. However, the influence of the individual drivers varied between the up-stream and down-stream sectors of the industry.

### **5.1.1 Research Findings on drivers of sustainable procurement in the up-stream oil sector**

Sustainable procurement in the up-stream sector of the Ghana oil and gas industry was found to be driven by four major (primary) factors: stakeholder influence, government regulations, organizational culture and cost (value for money). These primary drivers further serve as the driving forces to other drivers (secondary drivers) of sustainable procurement in the sector, such as CSR, supplier relation and supply security, organization reputation, transparency and accountability, natural resource conservation etc.

In response to the question of the major issues that influence the organization's policies on sustainable procurement during an interview, the interviewee, a procurement personnel of the up-stream operator organization (Tullow Oil Ghana), asserted that:

“As a global organization in the oil and gas industry, we strive to develop internal policies that promote and support sustainability and sustainable procurement mindful of the industry we find ourselves. Nonetheless, we always take into consideration local laws and regulations in the formulation of sustainable local procurement policies”.

He further commented on the stakeholder issue by saying:

“As you may be aware of, the discovery and exploration of oil comes with it some expectations (development and social improvement) from all manner of stakeholders (government, citizens and local communities, pressure groups, suppliers etc.) of the oil resource countries which can be quite overly exaggerated in some cases. .... Nonetheless, the management of these stakeholders and their expectations is vital for the sustainability of the organization (exploration organization) itself. The use of procurement tools together with other tools like CSR are some of the surest ways of managing the stakeholder expectations apart from the general practice of stakeholder engagements and communications”.

The stakeholder expectations and its resultant influence on sustainable procurement in the Ghana oil and gas industry was echoed by the former president and first citizen of the land

(the number one stakeholder), President Kuffour (2000-2008), in his famous statement, “With oil as a shot in the arm, we’re going to fly” (BBC News, 2007).

The interviewee in his concluding remarks on what drives his organization towards a sustainable procurement, with reference to the TBL, stated that:

“As a corporate organization, we are very much committed to sustainable operations as reflected partly in our code of ethics. However, in all these, one must acknowledge the fact that we are a private organization with the responsibility of ensuring profitability and returns on stakeholder investment. .... Once we achieve these major concerns (of profit for shareholders and investor, compliance with laws and regulations, stakeholder support and ethical operations) we can be sure of gaining a positive corporate image and reputation, achieving environmental and community preservation, operation continuity and ultimately being accountable to all manner of stakeholders”.

The accession that the internal organizational culture is a major driver of sustainable procurement was supported by the interview response of a member of the local content team of a regulatory body of the up-stream sector (Petroleum Commission). In answering a question on the level of compliance with the laws and regulations (local content law) by the exploration organization and the application of sanctions by the regulatory body, the respondent indicated that:

“The local content law (Ghana Petroleum Commission Act, 2011, Act 821) is to promote local participation in the up-stream Ghana oil and gas industry to ensure the direct benefit of the oil resources by the local communities and the Ghanaian citizens..... Thankfully, we have not had any cause to apply any sanctions for the non-compliance with the local content law and I must mention that the major organizations in the sector are willing to partner government in the achievement this benefit”.

The issue of internal organizational culture towards sustainability and compliance to laws and regulations is further affirmed by the codes of ethics of the up-stream operating organization, which stated under the heading ‘Compliance with the law’ that:

“We comply with all applicable local and international laws within the countries where we do business. Where differences exist between the standard of the law or regulations and the requirements of the Code, the higher standard will be applied” (Tullow Oil, Code of Ethical Conduct).

The internal commitment of the lead operator in the oil and gas industry is further captured in the comments on the driving force of the social pillar of sustainable procurement on the organization's Q&A platform on Local Content as follows:

“We want to benefit the countries where we work by investing in local suppliers, investing in local skills and by creating real opportunities within the industry. For us, Local Content is not just about meeting legislative requirements or ticking a box, **we do it because we have a responsibility**; it creates a positive social and economic impact and makes good business sense. For example, working with local companies can reduce our project times and costs” (TULLOW 2018).

In a report by Tullow Oil Ghana, the lead operator of the first and second independent oil fields indicated at the 2017 Local Content Conference and Exhibition, held at Takoradi, Ghana, under the theme ‘Developing Competitive Local Content Survive Providers and Personnel in Ghana’s Upstream Petroleum Industry’, Tullow indicated that ‘the company was committed to the process of the creation of opportunities for local companies by adhering to the local content rules in all aspects of the tendering process....’ (Daily Graphic, 2017).

The driving influence of the environmental pillar of sustainability and sustainable procurement in the up-stream Ghana oil and gas industry was also found by the study to be a combination of regulations and policy guidelines as well as the internal cultural policies on sustainability of the lead operating organizations. One of such regulations and policy guidelines is the Strategic Environmental Assessment (SEA) of the Oil and Gas development in Ghana, developed through the collaboration between the Ministry of Environment, Science, Technology and Innovation (MESTI), Ministry of Energy and Petroleum (MoEP), the Environmental Protection Agency (EPA) and the National Development Planning Commission (NDPC). The Strategic Environmental Assessment (SEA) of Ghana’s Oil and Gas development is a way of ensuring the management of the petroleum resources, both offshore and onshore, in an environmentally sustainable manner to achieve the expected benefits of the production of oil, having recognized the inherent sustainable environmental risks with the industry (Republic of Ghana 2013).

Another key policy guideline and regulation aimed at ensuring that the path of sustainable development is followed by oil and gas industry, is the Environmental Protection Agency

technical guidelines on sustainable operations of the oil and gas sector and the Environmental Assessment Regulations 1999 (L.I 1652). The Environmental Assessment Regulations 1999 (L.I 1652) defines “environmental assessment as the process for the orderly and systematic identification, prediction and evaluation of the likely environmental, socio-economic, cultural and health effects of an undertaking; and the mitigation and management of those effects”. Consequently, technical guidelines of the Environmental Protection Agency consider the effects on ecosystem (the environment), the general well-being of the participants in the operations of the oil and gas industry (health and safety) and the people and communities who are affected directly or indirectly by the activities of the industry (EPA, 2011).

In particular, the guidelines seeks to:

- establish a system for the identification and management of the associated environmental impacts with the offshore operations
- provide clarity on the current regulatory requirements to both government and the industry
- facilitate the dialogue between government and industry to address the industry’s opportunities and risks (EPA 2011).

Commenting on the environmental regulations of the oil and gas industry, a respondent from the Environmental Protection Agency, Petroleum Department, in an interview mentioned that:

“The EPA constantly monitor the activities of the oil and gas industry to assess its impact on the environment and to ensure adherence to all environmental regulations. More importantly, we engage the industry in the development of best environmental practices of the sector to ensure the country reaps the highest benefit from the oil resource at the least environmental cost. .... We benchmark our environmental performance measurements of the industry against some of the highest global standards to achieve the expected high results.”



### **5.1.2 Research finding on drivers of sustainable procurement in the down-stream oil sector**

Sustainable procurement in the down-stream oil refinery sector of the Ghana oil and gas industry was found to be driven by the factor indicated in the existing literature as mentioned earlier, but with varying degree of influence which.

Laws and regulations and value for money, both of which were found to be primary (major) drivers in the up-stream sector, were also found to be major drivers of sustainable procurement in the down-stream sector.

The procurement activities of the down-stream public (government) owned organizations (Refinery Company and a bulk oil storage and transportation company) are, however, highly regulated by the public procurement act among other public procurement regulations which ultimately seeks to achieve value for money for the Ghanaian tax payer. Key among these laws and regulations is the Public Procurement Law (ACT 663 and ACT 914).

The objective of the Public Procurement Board stated in ACT 914 is as follows:

“The object of the Board is to harmonize the processes of public procurement in the public service to secure a *judicious, economic and efficient* use of state resources in public procurement and ensure that public procurement is carried out in a fair, transparent and non-discriminatory, *environmentally and socially sustainable* manner”

Despite the advocacy of environmental and social sustainability by the objective of the procurement law, the economic goal seemed more paramount within the downstream public owned organization. The dominance of cost and value for money in driving the sustainable procurement agenda and policies of the down-stream was demonstrated in the response to the question on the prioritization of the various drivers of sustainable procurement in the procurement activities by the refinery organization. The interviewee, a senior procurement officer of the organization, responded by saying:

“It is important to start by mentioning that as a public organization, a key guiding principle, when it comes to procurement, is the public procurement act (Act 663 and Act 914). To this end, cost (whole life cost) and value for money (effectiveness or fit for purpose and efficiency) are key considerations among other issues in the procurement and procurement activities of the organization. .... Other issues such as stakeholder expectations and community development, or environmental and natural resource conservation are also important considerations in our procurement

activities. But in all this, we are always guided by the need and responsibility to protect the public purse.”

A case of the dominance of value for money backed by law and regulation in driving the sustainable procurement agenda and policies of the down-stream.

In contrast with the up-stream sector, stakeholder influence and organizational culture, which featured as the other major driving forces, were found to have a rather low influence in driving the sustainable procurement policies and activities of the downstream public owned oil refinery organization, TOR.

A principal procurement officer of the oil refinery organization, in a response to a question of what the organization’s strategic policies on sustainable procurement are, stated that:

“We do not have explicit policy statements on sustainable procurement”.

However, the absence of an explicit or documented policy on sustainable procurement in the organization may not necessarily imply the total absence of sustainable procurement practice by the organization. In a response to the interview question on the procurement cycle and specifications, the principal procurement officer stated that:

“As an organization in the oil and gas industry, we also take into consideration the environmental effects of our purchases. Procurement of technical and complicated products are usually done by a project team, which would usually include the user department as well as the engineering and environmental departments among other departments. This is to ensure products purchased do not only offer value for money to the organization but also meet environmental standards”.

Thus, natural resource conservation and environmental protection may be considered as another important driver of sustainable procurement in the down-stream sector.

The dominance of the economic factor of profitability in driving the procurement policies of the downstream refinery sector is further demonstrated by the organization’s compliance with environmental regulations by the sector’s regulatory authority. An example is the regulatory requirement of Sulphur content in diesel and petrol products. This was contained in a joint Public Notice issued on 12<sup>th</sup> March 2018 by the National Petroleum Authority and the Ghana Standards Authority under the heading ‘Implementation of Revised Specifications for Diesel Fuel and Petrol - GS141: 2017 &GS 140: 2017 (Appendix Four). A portion of paragraph 1 of the notice reads:

“..... an interim waiver effective the date of this notice and ending on 31<sup>st</sup> December 2020 has been granted to local refineries licensed by the Authority to

produce and supply Diesel and Petrol containing Sulphur levels not exceeding 1,500 mg/kg (ppm) to the general public”.

In an interview with a licensing officer of a regulatory authority of the down-stream sector (National Petroleum Authority), the interviewee, responded to the question of environmental protection and monitoring, indicated that:

“The authority further specifies acceptable minimum engineering specifications in the down-stream sector and monitors to ensure compliance with all environmental specifications for the safety of the environment and the public as well”.

Asked in an interview on the compliance to such regulations on the environment and Sulphur levels and the challenges posed by such regulations to the industry, a respondent (principal procurement officer) in a refinery organization indicated that:

“We strive to meet the dictates of the laws and the minimum requirements of Sulphur content levels in our petroleum products”

A further prove that the environmental issues play a role in the sustainable procurement activities of the refinery organization.

On the question of stakeholder interest in the sustainability and particularly sustainable procurement activities of the organization, the respondent (a Principal Procurement Officer) indicated that the downstream sector of the oil and gas industry in Ghana has not witnessed the same levels of stakeholder interest and for that matter stakeholder pressure in its operational activities as compared to the upstream sector of the industry. For this reason, “there is relatively less stakeholder pressure on the activities (sustainability and sustainable procurement) of the organization (downstream sector of the industry)”, the interviewee further explained. Thus, the issue of stakeholder influence in driving the sustainability agenda in the downstream sector may not be as vital as the upstream sector. As such, issues of public accountability and its associated corporate reputation, on the issue of sustainability, which is largely determined by public opinion on corporate policies and behavior, may also not be regarded as a major driving force of sustainability and sustainable procurement in the downstream sector of the oil industry in Ghana.

## **5.2 RESEARCH QUESTION TWO**

### **How are the elements of sustainable procurement prioritized in the Ghana oil and gas industry?**

Research question two seeks to determine how ‘sustainable’ the sustainable procurement in the Ghana oil and gas industry is. The focus here is to assess the balance of the three pillars of sustainability in the procurement policies and activities of the organizations in the Ghana oil and gas industry. Research question two builds on the findings of research question one, which explored the drivers of sustainable procurement in the Ghana oil and gas sector as it also explores the influences of the drivers on the prioritization and balancing of the three pillars of sustainability, in the procurement activities.

### **5.2.1 Research findings on the prioritization of the elements of sustainable procurement in the up-stream oil sector**

To assess the issue of prioritization of the three elements of sustainability and sustainable procurement in the oil and gas industry, the research first tried to find out how the case-study organizations, Tullow Oil and Tema Oil Refinery, define sustainability and sustainable procurement. The organizational definitions of sustainable procurement to a large extent were found to influence the organization’s policy directions towards individual elements of sustainable procurement (economic, social and environmental).

A procurement officer of Tullow Oil, in response to an interview question, ‘How is sustainable procurement defined by your organization?’ indicated that:

“We see sustainable procurement as an opportunity for our organization not just to use procurement activities to secure cost minimization and profitability but also to enhance the general well-being of the owners (people) of the oil resource we explore and to assure them of the protection of their natural environment to the best of our abilities”.

The organization’s website on sustainability also indicated its sustainability strategy as follows:

“Our approach to sustainability focuses on our commitment to managing risks and mitigating the impacts of our operations while creating shared prosperity for

shareholders, governments, citizens of host countries, employees and industry partners alike” ( Tullow, Sustainability 2018).

The interviewee further went on to state, in a follow up question on the importance of the individual elements of sustainable procurement to his organization, that:

“We take a holistic approach to sustainable procurement. We believe community and stakeholder support (through the economic enhancement of people and community and the protection of their natural environment) will further our profit oriented goal and long term sustainability. We therefore try as much as possible to encourage and support local suppliers in our supply chain as much as we seek technical competence and cost efficiency from the products and services of our suppliers”.

The interviewee further identified issues such as cost minimization (whole life cost), eco designed products, diversity, supply security, quality assurance, health and safety, environmental management, community development and human and labour rights as some of the organization’s considerations on issues of sustainable procurement.

#### **5.2.1.1 Tullow Business Model (Secondary data)**

Secondary data of the lead operator in the up-stream, Tullow Oil, lend credence to the assertion by the interviewee on the organizational holistic approach to sustainability and sustainable procurement. The business model of the organization gives some information of the prioritization of the three elements of sustainable procurement and some affirmation to the holistic approach to sustainability and sustainable procurement in the sector. Figure 5.2 shows the business model of Tullow Plc.



**Figure 5.2** Tullow Business Model (Tullow, Sustainability 2018)

The business model (Figure 5.1) indicates the long term sustainable value creation and growth goal of the organization, and to a large extent the up-stream sector of the Ghana oil and gas industry. The elements within the ‘HOW WE RUN BUSINESS’ aspect of the business model suggest a sustainable operation and sustainable procurement agenda of the organization. Tullow details out the guidelines under the four elements of the ‘HOW WE RUN BUSINESS’ as follows:

- **Shared Prosperity**

“We share prosperity by employing local people, procurement goods and services locally and building capacity in our countries of operation”.

The organization is committed to sharing the industry’s prosperity with our host nations and works towards this long-term goal through: a non-aggressive tax policy, ensuring the payment of a fair amount of taxes; the employment of nationals of the host nations, both directly in Tullow and indirectly through Tullow’s supply chain; providing local businesses

with the opportunity to work with Tullow and be part of its supply chain; the support of local companies to help them to compete for opportunities through capacity building (Tullow, Sustainability 2018).

- **Organization and Culture**

“A strong unified team with excellent skills and entrepreneurial flair is essential for the success of our business”.

The organization considers its people as being at the heart of its success and aims to engage and motivate its team by: maintaining a strong culture and values; considering the views of its people; supporting career development through training; rewarding performance; protecting the well-being and health of its people; providing equal opportunities and recognition to all staff (Tullow, Sustainability 2018).

- **Governance and Risk Management**

“Robust governance and effective risk management is central to how we run our business and helps us deliver our strategic objective”.

Tullow is committed to upholding the highest standards of governance and managing risk effectively which involves: ensuring the full accountability of the Board for governance and risk management; upholding the highest business ethic, including zero tolerance for corruption and bribery; demonstrating transparency in the organization’s contracting processes; ensuring the protection of the communities and environments Tullow operates among; and developing a healthy long-term relationship with its host government (Tullow, Sustainability 2018).

- **Responsible Operations**

“We aim to minimize our environmental and social impact, maintain the highest safety standards and protect the health and wellbeing of those that work for us”.

Tullow is committed to responsible operations through: the management of its environment and social impact; non-exploration and exploitation of oil in World Heritage Sites; the safe keeping of the organization’s people and assets; the maintenance of assets integrity and

preparedness for major emergencies; ensuring the maintenance of the organization's high standards throughout its supply chain; the protection of human rights of the organization's operating communities; the provision of a two-way communication with people about the extent of the organization's activities and the likely impact on them (Tullow, Sustainability 2018).

The study on the prioritization of the elements of sustainable procurement, based on the above interview responses and secondary data from the upstream exploration and operating organization, find a more holistic approach and equal prioritization of the elements of sustainable procurement.

The holistic approach to sustainability and sustainable procurement in the up-stream sector of the Ghana oil and gas industry is depicted in a statement of the Chief Executive Officer of the lead operator in the up-stream. The CEO of Tullow Plc, Paul McDade, stated that:

“Tullow believes that a country's hydrocarbon resources can and should act as a catalyst for host country economic development through maximizing opportunities for sustainable local participation in our operations and investing in domestic capacity to broaden opportunities, whilst ensuring this aim is aligned with, not at odds with, creating value for our shareholders” (Tullow CEO, 2018).

### **5.2.2 Research Findings on the prioritization of the elements of sustainable procurement in the down-stream oil sector**

The research findings on the drivers of sustainable procurement in the down-stream petroleum sector, reveals some pattern in the balancing of the three pillars of sustainability in the procurement policies and activities in the down-stream petroleum sector of Ghana. Laws and regulations, which was found to be a major driver of sustainable procurement in the sector, reinforces the cost and value-for-money element, the other major driver of sustainable procurement in the down-stream sector. The reinforcement is achieved by the fact that one of the major procurement regulations in the down-stream sector (publicly owned oil refinery), the Public Procurement Act, Act 663 and Act 914, largely seek to achieve value for money in the public sector through the control of procurement cost of public institutions. The research found the downstream public owned oil refinery organization's sustainable procurement activities to be skewed towards the economic element of sustainable procurement.



Asked ‘How important are the issues of environmental protection, local supplier support and cost to your organization in its procurement decisions?’ the principal procurement officer mentioned that as a public organization, a key guiding principle, when it comes to procurement, is the public procurement act and for that matter cost (whole life cost) and value for money (effectiveness or fit for purpose and efficiency) are key considerations among other issues in the procurement and procurement activities of the organization. She further stated that:

“Other issues such as stakeholder expectations and local supplier support and development, as well as environmental and natural resource conservation are also important considerations in our procurement activities. But in all this, we are always guided by the need and responsibility to save the public purse.”

An interview with a major supplier organization of the down-stream refinery organization reiterated the importance of the economic element of sustainable procurement in the down-stream sector. The materials manager of SERVACO PPS, a supplier organization to the refinery company, in a response to the question of what he thinks gives his company a competitive edge in the bidding process with the purchasing company, indicated that, though he might not be able to tell how the purchasing organization assigns weights to its KPI’s or whatever supplier evaluation elements it may apply in assessing their suppliers’ bids, he believes value for money would be a significant consideration. He stated that:

“We always provide cost effective products and services [whole life cost] to TOR (Tema Oil Refinery)”.

On the social element of sustainable procurement and the issue of local supplier participation and special preference to local suppliers, the study found that the down-stream sector has no specific laws or regulations guiding the participating organizations unlike the up-stream sector (Local Content and Local Participation Bill 2013). The issue of local community development through local supplier preference and partnership is therefore solely at the discretion of the purchasing organizations, driven by their internal organizational culture and top management orientation and support towards local community development.

In a response to the question of whether the organization has any special policies on local community development through local procurement, a senior procurement manager of a major down-stream operating organization stated:

“We do not have any specific policies on local supply as we do not really discriminate on the basis of supplier location of ownership..... Local supply is only prioritized when time (delivery time) is of essence”.

The environmental pillar of sustainable procurement was found to enjoy some attention in the procurement activities and policies of the down-stream petroleum sector, though not as much as the economic aspect. This attention is partly derived from the laws and regulations governing the sector’s products and services. An example is the regulations on Sulphur content levels in diesel and petrol products of the down-stream sector (Appendix Four), a product specifications regulation.

The interviewee of a down-stream organization (a principal procurement officer) commenting on the procurement process strategy of the organization during the interview, mentioned that:

“As an organization in the oil and gas industry, we also take into consideration the environmental effects of our purchases. Procurement of technical and complicated products is usually done by a project team which include the user department as well as the engineering and environmental departments among other departments. This is to ensure products purchased do not only offer value for money to the organization but also meet environmental standards”.

However, on the question on the organization’s adherence to the specific regulation on Sulphur content levels (Appendix Four), the respondent, a principal procurement officer, in the refinery organization indicated that:

“We strive to meet the dictates of the laws and the minimum requirements of Sulphur content levels in our petroleum products”

The interview question ‘How is sustainable procurement viewed in your organization?’ received a rather general or generic definition of the subject matter rather than a more specific corporate definition or interpretation of sustainable procurement. The principal procurement officer of the refinery organization, indicated that although the organization has no explicate policy statement of sustainable procurement, the organization sees sustainability and for that matter sustainable procurement as:

“The duty on the organization to be accountable to all its stakeholders in its activities by operating a profitable business, ensuring safe and healthy working environment and accepting its corporate social responsibilities”.

The findings on the prioritization of the three pillars of sustainable procurement in the down-stream Ghana oil and gas industry, from the above discussions on the responses to the interview questions, however, indicate that the procurement goals and activities are directed more towards the economic pillar of sustainable procurement with the environmental pillar attaining its rather minimal attention (compared to the economic pillar) from the environmental regulations of the sector. The social pillar arguably enjoyed the least attention or priority of the three main pillars of sustainable procurement probably due to the lack of the support from specific laws and regulations and the lack of internal organizational culture in support of sustainable procurement by the refinery organization of the down-stream sector.

### **5.3 RESEARCH QUESTION THREE**

**How does the procurement policies of the Ghana oil and gas industry impact on the elements of sustainable procurement?**

As mentioned earlier, the procurement policies of an organisation in any sector is perhaps the most important action and the defining point of the organisations’ and by extension an industry sector stance on sustainability and sustainable procurement. Research question three therefore, examines how the strategic procurement choices of the case-study organisations in the Ghana oil and gas industry promote or otherwise, sustainability in the industry. This is to again, further explore how the drivers of sustainable procurement and the prioritisation of the three elements of sustainability impact on the practical aspect of procurement policies and strategies.

### **5.3.1 Research findings on the impact of procurement policies on sustainability in the up-stream oil sector**

The study on how the procurement policies impact on sustainability in the up-stream Ghana oil and gas industry produced results that largely reflect the varying influences of the various driving forces of sustainable procurement within the sector and the organization (Tullow Oil Ghana). The findings point to a strategic procurement policy aimed at a holistic and balanced achievement of the three aspects of sustainability and sustainable procurement, namely, sustainable economic procurement, sustainable socio-political procurement and sustainable environmental procurement.

One of the key drivers of sustainable procurement (socio-political sustainable procurement) and a major consideration in the procurement policy formulation of the up-stream sector is the law on local content and local supply participation. The Local Content Law (ACT 821) is to enhance and promote the active participation of Ghanaians in the up-stream petroleum industry in the form of employment (the human resource aspect of the law) and the provision of goods and services (the supply chain aspect of the law).

“There are thresholds or targets that the law requires the industry to meet regarding the supply chain aspects of local participation and depending on the availability of local capacity, some procured services from the up-stream operating organizations require 10%, 20% or 30%, even up to a 100% local participation and these thresholds are expected to improve over the years with the succession planning policy. .... To a large extent we have had very decent compliance levels with the Local Content and Participation Law”.

The above statement was made by a member of the local content team of the Petroleum Commission, the regulatory body of the up-stream sector, in response to an interview question on the general directions and application of the local content law and the level of compliance within the industry.

The findings on the procurement policies of the lead operator organization in the upstream sector, Tullow Oil, largely support this assertion of compliance with the local content laws and the support for sustainable social procurement by the operating organization. In an interview question on ‘the specific social sustainable procurement policies of the organization’, the procurement officer of Tullow Oil Ghana, mentioned that the organization seeks to break all unnecessary barriers that may hinder the participation of local and small-

scale suppliers, who may have technical capacity to meet requirement, through supplier support and development programmes including educating these suppliers on ‘how to do business with the organization’. He further stated that:

“Tullow have also taken proactive action at ensuring local participation in the supply chain by reserving some procured items and services for only local suppliers.”

A member of the local content team of the Petroleum Commission, the regulatory body of the up-stream petroleum sector in respond to an interview question ‘how would you assess the participation of the local suppliers in the upstream supply chain’? indicated that the Commission continually monitors and engages the players within the sector to seek for the continuous improvement in the participation of local suppliers within the supply chain. He further explained that after a ‘Value Chain Assessment Exercise’ in in 2017, the commission (regulatory authority) mandated the reserve of provision of certain goods and services solely to the Ghanaian supplier, in areas where the Ghanaian supplier is deemed to have full capacity or near full capacity, particularly in the low handling goods and general supplies, including,

“Areas like catering, supply of fuel, petroleum products and lubricants, supply of low voltage cable, minor fabrication works, supply of industrial and drinking water among other: and so far, this has proved to be successful in promoting local participation”.

The interview responses from the local suppliers to Tullow Oil also seem to support the socio aspect of sustainable procurement by Tullow Oil. Almost all of respondents claimed to have received can form business support from Tullow in the form of training and seminars on the general issues procurements and supply and more specifically bidding and doing business with Tullow. Some of these suppliers also confirmed the preference to local suppliers in some of Tullow’s procurement needs. A Marketing Officer of an offshore management and consulting company, that supplies services including recruitment of local labour for rigs, warehouse facilities for oil producing companies, catering and hospitality services and provision of supply boats for the offshore services affirmed this. In response to the question, ‘Does your organization get any preferential treatment from the purchasing organization as a local supplier?’ during the interview the marketing officer indicated that he is aware that some of the services the organization provide to the upstream operating organization, Tullow, such as catering and hospitality, are solely reserved for the local supplier market. Adding that in such situations,

“All we need to do is to be the best (most competitive) in the local market to win the contracts and that is much easier than if we have to compete with all those foreign organizations that are providing same services”.

Secondary data on the procurement policies and practices by Tullow Oil also supported this claim of sustainable social procurement by the interviewees. A report by Tullow Oil Ghana, at the 2017 Local Content Conference and Exhibition, held at Takoradi, Ghana, under the theme ‘Developing Competitive Local Content Survive Providers and Personnel in Ghana’s Upstream Petroleum Industry’, reaffirms this organization’s support for local suppliers’ engagement and development. In the report, Tullow indicated that, ‘the company was committed to the process of the creation of opportunities for local companies by adhering to the local content rules in all aspects of the tendering process.’ The report further explained that the organisation promotes local participation in the supply chain activities by: the creation of opportunities for local companies by unbundling (sub-dividing) contracts as well reserving contracts just for them; creating enough duration for bidding for contracts to enable local companies to tender as a way to build local capacity; and ensuring that supplier development initiatives are in place to ensure pre-tender/post-tender general awareness and feedback seminars to sensitize suppliers on requirement for our tendering activities’ (Daily Graphic, 2017).

Again, on its local content questions and answers website, Tullow Oil as a corporate entity answers the question ‘What is Tullow’s strategy for local content?’ in the following manner: ‘The goal of our Local Content strategy is to build local capacity and to develop successful suppliers who can deliver a wide range of goods, services and skills to international standards. We aim to do this by: (i) developing an industry run by nationals through training, knowledge transfers and empowerment; (ii) supporting local businesses to enter the industry’s supply chain, either directly as suppliers to Tullow or through our international supplier relations; (iii) creating a social enterprise funding and partnership programme for education and enterprise development for our industry’ (Tullow, Local Content Q&A 2018). On the question of the organization’s specific procurement policies on sustainable economic and sustainable environmental procurement, the interviewee explained that the oil and gas industry is a highly specialized and technical industry that requires highly specialized suppliers for most of its supply needs and indicated that:

“Global procurement is therefore one of the key procurement strategies used by the organization to meet the needs of its technical and specialized procurement needs”.

The interviewee, a procurement officer, further explained that the international procurement strategy is not just aimed at cost saving by leveraging on the international competitive supply market, but also as a means of reaching the most competent suppliers of the organization’s needs. The interviewer then asked about the supplier evaluation processes and KPIs in the evaluation of bids and selection of suppliers. To this, the respondent mentioned that the evaluation of the tenders and suppliers cuts across product cost (whole life cost), product efficiency, environmental impact of products and supplier records of accomplishment. He further indicated that:

“The organization requires international certification, such as SA 800 (social), ISO 14001 (environment), ISO 9001 (quality) from their key suppliers”.

The research findings also indicated that the organization adopts some form of partnership and collaborative procurement policies (such as long term supply contracts, single procurement and the use of fewer dedicated suppliers) in dealing with its key strategic suppliers and supplies. This was indicated by the interviewee of Tullow Oil who stated that the organization does not always engage in an open competitive “as some products and suppliers call for a more strategic and collaborative approach to procurement”.

### **5.3.2 Research findings on the impact of procurement policies on sustainability in the down-stream oil sector**

The questions on sustainability and the organization’s strategies on the three arms of sustainable procurement (economic, social and environmental) produced responses from the interviewees that reflected impact of the drivers and prioritization of sustainable procurement, as discussed earlier, on the procurement strategies of the down-stream sector. For example, an interview question: ‘Does your procurement policy say anything about sustainable procurement and if yes, what are the specific policies on economic, social and environmental procurement?’ received a simple,

“NO, we do not have specific policies on sustainable procurement or specific procurement policies on the three elements of sustainability”.

response from the principal procurement officer of the refinery organization. She, however, further explained that the organization have a general procurement guidelines and regulations that is aimed at ensuring that our purchasing activities provide not just value for money for the organization but are also in conformity with acceptable environmental and regulatory standards. A follow up question on the general procurement and procurement policies and guidelines of the organization, the respondent indicated that a key guiding principle, when it comes to procurement, is the Public Procurement Act (Act 663 and Act 914). Explaining further that, cost (whole life cost) and value for money (effectiveness or fit for purpose, efficiency, and best possible contract terms) are key considerations among other issues in the procurement and procurement activities of the organization. She added that:

“Open competitive tendering is the norm. Sole sourcing or single sourcing are sometimes applied but only in exceptional cases where time is of essence or the purchase involves a specialized item, for example”.

This procurement practice may be explained by Section 35 (Sub-section 1 and 3) of the Public Procurement Act 2016, ACT 914 under the sub-heading ‘Competitive Procurement of the Act’. It reads: (subsection 1) ‘A procurement entity shall procure goods, services or works by **competitive tendering** except as provided in this Part; (subsection 3) If the procurement entity uses a method of procurement other than competitive tendering, it shall include in the record required a statement of the grounds and circumstances on which it relied to justify the use of that method’.

The use of competitive tendering in the government owned down-stream refinery organization was confirmed by all the three downstream suppliers interviewed by the researcher. The suppliers indicated that they have won their supply and services contracts from the refinery organization only through competitive bidding.

In an interview question ‘Does your organization have any special procurement policies for local suppliers?’ the principal procurement officer responded by saying:

“We do not really discriminate between local suppliers and non-local suppliers and therefore do not have explicit policy on local supplier engagement in our procurement activities. However, we may consider local only procurement where, for example, we have a very short time frame for delivery and there is a local supplier available”.



Again, the rather subtle emphasis on the social aspect of sustainable procurement within the public owned refinery organization may be explained by the Public Procurement Act 2016, ACT 914. Section 44 (sub-section 1 and 2) of the ACT, under sub-heading National Competitive Tendering which reads: (subsection 1) ‘Locally registered suppliers, contractors or consultants may participate in national competitive tendering procurement proceedings without regard to nationality, except where the procurement entity decides to limit participation in national competitive tendering proceedings to only domestic suppliers, contractors or consultants in accordance with this section’. (Subsection 2) ‘In procurement proceedings in which **the procurement entity decides** that only domestic suppliers, contractors or consultants may submit tenders, the procurement entity shall employ national competitive tendering procedures’. The important point here is that the engagement of local suppliers in the procurement activities of the publicly owned organizations is fully at the discretion of the procurement entity of the origination (the oil refinery organization) rather than an imposed law by way of say quota or preserved procurement products or services for the local supplier, as is the case in the upstream sector (Local Content Law, ACT 821). Thus, the public owned downstream refinery organization decides whether or not to activate the National Competitive Tendering process for any particular procurement need.

On the environmental aspect of sustainable procurement, the study found that the activities of the downstream oil refinery and processing organization to an extent support procurement the promotion of environmental sustainability. In a response to an interview question on the procurement process and product/services specifications, the principal procurement officer of the organization stated that:

“..... As an organization in the oil and gas industry, we also take into consideration the environmental effects of our purchases. Procurement of technical and complicated products are usually done by a project team, which usually include the user department as well as the engineering and environmental departments among other departments. This is to ensure products purchased do not only offer value for money to the organization but also meet environmental standards”.

Finally, the interviewer asked the interviewee how the organization evaluate its tenders in the selection of product and services suppliers and subsequent contracting. To this, the respondent answered that the all tenders must first meet the product/services specifications to be considered. Other issues that may be considered, depending on the type of

procurement, include the past performance of the supplier and financial capabilities of the supplier. Adding that:

“More importantly, it must offer value for money”

The interviewer then asked for a further explanation of value for money from the organization’s perspective. The interviewee replied that by value for money they mean a product that is fit for purpose (effective), efficient (provide better and improved service) and economical (least whole life cost). Again, the terms of supply must be favorable.

In conclusion, the study found that the procurement activities of the down-stream oil refinery sector tend to promote the economic pillar of the sustainable procurement concept. Affirming the cost driver and the prioritization of the economic aspect of sustainability and sustainable procurement. The environmental element of sustainable procurement was also found to enjoy some level of recognition in the procurement and procurement activities of the downstream oil refinery and processing sector but much less compared to the economic element. The social aspect of sustainable procurement got the least recognition in the procurement activities of the sector.

## **Chapter 6**

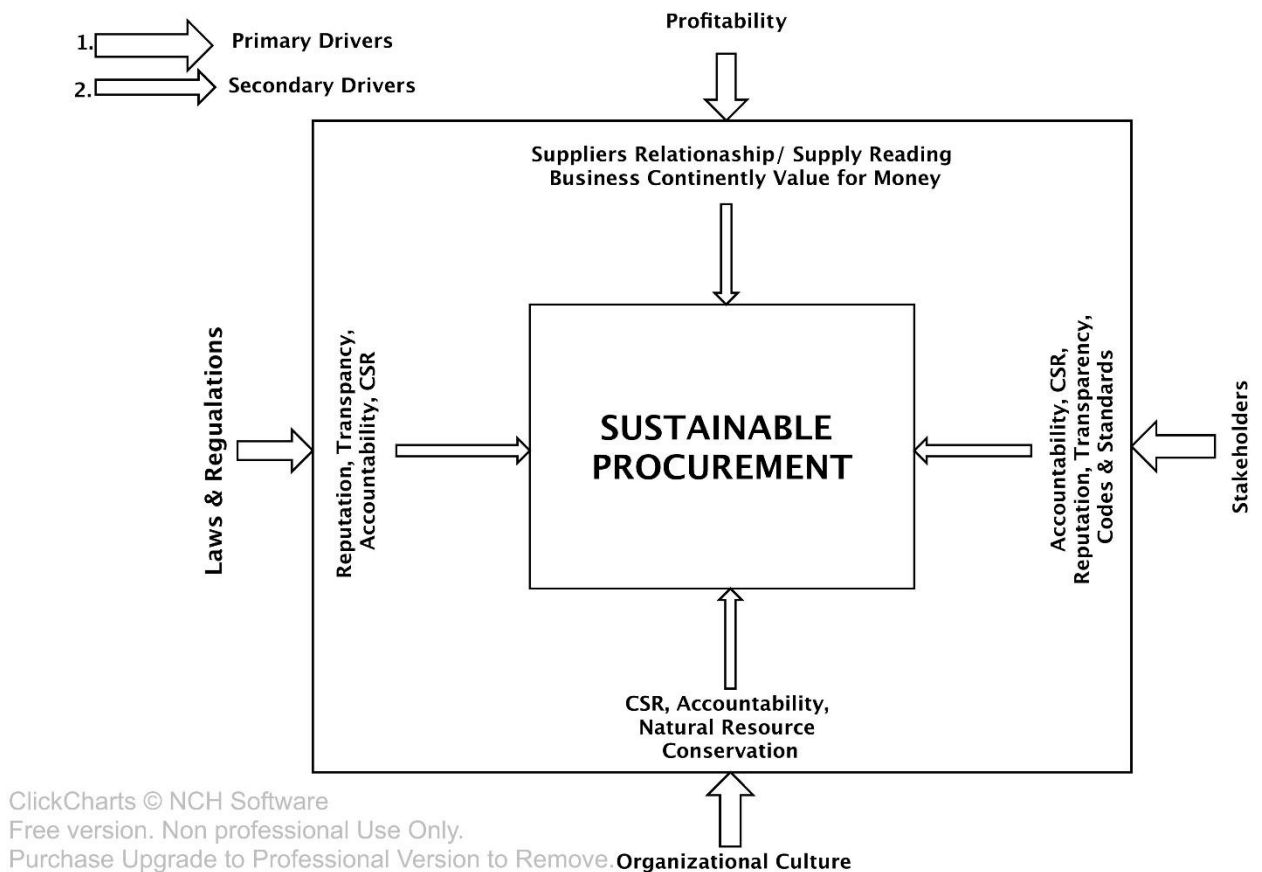
### **6.0 Discussion of Research Findings**

The discussion section of this study gives the researcher's interpretation of the research findings based on the existing literature and theories of sustainable procurement as discussed in chapter 3. The researcher's interpretation of the research findings is then compared with the existing literature to check out for similarities or conflicts with the existing literature.

### **6.1 Discussion of upstream drivers of Sustainable**

#### **Procurement**

From the findings on the drivers of sustainable procurement in the upstream sector, sustainable procurement in the up-stream sector of the Ghana oil and gas industry can be said to be driven by four major (primary) factors: stakeholder influence, government regulations, organizational culture and cost (value for money). These primary drivers further serve as the driving forces to other drivers (secondary drivers) of sustainable procurement in the sector, such as CSR, supplier relation and supply security, organization reputation, transparency and accountability, natural resource conservation etc. Thus, the primary drivers of sustainable procurement in the up-stream sector are found to be the reinforcing elements of the secondary drivers. This is illustrated by Figure 6.1



**Figure 6.1:** Drivers of sustainable procurement in the up-stream sector (Source: Own Elaboration)

Figure 6.1 shows that sustainable procurement in the up-stream petroleum sector is driven by four main factors (primary drivers): (1) laws and regulations, (2) organization culture, (3) value for money and (4) stakeholder influence, which influence other drivers (secondary drivers) of sustainable procurement. A primary driver such as organizational culture influences other secondary drivers such as CSR, natural resource conservation and accountability. Laws and regulations (primary driver) further reinforcing other secondary drivers such as transparency, accountability, CSR and corporate reputation. Stakeholder influence which was found to be another primary driver of sustainable procurement in the up-stream sector further drives other secondary drivers such as CSR, organizational reputation, codes and standards, accountability and transparency. Profitability (primary driver) further drives other secondary drivers such as value for money, cost, supply security and business continuity.

The interpretation of stakeholder influence as a primary force in driving the sustainable procurement agenda of the upstream sector is due to the high stakeholder interest in the sector and the relatively high powers of these stakeholders. In fact, the social expectations of

the financial benefit of the oil discovery and explorations can sometimes be described as exaggerated. This was confirmed by an interviewee in the downstream oil refinery who asserted that the refinery organisation have not had to contend with increased or high stakeholder pressures as compared to its counterparts in the upstream sector. Indeed in 2007, the former President Kuffour (2000-2008), the number one stakeholder at the time, announced enthusiastically, “With oil as a shot in the arm, we’re going to fly” (BBC NEWS 2007). According to the Mendelow (1991), stakeholders with high levels of interest in an organisation’s operations and high degree of power to influence the organisation’s operations are key players, and the organisation’s strategy must be acceptable to them. Thus, the description of stakeholder influence as a primary driver of sustainable procurement is not in conflict with existing literature and framework.

The high stakeholder interest and power in the upstream oil and gas industry is perhaps exhibited by the enactment of the local content law (Ghana Petroleum Commission Act, 2011, Act 821), which is also considered as a primary driving force of sustainable procurement.

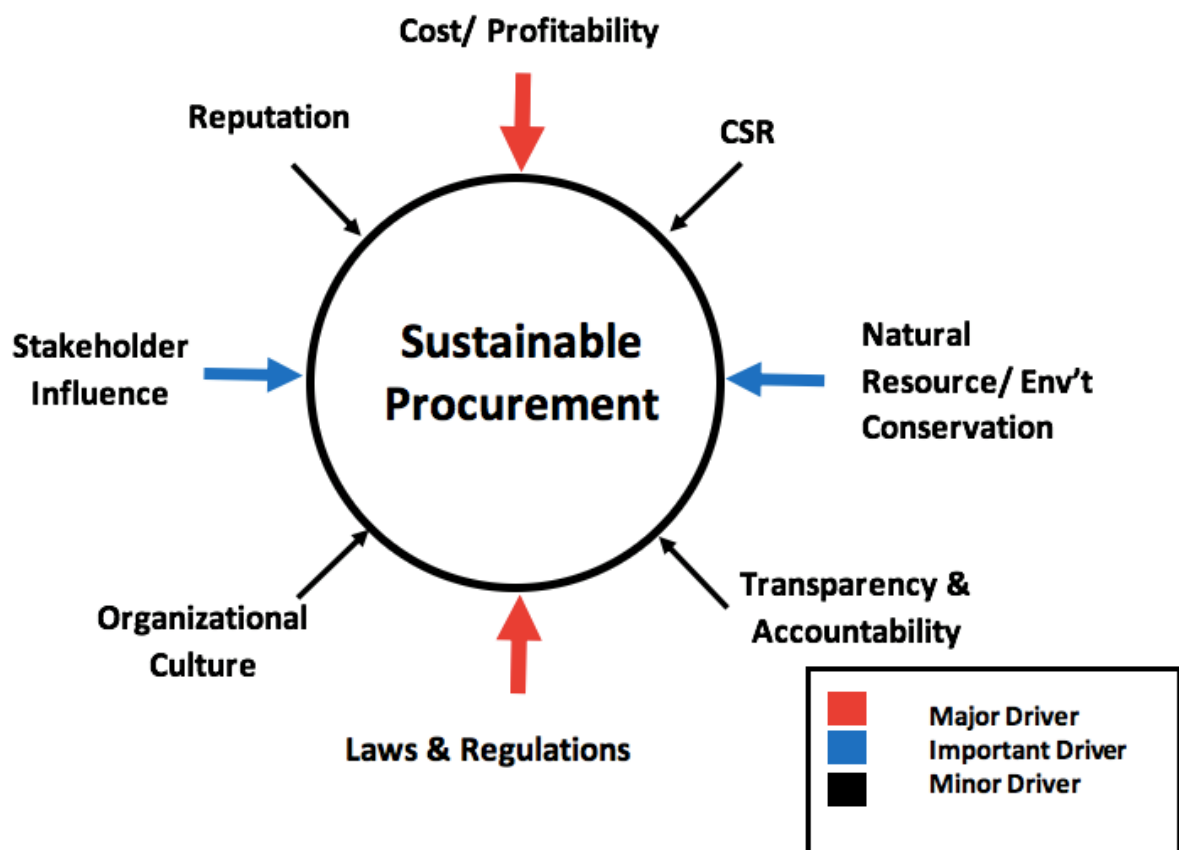
From all the interview responses and supported secondary data, the upstream operator of the Ghana oil and gas industry, Tullow Oil, has demonstrated a commitment to social support and development through its procurement activities. This is even demonstrated more in situations where the organisation’s code conflicts with local laws. In such situations, the higher standard of sustainability and sustainable procurement is favoured by the organisation. Thus, the description of internal organisation culture as a major driver of sustainable procurement in the upstream sector.

Profit maximization and the return on shareholders’ funds may be described as the primary goal of all private profit-minded organizations such as Tullow Oil. The driving force of profitability in the sustainable procurement policies of the lead operator in the upstream Ghana oil and gas industry is thus, obvious.

This interpretation of the drivers of sustainable procurement is largely in support of existing literature, as discussed in chapter 3(3.5)

## **6.2 Discussion of drivers of sustainable procurement in the downstream**

From the research findings on the drivers of sustainable procurement in the downstream oil refinery sector, the drivers could best be described as major, 'important' and minor driver of sustainable procurement. The major drivers are issues or factors that are always considered with priority in the procurement activities of the down-stream. 'Important' drivers are issues or factors that are deemed important but only considered and implemented in the procurement activities of the down-stream sector when they are not in sharp conflict with the interest of the major drivers or when they are backed by law. Minor drivers are the least issues that affect or influence the procurement activities in the down-stream sector. Figure 6.2 describes the forces that drives sustainable procurement in the downstream oil and gas sector in Ghana based on the research findings.



**Figure 6.2:** Drivers of sustainable procurement in the downstream (Source: Own Elaboration)

From the research findings, sustainable procurement in the downstream oil and gas sector of Ghana can be considered to be driven by two major factor: (i) cost and profitability and (ii) laws and regulations. The cost driver in the downstream sector is further reinforced by the public procurement law (ACT 663 and ACT 914) governing the downstream public owned refinery organization. The prescription of an open competitive bidding by the law (ACT 663 and ACT 914) may be considered as a regulatory direction that supports the economic element of sustainable procurement and for that matter cost and profitability. Hence, reinforcing the already skewed organizational attitude towards cost and profitability. The Public Procurement (Amendment) Act, 2016 (Act 914) states its objective as follows: ‘The object of the Board is to harmonize the processes of public procurement in the public service to secure a judicious, economic and efficient use of state resources in public procurement and ensure that public procurement is carried out in a fair, transparent and non-discriminatory, environmentally and socially sustainable manner’.

Inherent in the defined objective of the Act 914, is the pursuit of sustainable procurement within the public sector. However, the ‘sustainability’ intentions of the procurement regulations (Act 914) does not seem to be supported by clear regulatory directions towards the achievement of the social and environmental aspect of sustainable procurement as against the detailed framework and policy direction towards the attainment of the economic aspect of sustainable procurement.

Environmental and natural resource conservation sources its driving force to sustainable procurement in the downstream sector mainly from regulation (example Sulphur Limits in Petroleum Products) in the absence of a strong sustainable organizational culture in the downstream public oil refinery sector. Despite these environmental regulations, the driving force of the individual elements of environmental and natural resource conservation can only be described as ‘important’ driving forces of sustainable procurement in the downstream oil refinery sector. This is so because, unlike the two major drivers of cost and regulations (Procurement Regulations-Public Procurement Act), environmental conservation is considered important and thus, drives the sustainable procurement policies of the downstream oil refinery sector only when it is not considered as financially burdensome. The refinery’s goal of attaining the minimum requirement of the environmental laws (Sulphur Limits) is an indication of the overriding influence of cost in driving the sustainability agenda. Thus, even though there is some kind of environmental law in the downstream sector, this does not seem to significantly influence the environmental procurement of the refinery organization. This finding and interpretation may be supported by Carter and Carter (1998) who found that government regulations is not a significant driver to environmental purchasing.

Stakeholder interest in the Ghana’s downstream oil and gas industry and for that matter its sustainability practices is not as high as its interest in the upstream industry, although their power may be high. This was confirmed by an interviewee in the downstream oil refinery who asserted that the refinery organisation have not had to contend with increased or high stakeholder pressures as compared to its counterparts in the upstream sector. The stakeholders of the downstream refinery organisation, may thus, be described as low interest and probably high power stakeholders. Thus, these stakeholders are described as important rather than major driving force in the sustainable procurement practices of the downstream refinery organisation. Again, Mendelow (1991), suggested that stakeholders with low levels



of interest in an organisation's operations and high degree of power to influence the organisation's operations should be kept satisfied, bearing in mind the level of interest can change rapidly when the stakeholder becomes dissatisfied. Thus, the description of stakeholder influence as an important driver of sustainable procurement is not in conflict with existing literature and framework.

Organizational culture, CSR, accountability and reputation were deemed as minor issues in driving sustainable procurement in the downstream public owned oil refinery sector. The absence of an explicit policy statement or policy formulation on sustainable procurement by the downstream public owned oil refinery organization, the researcher interpreted as the lack of organizational will in supporting sustainable procurement and the sustainability agenda. Thus, the internal organizational culture does not seek to consciously drive sustainable procurement. This may be due to the lack of the organization's leadership or management support, lack of the knowledge on the importance and benefits of sustainability and sustainable procurement among the workers (internal stakeholders), inertia attitude towards sustainability, or perhaps the financial cost associated with sustainability practices, among other issues. Further research may, however, need to be conducted in order to ascertain the real reasons behind this lack of organizational will, so that a tailored solution to the absence of the organizational internal and cultural support to sustainability can be found.

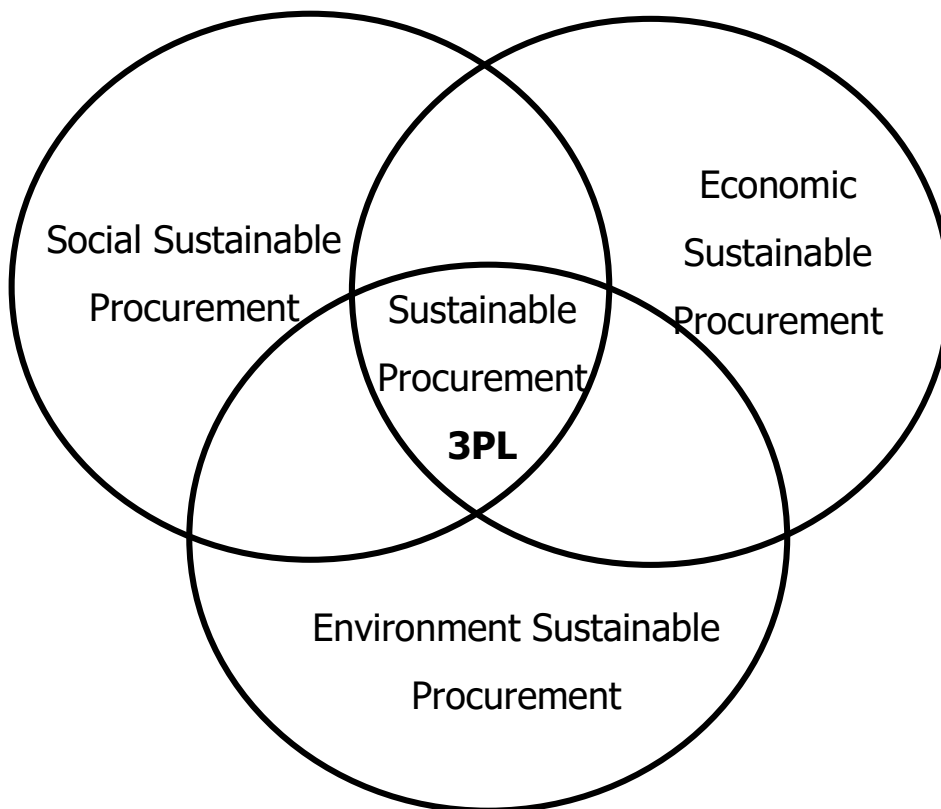
These interpretations are largely supported by existing literature, as elaborated in chapter 3 (3.5). For example Chartered Institute of Procurement and Supply (CIPS 2012a) essential reasons for the increasing focus on sustainable procurement.

### **6.3 Discussion of sustainable procurement in the upstream sector**

From the research findings indicate that the procurement activities of the lead operator of the up-stream sector of the Ghana oil and gas industry points more to the direction of a balanced approach to sustainability. The principle of the 'Triple Bottom Line', which promotes the equal treatment and weighting of the economic, social and environmental pillars sustainability, is exhibited in the procurement policies and activities of the sector. Thus, the sustainable procurement model of the upstream exploration and operating

organization, depicts the second and current global concept of sustainability, the Interlocking Circle Model of Sustainability, as discussed in Chapter 3 (3.2.5).

Driven by the organizations' internal policies and culture, local laws and regulations, stakeholder influence and the need to satisfy stakeholders, the up-stream sector operating organization, Tullow Oil, exhibit some kind of a balance between private shareholder profit-oriented ambitions, the responsibility to safeguard the natural environment and promote local community employment and development in their supply chain and procurement activities. Figure 6.3 shows a suggested model of sustainable procurement in the up-stream sector.



**Figure 6.3** Sustainable Procurement Model in the Up-Stream (Source: Own Elaboration)

The organisations adaptation of global procurement and open competitive tendering as a sourcing strategy may be described as a way of achieving economic sustainability in its procurement activities. This statement assertion could be supported by Cho and Kang (2001) suggestion that achieving improvements in the critical areas of competitive advantage (access to lower priced goods, enhanced competitive positions and better value for money); quality assurance (access to higher quality goods and better quality control); and service

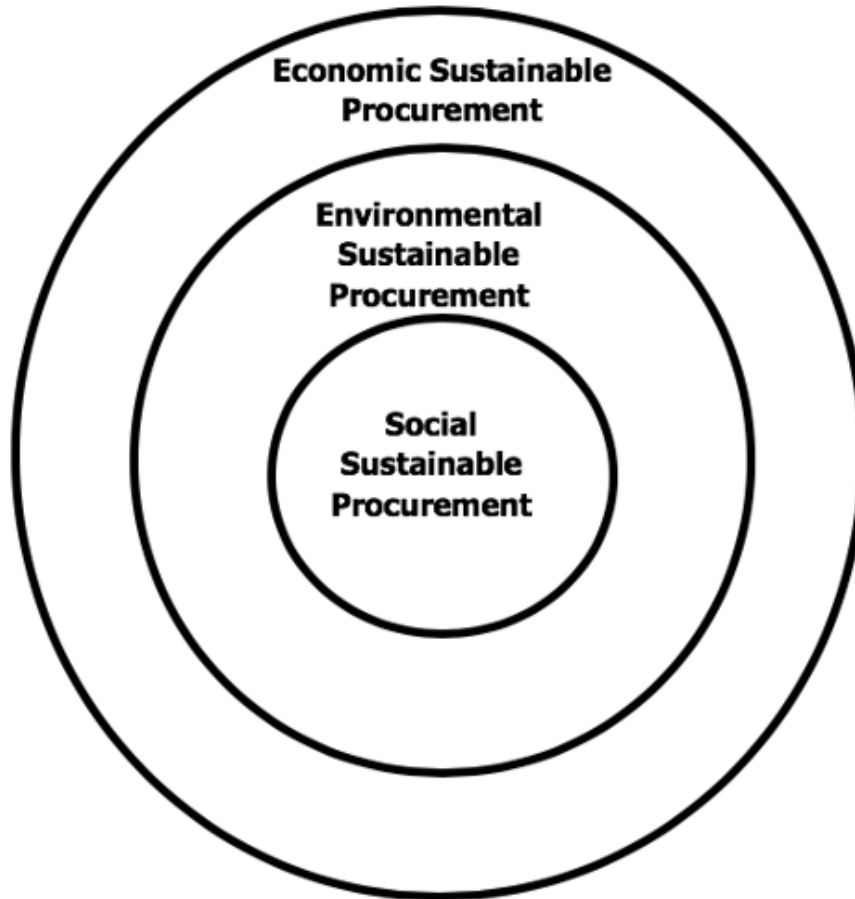
enhancement (better availability, better delivery and better customer service), are the major reasons for global procurement.

Again, global procurement and the application of international standardization and certification (such as ISO 14001, SA 800) in the supplier evaluation process could be describe as a strategy in the promotion of the social and environmental pillars of sustainable procurement in the upstream sector operating organization.

The organization's code of conduct on compliance with the law which seeks not just to comply with all applicable local and international laws within the countries where the organization do business but more importantly to elevate these legal standards by applying the higher standard of the law in in situations where differences exist between the standard of the law or regulations and the requirements of the organization code. The drive for compliance with law and higher standards of operations largely drives the social element of sustainable procurement in the upstream sector of the Ghana oil and gas industry. Compliance with the local content law (Ghana Petroleum Commission Act, 2011, Act 821) and the effort on the part of the organization to encourage local participation in its supply chain through training and education, promotes local development through procurement.

## **6.4 Discussion of sustainable procurement in the downstream sector**

Unlike the upstream sector which identifies more with the principle of the Triple Bottom Line and thus the Interlocking Circle Model of Sustainability and sustainable procurement, the findings on the prioritization of the elements of sustainable procurement and the reinforcing effect of procurement policies in the down-stream refinery sector of the Ghana oil and gas industry may best be described as a concentric approach to sustainable procurement. This is illustrated in Figure 6.4



**Figure 6.4** Sustainable Procurement Model in the Up-Stream (Source: Own Elaboration)

Figure 6.4 indicates that the economic pillar of sustainable procurement is the starting point of a holistic and well-balanced sustainability and sustainable procurement in the downstream refinery sector. This model of sustainable procurement as pertains in the downstream oil refinery sector suggests that the social and environmental issues of sustainability depends on the economic bottom line. Increased profitability would ensure the availability of enough funds, which can then be invested into community development through local supplier development and engagement and higher environmental specifications and standards in the procurement activities of the down-stream sector.

The sustainable procurement model of the downstream refinery sector as depicted in Figure 6.4 is similar to the “Concentric Circles Model of Sustainability” as discussed in literature review, Chapter 3 (3.2.4). Thus, the three pillars of sustainability are not balanced or equal in weighting, at least at the growing stages of an industry. Rather one pillar may be the propeller of the other two pillars and achieving sustainability in that one propelling pillar

will ultimately result in the achievement of sustainability in the other two. However, contrary to the “Concentric Circles Model of Sustainability” which suggest that the environmental pillar of sustainability is the propelling force in achieving economic and social sustainability, the research findings suggests that the economic pillar of sustainable procurement is the starting point of a holistic and well-balanced sustainability and sustainable procurement in the down-stream oil refinery and processing sector of the Ghana oil and gas industry. The financial health of the downstream sector organization determines the extent to which social and environmental responsibilities would be embraced. This model of sustainable procurement as pertains in the down-stream sector suggests that increased profitability would ensure the availability of enough or excess funds which can then be invested into community development through local supplier engagement and development as well as environmental management through higher environmental specifications and standards in the procurement and procurement activities of the down-stream sector.

The guiding procurement code of the downstream public owned oil refinery industry is the public procurement law (ACT 663 and 914). The law, however, seems to back the economic pillar of sustainable procurement through the prescription of open competitive bidding, with an emphasis on quality and cost-based method of selection of suppliers, and the absence of a clearly stated direction in achieving sustainable social procurement and sustainable environmental procurement, even though the objective of the law seeks to achieve some kind of sustainability. National competitive bidding, which somehow would facilitate the engagement of local suppliers in the public organizations’ supply chain is only left at the discretion of the procurement unit without any sort of compulsion by the law.

In the absence of a binding regulations, internal organizational culture becomes the reliable force towards the attainment of the social and environmental pillars of sustainability. However, the lack of internal organizational culture in driving the environmental and social sustainable procurement agenda, by the refinery organization, Tema Oil Refinery, as exhibited in the research findings on the drivers of sustainable procurement. Consequently, the downstream refinery sector has a policy of non-discrimination between local suppliers and non-local suppliers in its procurement and procurement activities. The use of open tendering as prescribed by the public procurement law is therefore the norm and the discretionary application of the National Competitive Bidding is hardly considered by the

organization in their procurement activities. Environmental considerations in the procurement activities of the organization can be attributed to the nature of the organizational operations and its direct effects on the environment. Environmental regulations also enhance the environmental procurement of the downstream refinery sector but only as far as the regulations dictates and not more. The Sulphur requirements in petroleum products is an example.

## **6.5 Comparing the upstream and downstream model**

Whereas the interlocking circles model of sustainability, and by extension sustainable procurement, takes a holistic approach to sustainability and thus approaches all the elements of economic, social and environmental with same importance and emphasis, the concentric models of sustainability treats one of the three elements of sustainability as the driving force towards the attainment of the other two elements of sustainability. The economic pillar of sustainability is that driving force towards the attainment of the environmental and social pillars of sustainability in the case of the downstream refinery sector of the Ghana oil and gas industry.

From the explanations of the two models of sustainability (interlocking circles and concentric models), and their principles, one would want to believe that the interlocking circles model as prescribed by the Brundtland Commission (1987), “development that meets the needs and aspirations of the present generation without compromising the ability of future generations to meet their needs”, is the most desirable approach to sustainability and sustainable procurement. The interlocking circles model is perceived to promote accountability (to all stakeholders) and good stewardship of the earth’s resources. However, the concentric model of sustainability and sustainable procurement may be a necessary ‘starting point’ towards the achievement of the interlocking circles model by organizations. A typical example is the concentric model of Ghana’s downstream oil and gas refinery sector, where the economic pillar plays the pivotal rule in the attainment of the social and environmental pillars of sustainability.

In its recent lay off of about 3,600 white-collar workers as it slashes costs in an effort to become profitable, the CEO of the electric car maker, Tesla, Elon Musk, while saying that

Tesla is more focused on producing friendly environmentally cars than making money, added that “we will never achieve that mission unless we eventually demonstrate that we can be sustainably profitable” (MONEYWATCH 2018). This may further underscore the importance of the economic element of sustainability and sustainable procurement and perhaps its role as the driving force behind the social and environmental elements of sustainability.

The underlying economic factor behind the interlocking circles and concentric models of sustainable procurement in the upstream exploration and operating organization and downstream refinery organization may be best explained by the assertion that there may be conflicts, compromises and trade-offs between business objectives and sustainability objectives. CIPS (2012a) indicated that social and environmental responsibilities may conflict with economic performance (for example through low cost sourcing) and that concerns for environmental and social issues of sustainability is a luxury for corporations in less affluent economies: the need for survival overrides the concerns of global and long term issues. Fred Robin (2006), suggested that a major weakness of the TBL is its application in monetary-based economic systems. The weakness lies in the fact that whereas the costs of improving sustainability are tangible, the values and benefits are rather difficult to measure, making it difficult to make a genuine business case for TBL.

Perhaps, the up-stream exploration sector is a profitable sector that thus the upstream organization, Tullow Oil, can afford to engage in the luxury of sustainable practices and sustainable procurement. Indeed, Tullow Oil have proved to be a profitable organization over the past years, achieving a positive Gross Profit between 2011 and 2015. The company recorded a Gross profit of \$1,407.00 million in 2011 and \$591.3 million in 2015 (Tullow 2015). Tullow Oil, the Irish-based independent oil exploration and production group also declared that its profit rose to \$521 million in the first half of 2018 as revenue increased to \$905 million (The Irish Times 2018).

The downstream public owned oil and gas refinery organization, Tema Oil Refinery (TOR), had rather battled with financial losses over the past years and had not proved to be a financially strong entity. In fact, the TOR was only able to declare a profit of \$800,000 from its operations from February 16 to April 20, 2016. A development described by industrial watchers as a sign of the possible revival of the company, whose latest profit is the first in

seven years (Graphic 2017). The rather low financial capabilities of the organization may explain the lack of sustainable procurement policies and implementation within the organization. Again, the difficulties associated with the measurement of values and tangible benefits of sustainability may be a hinder developing a business case and pushing the sustainability agenda in a financially weak organisation such as TOR.

To conclude, one would want to believe, based on the above discussions and literature, that the sustainability agenda and by extension sustainable procurement practices, is not so much of an issue of the location of an organisation within the oil and gas sector (upstream sector or downstream sector) nor the ownership structure of the organisation (whether private or public) nor the scope of operations (national or international). Rather, it is more to do with the financial stance of the organisation. Thus, the financial stance of the organisation may act as a mediating factor between the drivers of sustainability and sustainable procurement of an organisation or industry and the practice of sustainability in the organisation or sector. In essence, every rational profit-minded organisation, would pursue their business objective (i.e. profit maximisation), and prioritise this objective over and above any other objective, including the sustainability objective, at least for the sake of survival.

It can further therefore be argued that, the concentric model of sustainability and sustainable procurement with the economic pillar as the main driving force, as portrayed by the downstream oil and gas refinery sector, may be the most logical model for any kind of business that is yet to achieve its economic objective.

This assertion of the financial stance of the organisation acting as a mediating factor between the drivers of sustainability and sustainable procurement of an organisation or industry and the practice of sustainability in the organisation or sector would, however, would have to be investigated through further research.



## Chapter 7

This chapter is the concluding chapter of the research findings and presentations. The chapter gives a summary of the study, recommendations, research limitations and directions for further research.

### 7.1 Summary and conclusions

Ghana's mineral potential and its contribution to global minerals output, especially gold is well acknowledged. The mining industry contributed greatly to the impressive 14.4% GDP growth the economy chalked in 2011. According to the Bank of Ghana, the mining industry's contribution to total mechanized export was about 40% in 2011 (Ghana Chamber of Mines 2011); an economic growth peak largely boosted by the startup of oil production in Ghana (Ndaba 2010). Despite the relative importance of mining (mineral extraction) to the Ghanaian economy, the sector has a long history of love-hate in Ghana. Mining has been regarded with suspicion and has been attacked for several reasons including: (1) the charge that the industry's adverse environmental and social effects are hardly ever addressed and most often ignored, resulting in detrimental consequences on the health, lives and livelihood of local mining communities; (2) the accusation that mining has failed to make the necessary positive impact on the overall economic fortunes of Ghana because of the poor or improper definition of fiscal terms and; (3) the perception and accusation that contracts, transactions and decisions about mining activities are not transparent, with limited or no public oversight (INSTITUTE OF ECONOMIC AFFAIRS-GHANA 2010). There is no doubt that the mining industry and Ghana's foremost income generating activity has not received the best of support from the general public, particularly local mining communities. Ghana has also added oil resources to its numerous natural resources recently.

The oil and gas resource can be a great blessing to the nation that makes this discovery and serves as a catalyst to the development of such a nation. A good example which is often cited and used as a benchmark in the assessment of the oil and gas resource management and contribution to the improvement of the welfare of citizens and the general development and growth of nations is the Norwegian case (Holdenn 2013). Notwithstanding the benefits of the oil and gas resources, as shown in the Norwegian example, the discovery of oil and gas has rather proved to be a curse to many countries, the resource curse phenomena (Holdenn 2013).

To avoid this resource curse, Ghana must manage its oil and gas resource through the implementation of policies and regulations that will ensure the exploration of the oil resource will lead to the benefit of its citizens in the long term through the improvement of the citizens' general well-being and the safeguarding of the integrity of the country's environment. Sustainable procurement is certainly one of the means by which Ghana can achieve this.

This study therefore set out to explore the sustainability of the oil industry through its procurement activities. Specifically, the study seeks to answer three sustainability questions: (1) What are the drivers of sustainable procurement in the Ghana oil and gas industry; (2) How are the elements of sustainable procurement prioritized in the Ghana oil and gas industry? (3) How does the procurement policies of the Ghana oil and gas industry impact on the elements of sustainable procurement?

The study revealed that sustainable procurement in the Ghana oil and gas industry is largely driven by the external factors of stakeholder influence and regulations as well as internal factors such as profitability and internal organizational culture. However, the extent of influence of these internal and external drivers vary within the upstream exploration and the downstream refinery sectors. Whereas internal organizational culture serves as a key driving force behind the sustainable procurement within the upstream exploration and operating sector, it rather had a minimal influence in driving the sustainability and sustainable procurement agenda of the downstream refinery sector. Laws and regulations was found to be a major driver of sustainable procurement with both organizations, Tullow and Tema Oil Refinery, of the upstream and downstream respectively.

On the question of procurement policies of the industry and its influence on the balancing and prioritization of the three elements of sustainable procurement, the study found that the economic pillar of sustainable procurement was greatly emphasized and consistent among both the downstream oil refinery and upstream oil exploration and operating organization in the Ghana oil and gas industry and undoubtedly, the most frequently emphasized by the industry. The environmental pillar of sustainable procurement was also consistently mentioned among both the upstream and downstream case organizations in the Ghana oil and gas industry but with varying degrees of emphasis within the sectors. The upstream private multinational exploration and operating organization was found to place more

emphasis on the environmental pillar, driven by internal culture of environmental preservation, as compared with the downstream public refinery organization whose environmental procurement considerations are largely driven by laws and which seeks to comply with the minimum requirements of the laws. The third pillar of sustainability and sustainable procurement, the socio-cultural pillar, was found to be most frequently emphasized by the upstream exploration and operating organization. The down-stream sector organization was found to have minimal focus on the social aspect of sustainable procurement in contrast with their up-stream counterparts.

Lastly, on the broader issue of sustainability and sustainable procurement within the Ghana oil and gas industry, which was the interest of the study, the results revealed that the downstream refinery sector organization, Tema Oil Refinery, has a more concentric approach to sustainable procurement, with the economic element playing the pivotal role in the attainment of the social and environmental pillars of sustainable procurement. On the contrary, the up-stream exploration and operating sector organization, Tullow Oil, exhibited a more balanced and holistic approach to sustainable procurement taking into account all the three elements of sustainable procurement (economic, social and environmental) in their procurement activities as prescribed by the so called Triple Bottom Line.

## **7.2 Recommendations**

The research recommendations are based on the findings of this study and are aimed at encouraging and improving sustainable procurement in the Ghana oil and gas industry.

One of the key recommendations from the findings of the study is the replication of the upstream sector local content law in the downstream sector. In the absence of internal organizational culture in driving the sustainable procurement agenda in the downstream sector, the application of appropriate laws and regulations such as a local content law, could be a way of achieving sustainable social procurement in the downstream. To encourage the downstream sector in the compliance with such laws and the achievement of the social-sustainability through its procurement activities, and also facilitate effective monitoring, a small number of sustainable social procurement indicators can be applied, with gradual increments.

The authorities and policy makers of Ghana should develop and implement policies and incentives, particularly in the upstream sector, that encourage organizations to willingly adopt and practice sustainable procurement, rather than rely on just the pressures and drivers of sustainability such as laws and regulations, stakeholder pressures or loss of reputation. One way of achieving this can be through the development of a national education and training policy plan with the aim of meeting the medium and long term technical human resource needs and supplier competence needs of the up-stream sector of the oil and gas industry. The research findings indicated a technical and petroleum professional gap in the local supplier market. As a result, the application of the local content law and local supplier participation in the oil industry is rather reduced to non-technical or non-core products and services of the industry such as catering and cleaning services rather than the core procurement needs such as engineering services for example. The local suppliers of the upstream sector, especially, may thus, be best described as peripheral participants.

Finally, the local suppliers of the oil and gas industry, mostly SMEs, should be open to consortium bidding as a way of tackling large volumes and values of procurement from the oil and gas industry.

### **7.3 Research Limitation**

This study on sustainable procurement in the Ghana oil and gas industry may be an important starting point for policies of sustainability and sustainable procurement within the industry. However, it is important to consider the findings of the research within its limitation, based on which further research could be conducted.

First, the scope of the research is rather limited considering the very broad sphere of the oil and gas industry. The research design is a case study with two case study organization, the lead operator of the Jubilee Fields, Tullow Oil representing the upstream sector and the oil refinery company, Tema Oil Refinery, representing the downstream. The limitation of scope and the subsequent selection of respondent organizations may potentially affect the generalization of the research findings within the Ghanaian oil and gas industry. It may be possible, for example, that the findings of a stronger emphasis on the economic pillar of sustainable procurement in the down-stream oil and gas refinery industry may change if

other subsectors such as the storage and transportation industry, the oil marketing industry etc. are included in the study. Further and broader empirical analysis of the industry's procurement and sustainability issues may therefore be necessary.

Secondly, the qualitative strategy of the study may not produce a very accurate picture of sustainable procurement in the Ghana oil and gas industry. For example, the 'drivers of sustainable procurement in the petroleum sector' can be mathematically measured using qualitative method to determine the precise levels of influence of the various individual drivers. The support of mathematical modelling and testing may produce a more precise results.

Lastly, the research focus on the 'drivers' of sustainable procurement may not give a holistic picture of all the factors that contribute to the sustainability and sustainable procurement practices within the Ghana oil and gas industry. A vital question to complement the question of the 'drivers' of sustainable procurement could be the 'mitigating' factors against the practices of sustainable procurement. For example, the research findings of a lack of internal organizational culture that promotes the sustainability and sustainable procurement agenda in the downstream refinery sector may not be entirely accurate. The lack of commitment to sustainable procurement may be as a result of factors beyond the control of the organizations, for example, the usually strict and very limited budgetary allocation of public organizations, which could best be described as a mitigating factor to sustainable procurement.

## **7.4 Further research**

Owing to the limitations of the research, and the need for further clarification and advancement in the knowledge of sustainable procurement practices in the Ghana oil and gas industry, further studies are recommended by the researcher.

A further quantitative research on the drivers of sustainable procurement in the up-stream exploration sector and the down-stream refinery sector of the Ghana oil and gas industry to ascertain the actual levels of influence of the individual drivers, as indicated in this research, on the sustainable procurement policies and strategic directions of the two sectors. Again, there should be a research into the mitigating factors of sustainable procurement in the

Ghana oil and gas industry. This would complement this study's investigations into the driving forces of sustainable procurement in the industry.

A further research (maybe quantitative research) into the prioritization of the three individual elements of sustainable procurement. The research should aim at ascertaining the true balancing of the three elements of sustainable procurement in the procurement and procurement activities of the upstream exploration and operating and the downstream refinery organizations. In other words, 'how sustainable is the sustainable procurement of the organizations' as indicated by the researcher's development of sustainable procurement model of the two organizations (Figure 6.3 and Figure 6.4). This may be done by evaluating how the various elements (for example, cost, value for money, delivery time, supplier's location and nationality, supplier environmental or social certification, emission, recycling and reverse logistics, quality etc.) of the three pillars of sustainability (economic, social and environmental) are weighted in the tender evaluation and supplier selection processes of the organizations. Again, the percentage volume or value of procurement contracts awarded to local or local-foreign partnership companies may serve as a guide to such further enquiry into sustainable social procurement, for example.

The research would also recommend a further and broader study on sustainable procurement in Ghana the oil and gas industry that include all the diverse players in both the upstream and downstream sectors of the industry. This would allow a more generalization of the research findings.

Finally, and perhaps more importantly, the researcher would recommend a further research into the relationship between an organization or industry financial performance and its practice of sustainability and sustainable procurement.

## Bibliography

- Ahi, Payman, og Cory Searcy. 2013. «A comparative literature analysis of definitions for green and sustainable supply chain management.» *Journal of Cleaner Production* 329-341.
- Aliyu, Aliyu Ahmad, Umar Bello Muhammad , Kasim Rozilah , og David Ma. 2014. «Positivist and Non-Positivist Paradigm in Social Science Research: Conflicting Paradigms or Perfect Partners?» *Journal of Management and Sustainability* 79.
- ANADARKO. 2016. Funnet June 30, 2017.  
<https://www.anadarko.com/content/documents/apc/Operations/2016-Annual-Report.pdf>.
- Anand, Sudhir, og Amartya Sen. 2000. «Human development and economic sustainability.» *World development* 2029-2049.
- Anderson, M. G., og P. B. Katz. 1998. «Strategic sourcing.» *The International Journal of Logistics Management*, 9(1) 1-13.
- Austin, Eileen Kay. 1981. *Guidelines for the development of continuing education offerings for nurses*. Appleton-Century-Crofts and Fleschner Publishing Company.
- Bai, Chunguang, og Joseph Sarkis. 2010. «Integrating sustainability into supplier selection with grey system and rough set methodologies.» *International Journal of Production Economics* 252-264.
- Bailey, K.D. 1987. *Methods of Social Research*. Redigert av 3rd. New York: The Free Press.
- Ball, Amanda, Jane Broadbent, og Tony Jarvis. 2006. «Waste management, the challenges of the PFI and 'sustainability reporting.» *Business Strategy and the Environment* 258-274.
- Barraket, Jo, og Janelle Weissman. 2009. «Social procurement and its implications for social enterprise: a literature review [Working Paper No. CPNS48].» The Australian Centre for Philanthropy and Nonprofit Studies.
- Barriball, K.L, og Alison While. 1994. «Collecting Data using a semi-structured interview: a discussion paper.» *ournal of advanced nursing* 328-335.
- Barron, Leanne, og Erin Gauntlett. 2002. *The Regional Institute online publishing*. Funnet July 19, 2017. [http://www.regional.org.au/au/soc/2002/4/barron\\_gauntlett.htm](http://www.regional.org.au/au/soc/2002/4/barron_gauntlett.htm).
- Basiago, Andrew D. 1998. «Economic, social, and environmental sustainability in development theory and urban planning practice.» *The Environmentalist* 145-161.
- Baxter, Pamela, og Susan Jack. 2008. «Qualitative case study methodology: Study design and implementation for novice researchers.» *The qualitative report* 544-559.
- BBC NEWS. 2007. *BBC NEWS*. 18 June. Funnet June 26, 2017.  
<http://news.bbc.co.uk/2/hi/business/6764549.stm>.
- Beheiry , Salwa M, Wai Kiong Chong, og Ha T Carl . 2006. «Examining the business impact of owner commitment to sustainability.» *Journal of Construction Engineering and Management* 384-392.

- Birkin, F, A Cashman, S. C. L. Koh, og Z Liu. 2009. «New Sustainable Business Models in China.» *Business Strategy and the Environment*, 18(1), 64-77.
- Birkin, F, T Polesie, og L Lewis. 2009. «A new business model for sustainable development: an exploratory study using the theory of constraints in Nordic organizations.» *Business Strategy and the Environment*, 18(5), 277-290.
- Birkin, Frank, Polesie Thomas, og Linda Lewis. 2009b. «A new business model for sustainable development: an exploratory study using the theory of constraints in Nordic organizations.» *Business Strategy and the Environment* 18.5 277-290.
- Bowen, Frances E, Paul D Cousins, R C Lamming, og A C Farukt. 2001. «The role of supply management capabilities in green supply.» *Production and operations management* 174-189.
- British Standards Institution (BSI). 2017. Funnet July 20, 2017. <https://www.bsigroup.com/en-GB/Sustainability-Standards-Navigator/Themes/Sustainable-Development/Sustainable-Procurement/>.
- Brundtland, G.H., og M Khalid. 1987. *Our common future*. New York.
- Bryman, Alan, og Emma Bell. 2015. *Business research methods*. Oxford University Press, USA.
- BSI. 2011. «The Sustainable Procurement Guide.» Funnet 2017. <http://shop.bsigroup.com/upload/Shop/Download/Books/BIP2203sample.pdf>.
- Carter, Craig R, og Dale S Rogers. 2008. «A framework of sustainable supply chain management: moving toward new theory.» *International journal of physical distribution & logistics management* 38.5 360-387.
- Carter, Craig R, og Marianne M Jennings. 2002. «Logistics social responsibility: an integrative framework.» *Journal of business logistics* 145-180.
- Carter, Craig R., og Joseph R. Carter. 1998. «Interorganizational determinants of environmental purchasing: initial evidence from the consumer products industries.» *Decision Sciences* 659-684.
- Carter, Craig R., og Marianne M. Jennings. 2004. «The role of purchasing in corporate social responsibility: a structural equation analysis.» *Journal of business Logistics* 145-186.
- Central Intelligence Agency . 2017. *World Factbook*. Funnet July 31, 2017. <https://www.cia.gov/library/publications/the-world-factbook/fields/2244.html>.
- CEO, Tullow. 2018. *Sustainability*. Funnet May 20, 2018. <https://www.tulloil.com/sustainability>.
- Charmaz, Kathy, og Linda Liska Belgrave . 2015. «Grounded Theory.» doi:<https://doi.org/10.1002/9781405165518.wbeosg070.pub2>.
- Chatman, Jennifer A, og Karen A Jehn. 1994. «Assessing the relationship between industry characteristics and organizational culture: how different can you be?» . " *Academy of management journal* 522-553.
- Cho, Jinsook, og Jikyeong Kang. 2001. «Benefits and challenges of global sourcing: perceptions of US apparel retail firms.» *International marketing review* 542-561.



- CIA WORLD FACTBOOK. 2016. *CENTRAL INTELLIGENCE AGENCY WORLD FACTBOOK*. Funnet JUNE 28, 2017. <https://www.cia.gov/library/publications/the-world-factbook/geos/gh.html>.
- CIPS. 2012c. *Context of procurement and supply*.
- . 2012. *Supply Chain Diligence*. Lincolnshire: Profex Publishing.
- . 2012a. *Sustainability in Supply*. Lincolnshire: Profex Publishing.
- Closs, David J, Speier Cheri, og Meacham Nathan. 2011. «Sustainability to support end-to-end value chains: the role of supply chain management.» *Journal of the Academy of Marketing Science* 101-116.
- Closs, David, Cheri Speier, og Nathan Meacham. 2011. «Sustainability to support end-to-end value chains: the role of supply chain management.» *Journal of the Academy of Marketing Science* 101-116.
- Cohen, Marjorie Griffin. 2000. *The World Trade Organisation and Post-Secondary Education: Implications for the Public System in Australia*. Hawke Institute, University of South Australia.
- Cook, Thomas D, og Donald T Campbell. 1979. *Quasi-experimentation: Design and analysis issues for field settings*. RandMcNally.
- Copus, A.K, og J.R. Crabtree. 1996. «Indicators of socio-economic sustainability: an application to remote rural Scotland.» *Journal of Rural studies*, 12(1) 41-54.
- Corbett, Charles J, og David A Kirsch. 2001. «International diffusion of ISO 14000 certification.» *Production and Operations Management* 327-342.
- Cox, Andrew. 1996. «Relational competence and strategic procurement management: towards an entrepreneurial and contractual theory of the firm.» *European Journal of Purchasing & Supply Management* 2.1 57-70.
- Cozens, P, D Hillier, og G Prescott. 1999. «The sustainable and the criminogenic: the case of new-build housing projects in Britain.» *Property Management* 252-261.
- Creswell, J. W., og V. L. P. Clark. 2007. *Designing and Conducting Mixed Methods Research*. Sage publications.
- Creswell, John W. 1998. *Quality inquiry and research design: Choosing among five traditions*. London: SAGE.
- Dahlberg, Lena, og Colin McCaig. 2010. *Practical research and evaluation: a start-to-finish guide for practitioners*. SAGE.
- Dempsey, Nicola, Bramley Glen, Power Sinéad, og Caroline Brown. 2011. «The social dimension of sustainable development: Defining urban social sustainability.» *Sustainable development* 289-300.
- Denzin, Norman K., og Yvonna S. Lincoln. 1994. *Handbook of qualitative research*. Sage publications, inc.
- Diniz, J.D, og N Fabbe-Costes. 2007. «Supply chain management and supply chain orientation: key factors for sustainable development projects in developing countries?» *International Journal of Logistics Research and Applications* 235-250.

- Doane, Deborah, og Alex MacGillivray. 2001. «Economic Sustainability: The business of staying in business.» *New Economics Foundation* 1-52.
- Dyllick, Thomas, og Kai Hockerts. 2002. «Beyond the business case for corporate sustainability.» *Business strategy and the environment* 130-141.
- Dyllick, Thomas, og Kai Hockerts. 2002. «Beyond the business case for corporate sustainability.» *Business strategy and the environment* 130-141.
- Eberlein, Burkard, Abbott Kenneth , Black Julia , Meidinger Errol , og Wood Stepan. 2014. «Transnational business governance interactions: Conceptualization and framework for analysis.» *Regulation & Governance* 1-21.
- Eisenhardt, Kathleen M. 1991. «Better stories and better constructs: The case for rigor and comparative logic.» *Academy of Management review* 620-627.
- Elkington, John. 2000. «Cannibals with forks: The triple bottom line of 21st century business.» *Journal of Business Ethics* 229-231.
- Elkington, John. 1998. «Partnerships from cannibals with forks: The triple bottom line of 21st-century business.» *Environmental Quality Management 8.1* 37-51.
- Ellram, L.M. 1996. «The Use of the Case Study Method in Logistics Research.» *Journal of Business Logistics*, 93-138.
- EPA. 2017. EPA. Funnet Auggust 8, 2017. <http://www.reportingoilandgas.org/mandates-and-activities-of-the-environmental-protection-agency/>.
- . 2011. *Offshore oil and gas development in Ghana*. Accra: Environmental Protection Agency (EPA).
- Ernst & Young . 2016. *Global oil and gas transactions review 2016*. <http://www.ey.com/gl/en/industries/oil---gas/ey-global-oil-and-gas-transactions-review-2016>.
- FACTS. 2009. «THE NORWEGIAN PETROLEUM SECTOR.»
- Fiorino, Daniel J. 2010. «Sustainability as a conceptual focus for public administration.» *Public Administration Review*, 70(s1).
- Found, Pauline, og Nick Rich. 2006. *Making it All'add Up': a Systems Approach to Economic Sustainability*. Cardiff: Cardiff Business School.
- Gabriel, Y. 2000. *Storytelling in Organizations: Facts, Fictions Fantasies*. Oxford: Oxford University Press.
- Gabriel, Y., og D.S. Griffiths. 2004. 'Stories in Organizational Research', in C. Cassell and G. Symon (eds) *Essential Guide to Qualitative Methods and Analysis in Organizational Research*. London: Sage.
- Gall, M.D., J.P. Gall, og W.R. Borg. 2003. *Educational Research: An introduction*. 7th. Boston, MA: A&B Publications.
- Gerring, John. 2004. «What is a case study and what is it good for?» *American political science review* 341-354.

- Ghana Chamber of Mines. 2011. Funnet June 15, 2017. <http://studylib.net/doc/7192702/factoid-2011---the-ghana-chamber-of-mines>.
- Ghana Petroleum Commission Act, 2011 (Act 821). u.d. *Ghana Petroleum Commission Act, 2011 (Act 821)*. Funnet June 10, 2017. [http://www.petrocom.gov.gh/assets/petroleum-commission-act-2011-\(act-821\)-\(1\).pdf](http://www.petrocom.gov.gh/assets/petroleum-commission-act-2011-(act-821)-(1).pdf).
- Ghana, Republic of. 2013. *Strategic Environmental Assessment (SEA) of the Ghana Oil and Gas sector*. Accra: Republic of Ghana.
- Gillian, Symon, og Catherine Cassell. 2012. *Qualitative Organizational Research: Core Methods and Current Challenges*. CA: Sage.
- GNPC. 2016. «Introduction to Ghana's Oil and Gas Industry - Ghana National Petroleum Corporation.» Funnet JULY 31, 2017. <https://www.gnpcghana.com/speeches/gnpcug.pdf> .
- Goles, Tim, og Rudy Hirschheim. 2000. «The paradigm is dead, the paradigm is dead... long live the paradigm: the legacy of Burrell and Morgan.» *Omega* 249-268.
- Goodland, Robert. 1995. « The concept of environmental sustainability.» *Annual review of ecology and systematics* 1-24.
- Gordon, R.L. 1975. *Interviewing : strategy, techniques, and tactics*. Dorsey Press: Illinois.
- Graphic. 2017. Accra: Daily Graphic. November 20 (48-49).
- . 2016. *Graphic Online*. 3 May. Funnet July 10, 2018. <https://www.graphic.com.gh/news/general-news/tor-comes-alive-makes-profit-first-in-seven-years.html>.
- Green, Ken, Barbara Morton, og Steve New. 1996. «Purchasing and environmental management: interactions, policies and opportunities.» *Business Strategy and the Environment* 188-197.
- Guba, Egon G, og Yvonna S. Lincoln. 1994. «Competing paradigms in qualitative research.» *Handbook of qualitative research* 105–117.
- Harrell, Margaret C, og Melissa A Bradley. 2009. «Data collection methods. Semi-structured interviews and focus groups.» *Rand National Defense Research Inst santa monica ca*.
- Holdenn, Steinar. 2013. «Avoiding the resource curse the case Norway.» *ELSEVIER* 870-876.
- Holt, Diane, og Abby Ghobadian. 2009. «An empirical study of green supply chain management practices amongst UK manufacturers.» *Journal of Manufacturing Technology Management* 933-956.
- Hopkins, Michael , Khayat Townend, B Balagopal, M Reeves, og M Berns. 2009. «The business of sustainability: what it means to managers now.» *MIT Sloan Management Review* 20.
- Hopwood, Bill, Mellor, Mary, og Geoff O'Brien. 2005. «Sustainable development: mapping different approaches.» *Sustainable development* 38-52.
- Hyett, Nerida, Amanda Kenny, og Virginia Dickson-Swift. . 2014. «Methodology or method? A critical review of qualitative case study reports.» *International journal of qualitative studies on health and well-being* .

- ILO. 2016. *International Labour Organisation*. Funnet June 10, 2017. <http://www.ilo.org/inform/online-information-resources/research-guides/economic-and-social-sectors/energy-mining/oil-gas-production/lang--en/index.htm>.
- INSTITUTE OF ECONOMIC AFFAIRS-GHANA. 2010. «NATURAL RESOURCE MANAMENT IN GHANA: A CASE FOR CONSTITUTIONALAMENDMENT.» Accra.
- Johnson, P. 2004. 'Analytic induction', in C. Cassell and G. Symon (eds) *Essential Guide to Qualitative Methods and Analysis in Organizational Research*. London: Sage.
- Johnson, R. Burke. 1997. «Examining the validity structure of qualitative research.» *Education*. [https://www.researchgate.net/profile/R\\_Johnson3/publication/246126534\\_Examining\\_the\\_Validity\\_Structure\\_of\\_Qualitative\\_Research/links/54c2af380cf219bbe4e93a59.pdf](https://www.researchgate.net/profile/R_Johnson3/publication/246126534_Examining_the_Validity_Structure_of_Qualitative_Research/links/54c2af380cf219bbe4e93a59.pdf).
- Jones , Timothy, Shan Yongwei, og Paul Goodrum. 2010. «An investigation of corporate approaches to sustainability in the US engineering and construction industry.» *Construction Management and Economics* 971-983.
- Kahn, Adil M. 1995. «Concepts, definitions, and key issues in sustainable development: the outlook for the future.» *Proceedings of the 1995 International Sustainable Development Research Conference*. Manchester, England Mar. 27-28. Keynote Paper, 2-13.
- Kastning, Thomas. 2010. Funnet November 15, 2018. <http://library.fes.de/pdf-files/bueros/ghana/10490.pdf>.
- Kastning, Thomas. 2011. «Basic Overview of Ghana's Emerging Oil Industry.»
- King, N. 2004. *Using templates in the thematic analysis of text*, in C. Cassell and G. Symon (eds) *Essential Guide to Qualitative Methods in Organizational Research*. London: Sage.
- Kirchgeorg, Manfred, og Monika Winn. 2006. «Sustainability marketing for the poorest of the poor.» *Business Strategy and the Environment* 171-184.
- Kleindorfer, Paul R, Singhal Kalyan, og N. W Luk. 2005. «Sustainable operations management.» *Production and operations management* 482-492.
2016. *Kosmos Energy*. Funnet June 30, 2017. <http://www.kosmosenergy.com/operations-ghana.php>.
- Kotabe, Masaaki, og Janet Y. Murray. 2004. «Global sourcing strategy and sustainable competitive advantage.» *Industrial marketing managemen* 7-14.
- KPMG. 2005. « International Survey of Corporate Responsibility Reporting.» University of Amsterdam, Amsterdam.
- KPMG. 2015. «International Survey of Corporate Responsibility Reporting.» University of Amsterdam, Amsterdam.
- Krause, Daniel R, Stephan Vachon, og Robert D Klassen. 2009. «Special topic forum on sustainable supply chain management: introduction and reflections on the role of purchasing management.» *Journal of Supply Chain Management* 45.4 18-25.
- Kumar , Sanjeev, Chattopadhyaya Somnath , og Sharma Vinay. 2012. «Green supply chain management: a case study from Indian electrical and electronics industry.» *International Journal of Soft Computing and Engineering* 275-281.

- Kvale, Steinar. 1983. «The qualitative research interview: A phenomenological and a hermeneutical mode of understanding.» *Journal of Phenomenological Psychology* 14: 171-196.
- Lang, Achim , og Hannah Murphy. 2014. «Business and Sustainability: An Introduction.» *In Business and Sustainability* 3-19.
- Lang, Achim, og Hannah Murphy. 2014. «Business and Sustainability: An Introduction.» *In Business and Sustainability* 3-19.
- Leonard-Barton, Dorothy. 1990. «A dual methodology for case studies: Synergistic use of a longitudinal single site with replicated multiple sites.» *Organization science* 248-266.
- Linton, Jonathan D, Robert Klassen, og Vaidyanat. 2007. «Sustainable supply chains: An introduction.» *Journal of operations management* 1075-1082.
- Littig, Beate, og Erich Griessler. 2005. « Social sustainability: a catchword between political pragmatism and social theory.» *International journal of sustainable development* 65-79.
- Lysons, Kenneth, og Brian Farrington. 2006. *Purchasing and supply chain management*. Pearson Education.
- MARCIL, Anthony G. 1992. «Environmentally Friendly Development; Can the Private Sector Succeed Where Others Have Failed?» *Columbia Journal of World Business* 194-200.
- May, K.A. 1989. *"Interview techniques in qualitative research: Concerns and challenges: Qualitative nursing research: A contemporary dialogue* . London: Sage Publications .
- McKenzie, Stephen . 2004. «SOCIAL SUSTAINABILITY: TOWARDS SOME DEFINITIONS.» Hawke Research Institute Working Paper Series.
- McKenzie, Stephen. 2004. «SOCIAL SUSTAINABILITY: TOWARDS SOME DEFINITIONS.» Hawke Research Institute.
- McLeod, John. 2001. *Qualitative Research in Counselling and Psychotherapy*. SAGE.
- McNamara, Carter. 2009. *General Guidelines for Conducting Research Interviews*. Funnet May 20, 2018. <https://managementhelp.org/businessresearch/interviews.htm>.
- Mendelow, Aubrey. 1991. «Stakeholder mapping.» *2nd international conference on information systems*. Cambridge: MA.
- Merriam, Sharan B. 1988. *Case study research in education: A qualitative approach*. Jossey-Bass.
- Miles, M.B., og A.M. Huberman. 1994. *Qualitative Data Analysis* . Redigert av 2. CA: Sage.
- Mitlin, Diana, og David Satterthwaite. 2006. «sustainable development and cities.» I *Sustainability, the environment and urbanization*, 23-61. London: Earthscan.
- Mohammad, Mohammad F, og Andrew DF Price. 2004. «Challenges on procurement in the oil and gas industry: developing new strategies.»
- MONEYWATCH. 2018. *MONEY WATCH*. 12 JUNE. Funnet JULY 13, 2018. <https://www.cbsnews.com/news/tesla-layoffs-elon-musk-says-job-cuts-required-to-fuel-profits/>.

- Montiel, Ivan. 2008. «Corporate social responsibility and corporate sustainability: Separate pasts, common futures.» *Organization & Environment* 245-269.
- Morgan, Gareth, og Linda Smircich. 1980. «The case for qualitative research.» *Academy of management review* 491-500.
- Ndaba, Vuyani . 2010. *REUTERS AFRICA, POLL-Oil flows may catapult Ghana to 14.7 growth in 2011*. Funnet June 15, 2017.  
<http://af.reuters.com/article/ghanaNews/idAFLDE60K09X20100122>.
- NPA. 2017. *NPA*. Funnet August 7, 2017. <http://www.npa.gov.gh/about-npa>.
- OECD. 2001. «ENVIRONMENTAL STRATEGY FOR THE FIRST DECADE OF THE 21ST CENTURY.»
- . 2015. *Size of public procurement*. [http://www.oecd-ilibrary.org/governance/government-at-a-glance-2015/size-of-public-procurement\\_gov\\_glance-2015-42-en](http://www.oecd-ilibrary.org/governance/government-at-a-glance-2015/size-of-public-procurement_gov_glance-2015-42-en).
- Office of the Deputy Prime Minister (ODPM). 2006. «UK Presidency: EU Ministerial Informal on Sustainable Communities Policy Papers.» London. Funnet July 19, 2017.  
<http://www.webkweker.nl/vra/images/bristol-accord.pdf>.
- offshoretechnology.com. 2017. *offshoretechnology.com*. Funnet July 3, 2017.  
<http://www.offshore-technology.com/projects/jubilee-field/>.
- Oil, Tullow. 2015. «CODE OF ETHICAL CONDUCT.» *CODE OF ETHICAL CONDUCT*. Funnet April 13, 2018. [https://www.tulloil.com/Media/docs/default-source/1\\_About\\_us/tullow-oil-code-of-ethical-conduct.pdf?sfvrsn=2](https://www.tulloil.com/Media/docs/default-source/1_About_us/tullow-oil-code-of-ethical-conduct.pdf?sfvrsn=2).
- Olesen, Virginia. 1994. *Feminisms and models of qualitative research*. Thousand: Oaks, CA: Sage.
- Opdenakker, Raymond. 2006. «Advantages and Disadvantages of Four Interview Techniques in Qualitative Research.»
- Organisation for Economic Co-operation and Development (OECD). 2001. «POLICIES TO ENHANCE SUSTAINABLE DEVELOPMENT.» Funnet July 19, 2017.  
<https://www.oecd.org/greengrowth/1869800.pdf>.
- Pagell, Mark, Wu Zhaohui , og Michael Wasserman. 2010. «Thinking differently about purchasing portfolios: an assessment of sustainable sourcing.» *Journal of supply chain management* 57-73.
- Patton, M. Q. 2002. *Qualitative research and evaluation methods*. Redigert av 3. Thousand Oaks, CA: Sage Publications.
- Perrini, Francesco, og Antonio Tencati. 2006. «Sustainability and stakeholder management: the need for new corporate performance evaluation and reporting systems.» *Business Strategy and the Environment* 296-308.
- Pervan, Graham, og Hilangwa Maimbo . 2005. «Designing a case study protocol for application in IS research.» *Pacific Asia Conference on Information Systems (PACIS)*. 1281-1292. PACIS, 2005.
2013. *PETROLEUM (LOCAL CONTENT AND LOCAL PARTICIPATION) REGULATIONS*. 5 July. Funnet March 20, 2018. <http://www.reportingoilandgas.org/wp->

- content/uploads/PETROLEUMLOCAL-CONTENT-AND-LOCAL-PARTICIPATION-REGULATIONS2013.pdf.
- Petroleum (Local Content and Local Participation) Regulations 2013, L.I 2204. u.d. *Petroleum (Local Content and Local Participation) Regulations 2013, L.I 2204*. Funnet June 10, 2017. [http://www.petrocom.gov.gh/pdfs/13-Local-Content-and-Local-Participation-Regulations-L\\_I-2204.pdf](http://www.petrocom.gov.gh/pdfs/13-Local-Content-and-Local-Participation-Regulations-L_I-2204.pdf).
- Petroleum Commission Ghana. 2017. Funnet August 7, 2017. <http://www.petrocom.gov.gh/index.html>.
- Pezzey, John. 1989. *Economic analysis of sustainable growth and sustainable development (Environment Department Working Paper No. 15)*. Washington, DC: WORLD BANK.
- Phillips, N., og C Hardy. 2002. *Discourse Analysis: Investigating Processes of Social Construction*. London: Sage.
- Poch, Manel, Joaquim Comas, Ignasi Rodriguez-Roda, Miquel Sanchez-Marre, og Ulises Cortés. 2004. «Designing and building real environmental decision support systems.» *Environmental Modelling & Software* 857-873.
- Porter, Michael E. 1991. «America's green strategy.» *Scientific American* 96.
- Public Procurement Act 2003, Act 663. u.d. «Public Procurement Act 2003, Act 663.» *Public Procurement Act 2003, Act 663*. Funnet MAY 16, 2018. <https://www.ppaghana.org/documents/Public%20Procurement%20Act%202003%20Act%20663.pdf>.
- Public Procurement Act 2016, Act 914 (Amendment). u.d. «Public Procurement Act 2016, Act 914.» *Public Procurement Act 2016, Act 914*. Funnet May 16, 2018. [http://www.ppaghana.org/documents/ACT663\\_RePrinted.pdf](http://www.ppaghana.org/documents/ACT663_RePrinted.pdf).
- Putnam, Robert. 2000. *Bowling Alone*. . New York: Simon and Schuster.
- Rao, Purba. 2002. «Greening the supply chain: a new initiative in South East Asia.» *International Journal of Operations & Production Management* 632-655.
- Responsible Purchasing Initiative, Taking the Lead. 2007. «A guide to more responsible procurement practices.» 22. [https://www.cips.org/Documents/Knowledge/Procurement-Topics-and-Skills/4-Sustainability-CSR-Ethics/Sustainable-and-Ethical-Procurement/Traidcraft\\_and\\_CIPS\\_Taking\\_the\\_lead.pdf](https://www.cips.org/Documents/Knowledge/Procurement-Topics-and-Skills/4-Sustainability-CSR-Ethics/Sustainable-and-Ethical-Procurement/Traidcraft_and_CIPS_Taking_the_lead.pdf).
- Republic of Ghana. 2013. *Petroleum (Local Content and Local Participation) Regulations*. Funnet July 5, 2017. [http://www.petrocom.gov.gh/pdfs/13-Local-Content-and-Local-Participation-Regulations-L\\_I-2204.pdf](http://www.petrocom.gov.gh/pdfs/13-Local-Content-and-Local-Participation-Regulations-L_I-2204.pdf).
- Riege, Andreas M. 2003. «Validity and reliability tests in case study research: a literature review with “hands-on” applications for each research phase.» *Qualitative market research: An international journal* 75-86.
- Robins, Fred. 2006. «The challenge of TBL: a responsibility to whom?» *Business and society review* 1-14.
- Rose, Susan, Spinks Nigel, og Isabel Canhoto Ana . 2014. *Management research: Applying the principles*. . Routledge.

- Sarkis, Joseph, Qinghua Zhu, og Kee-hung Lai. 2011. «An organizational theoretic review of green supply chain management literature.» *International Journal of Production Economics* 1-15.
- Saunders, Mark, Philip Lewis, og Adrian Thornhill. 2009. *Research methods for business students*. Pearson education.
- Schneider, Florian. 2014. 18 February . Funnet January 20, 2018.  
<http://www.politicseastasia.com/studying/whats-methodology/>.
- Seitz, Margarete A, og Peter E Wells. 2006. «Challenging the implementation of corporate sustainability: The case of automotive engine remanufacturing.» *Business Process Management Journal* 822-836.
- Seuring, Stefan. 2004. «Industrial ecology, life cycles, supply chains: differences and interrelations.» *Business strategy and the Environment* 306-319.
- Seuring, Stefan. 2004. «Integrated chain management and supply chain management comparative analysis and illustrative cases.» *Journal of Cleaner Production* 1059-1071.
- Sharfman, Mark P, Teresa M Shaft, og Robert P Anex. 2009. «The road to cooperative supply-chain environmental management: trust and uncertainty among pro-active firms.» *Business Strategy and the Environment* 1-13.
- Sharma , Sanjay, og Audun Ruud. 2003. «On the path to sustainability: integrating social dimensions into the research and practice of environmental management.» *Business Strategy and the Environment* 205-214.
- Siegel, Donald S. 2009. «Green management matters only if it yields more green: An economic/strategic perspective.» *The Academy of Management Perspectives* 5-16.
- Smith, H.W. 1975. *Strategies of social research: The methodological imagination*. London: Prentice-Hall.
- Smith, John K. 1984. «The Problem of Criteria for Judging Interpretive Inquiry.» *Educational Evaluation and Policy Analysis*, Winter: 379-391.
- Strauss, A., og J Corbin. 2008. *Basics of Qualitative Research (3rd edn)*. Redigert av 3. Newbury Park, CA: Sage.
- Strauss, Anselm, og Juliet Corbin. 1998. *Basics of qualitative research*. 2nd. Newbury Park, CA: SAGE publications.
- Supply, Chartered Institute of Purchasing and. 2012d. *Supply Chain Diligence*. Profex Publishing Limited.
- THE CONSTITUTION OF THE REBUPLIC OF GHANA . 1992. *THE CONSTITUTION OF THE REBUPLIC OF GHANA 1992*. Funnet June 30, 2017.  
[http://www.jsg.gov.gh/constitution/chapter/chap\\_21.htm](http://www.jsg.gov.gh/constitution/chapter/chap_21.htm).
2018. *The Irish Times*. 31 JULY. Funnet JULY 2018, 2018.  
<https://www.irishtimes.com/business/energy-and-resources/tullow-oil-heads-south-in-bid-to-equal-rival-s-oil-strike-1.3575909>.



- THE PUBLIC PROCUREMENT ACT, 2003. u.d. «THE PUBLIC PROCUREMENT ACT, 2003 .» *THE PUBLIC PROCUREMENT ACT, 2003* . Funnet May 15, 2018.  
<https://www.ppaghana.org/documents/Public%20Procurement%20Act%202003%20Act%20663.pdf>.
- THE WORLD BANK. 2006. *Where is the wealth of nations?: measuring capital for the 21st century*. World Bank Publications.
- TOR. 2017. *TOR*. Funnet August 5, 2017. <http://www.tor.com.gh/about-tor/company-profile/>.
- Tullow. 2018b. Funnet May 25, 2018. <https://www.tulloil.com/about-us>.
- . 2015. Funnet June 20, 2018. [https://www.tulloil.com/Media/docs/default-source/3\\_investors/financials/2015/tulloil-five-year-financial-summary.pdf?sfvrsn=2](https://www.tulloil.com/Media/docs/default-source/3_investors/financials/2015/tulloil-five-year-financial-summary.pdf?sfvrsn=2).
- Tullow Ghana. 2017. *Tullow Oil*. Funnet June 30, 2017.  
<http://www.tulloil.com/operations/west-africa/ghana>.
- Tullow. 2018. *Local Content Q&A*. 1 January. Funnet APRIL 20, 2018.  
<https://www.tulloil.com/suppliers/local-content-q-a>.
- TULLOW. 2018. *LOCAL CONTENT Q&A*. Funnet MAY 20, 2018.  
<https://www.tulloil.com/suppliers/local-content-q-a>.
- TULLOW OIL PLC. 2015. Funnet June 30, 2017. [https://www.tulloil.com/Media/docs/default-source/3\\_investors/2015-annual-report/tulloil-2015-annual-report-and-accounts.pdf?sfvrsn=2](https://www.tulloil.com/Media/docs/default-source/3_investors/2015-annual-report/tulloil-2015-annual-report-and-accounts.pdf?sfvrsn=2).
- Tullow Oil. 2017. *TEN Field*. Funnet June 29, 2017. <http://www.tulloil.com/operations/west-africa/ghana/ten-field>.
- . 2017. *Tullow Oil*. Funnet July 30, 2017. <http://www.tulloil.com/operations/west-africa/ghana>.
- Tullow Oil, Plc. 2015. «Code of Ethical Conduct.» *Code of Ethical Conduct*. 1 October. Funnet April 16, 2018. [https://www.tulloil.com/Media/docs/default-source/1\\_About\\_us/tulloil-code-of-ethical-conduct.pdf?sfvrsn=2](https://www.tulloil.com/Media/docs/default-source/1_About_us/tulloil-code-of-ethical-conduct.pdf?sfvrsn=2).
- Tullow. 2018. *Sustainability*. Funnet May 10, 2018. <https://www.tulloil.com/sustainability>.
- UK Sustainable Procurement Task Force. 2006. «Procuring the Future.» London.  
[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/69417/pb11710-procuring-the-future-060607.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69417/pb11710-procuring-the-future-060607.pdf).
- United Nations . 2002. *Report of the World Summit on Sustainable Development* . Funnet July 5, 2017.  
[http://www.unmillenniumproject.org/documents/131302\\_wssd\\_report\\_reissued.pdf](http://www.unmillenniumproject.org/documents/131302_wssd_report_reissued.pdf).
- United Nations. 2015. 25 September. Funnet June 26, 2017.  
[http://www.un.org/ga/search/view\\_doc.asp?symbol=A/RES/70/1&Lang=E](http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E).
- Vallanc, Suzanne, C. Perkins Harvey, og E. Dixon Jennifer. 2011. «What is social sustainability? A clarification of concepts.» *Geoforum* 342-348.

- Veleva, Vesela, Maureen Hart, Tim Greiner, og Cathy Crumbley. 2003. «Indicators for measuring environmental sustainability: A case study of the pharmaceutical industry.» *Benchmarking: An International Journal* 107-119.
- von Geibler, J, C Liedtke, H Wallbaum, og S Schaller. 2006. «Accounting for the social dimension of sustainability: experiences from the biotechnology industry.» *Business Strategy and the Environment* 334-346.
- Voss, Chris, Nikos Tsiriktsis, og Mark Frohlich. 2002. «Case research in operations management.» *International Journal of Operations & Production Management* 22 (2): 195-219.
- Wacker, John G. 1998. «A definition of theory: research guidelines for different theory-building research methods in operations management.» *Journal of operations management* 361-385.
- Walker, Helen , Jeff Mayo, Steve Brammer, Anne Touboulic, og Jane Lynch. 2012. «SUSTAINABLE PROCUREMENT: AN INTERNATIONAL POLICY ANALY OF 30 OECD COUNTRIES.» *5th international public procurement conference*. Seattle, USA. 17-19.
- Walker, Helen, og Wendy Phillips. 2008. «Sustainable procurement: emerging issues.» *International Journal of Procurement Management* 41-61.
- Weele, Arjan Van, og John van der Puij. 2014. *International Contracting: Contract Management in Complex Construction Projects*. London: Imperial College Press.
- Wilson, Jonathan. 2014. *Essentials of business research: A guide to doing your research project*. Sage.
- World Commission on Environment and Development (WCED). 1987. *Our Common Future*. New York.
- World Factbook. 2017. *Central Intelligence Agency*. Funnet July 31, 2017. <https://www.cia.gov/library/publications/the-world-factbook/fields/2244.html>.
- . 2016. *Ghana*. Funnet June 10, 2017. <https://www.cia.gov/library/publications/resources/the-world-factbook/geos/gh.html>.
- Wu, Haw-Jan, og Steven C. Dunn. 1995. «Environmentally responsible logistics systems.» *International journal of physical distribution & logistics management* 20-28.
- Yin, R.K. 2003. *Designing case studies*. Sage, Thousand Oaks, CA.
- Yongvanich, Kittiya, og James Guthrie. 2006. «An extended performance reporting framework for social and environmental accounting.» *Business Strategy and the Environment* 309-321.
- Zhu, Q, og J Sarkis. 2004. «Relationships between Operational Practices and Performance among Early Adopters of Green Supply Chain Management Practices in Chinese Manufacturing Enterprises.» *Journal of Operations Management* 265-289.
- Zhu, Qinghua, og Joseph Sarkis. 2006. «An inter-sectoral comparison of green supply chain management in China: drivers and practices.» *Journal of cleaner production* 472-486.
- Zsidisin, George A, og Sue P Siferd. 2001. «Environmental purchasing: a framework for theory development.» *European Journal of Purchasing & Supply Management* 61-73.

# Appendixes

## Appendix One (Interview Guide for Purchasing Companies)

**Introduction:** Present myself and the research project

Is it ok if we record the interview?

Are there issues of Confidentiality?

### A) Initial Understanding of Sustainability

- Can you tell me about your organization and your role in the organization?
- How is sustainability defined or viewed in your company? Or
- How would you describe your company's long-term vision in terms of growth and profitability, environmental protection and local community development?

### B) Sustainable Procurement Activities

- How is sustainable procurement defined in your organization? Or
- How important are the issues of Environmental Protection, Local Community Development and Cost to your organization in its purchasing decisions?
- What are the main activities of sustainable procurement in your organization? Or
- What are the some of the issues your organization consider regarding Cost, Environmental Protection, Local Community Development when making its purchasing decisions?

In the course of my literature research, I have identified possible activities that may compromise sustainable procurement in organizations. I would want to know if these represent the activities that your organization considers as sustainable procurement. Please explain how?

- Value for money (example whole life cost, quality etc.)?
- Supply security?
- Eco design product?
- Natural resource consumption?

- Environmental management?
  - Diversity (for example SMEs and marginalized population, example women organizations)?
  - Local community support (employment and procurements)?
  - Health and safety?
  - Labor rights and human rights?
  - Any other activities?
- Are there any differences in terms of priority in the activities that comprise sustainable procurement in your organization?

### **C) Drivers of Sustainable Procurement**

- What are the major issues that influence/drive sustainable procurement in your organization? Or
- Why does your organization consider issues of Environmental Protection, Local Community Development and Cost when making its purchasing decisions?

In the course of my literature research, I have identified possible drivers of sustainable procurement in organizations. I will want to know if these represent the issues that influence or drive your organization's sustainable procurement policies and agenda.

- Government regulations?
  - Stakeholder influence? (for example, media, opinion leaders etc.)
  - Organizational culture?
  - Cost savings and value for money?
  - Supplier relationship and supplier sustainability?
  - Corporate social responsibility?
  - Organization reputational risk?
  - International Standards and Best Practices (example ISO guidelines)
  - Any other influence?
- How would you prioritize the levels of influence of the various drivers of sustainable procurement in your organization?

- To what extent does government regulations (example The Petroleum Local Content and Local Participation Regulations 2013, L.I 2204) influence your procurement and procurement policies?
- Does your organization consider stakeholder (example media and the local community) perceptions of it or stakeholder exceptions from it in taking its procurement decisions or drawing its procurement policies? If Yes, to what extent? Can you please give an example of a specific instance?
- How influential does your organization consider these stakeholders, especially in terms of reputation damage?

#### **D) Procurement Policies and Strategic Guidelines**

- Does your procurement policy say anything about sustainability? If **YES**,
- What are the specific environmental sustainable procurement strategies or policies of your organization? (example certification of environmental products, ESI in product specification, cooperation with suppliers, product specification and supplier selection process etc.).
- What are the specific economic sustainable procurement strategies or policies of your organization? (example Supplier Involvement in product specification, Close Relationship with key Supplier etc.).
- What are the specific social sustainable procurement strategies or policies of your organization? (example quota for local community and the marginalized, reservation of specific services and supplies to local suppliers, training and development of local skills to meet requirement etc.).
- What is the general procurement policies of your organization? OR
- What is your organization's policies regarding how it find, evaluate and engage suppliers, to achieve cost savings and best value for goods and services? For example, Competitive Tendering, Sole Procurement, E-Procurement, ESI etc.
- Does your organization have any special procurement policies for the local suppliers?
- Does your company develop business relationships with the important suppliers? How important are the following issues in determining the level of relationship and coordination with suppliers?

- Trust (delivery in time and according to specification)
  - Local Supply
  - Distance of supplier (example foreign suppliers)
  - Resource dependent on supplier
  - Specific investment in supplier
  - Complexity of product
  - Environmental impact of product
- Would you say that your relationship with a certain supplier could have affected your sustainable procurement (economic, environment or socio-political) in anyway? Could you please provide me with some examples?
  - What factor hinder or challenge your organization's sustainable procurement policies or agenda? Specifically, in the area of:
    - Economic sustainable procurement
    - Environmental sustainable procurement
    - Socio-Cultural sustainable procurement (Local Suppliers)
  - How does your organization mitigate these challenges? Policies and Strategies.

**E) Additional Information and Further Explanations**

- Do you have any additional information to give me or any further explanations on sustainable procurement and your company's stance and approach to it?

**F) Further References**

- Are there any other colleagues in your company who I can talk to on this issue?
- Could you give me a referral to some few suppliers of your company so I can seek their views of the issue of sustainable procurement (from the supplier's perspective) as well?

Thank respondent and request to be granted audience for further clarification or further interview should the need arise.

## **Appendix Two (Interview Guide for Local Suppliers)**

**Introduction:** Present myself and the research project

Is it ok if we record the interview?

Are there issues of Confidentiality?

### **A) Initial understanding supply company**

- Can you tell us about the company and your role?
- How many employees do you have?
- Is your company a fully owned Ghanaian company?

### **B) Business with Purchasing Organization (example Tullow/kosmos)**

- How long have the purchasing organization been your client?
- Was your company established with the main purpose of serving the purchasing organization as your major client?
- What exact service does your company provide to the purchasing organization?
- How do you get the supply or service contract from Purchasing organization? Example Open Bidding, Selective Bidding, Single Procurement, E-Bidding etc.
- Do you get any preferential treatment from purchasing organization as a local supplier? If Yes, can you explain how and what kind of preferential treatment?
- What are some of the difficulties/challenges you face in your business relationship with purchasing organization? Example financial, technical, time, standard requirements etc. Please can you give us specific instances?
- What do you think can be done by your organization, purchasing organization or both organizations to resolve these challenges?
- How would you describe the level of business relationship between your company and purchasing organization? Example arm's length, coordination, partnership, support etc.
- How has purchasing organization contributed to the growth of your company as a client?
- As a local supplier, do you think purchasing organization has fairly rewarded you with purchasing contracts?

- What would you suggest the purchasing organization can do to further improve the business efficiency and effectiveness between your organization and them?
- Can you tell me a rough percentage estimate of purchasing contract your organization receives from the purchasing organization as against your annual turnover?
- Are you aware of the supply and purchasing rules and regulations of the oil and gas industry? For example, the Ghana Petroleum Commission Act, 2011 (Act 821) and The Petroleum (Local Content and Local Participation) Regulations 2013, L.I 2204
- If YES. What's your organization's opinion on the regulations?

**C) Further References**

- Are there any other colleagues in your company who I can talk to on this issue?
- Could you give me a referral to other suppliers so I can seek their views also on the issue?

Thank respondent and request to be granted audience for further clarification or further interview should the need arise.



## Appendix Three (Interview Guide for Regulators)

**Introduction:** Present myself and the research project

Is it ok if we record the interview?

Are there issues of Confidentiality?

### A) Initial Understanding of Sustainability

- Can you tell us about your organization and your role in the organization?
- What role does your organization play in the Ghana oil and gas sector?

Specifically, in the area of:

- Environmental Regulations
  - Socio-Political Regulations (for example the Local Content Law)
- 
- What are some of the specific laws and regulations (environmental and socio-political) within your jurisdiction?

### B) Monitoring and Evaluation

- How does your organization monitor and ensure adherence of the laws and regulations?
- How does your organization evaluate the monitored organizations within the industry? OR
- What are the KPI?
- What would you say are some of the challenges your organization face in carrying out its monitoring and evaluation duties?
- What do you think could be done to mitigate these challenges?

### C) Effectiveness of Laws and Regulations

- How would you assess the general adherence of the laws and regulations within the oil and gas industry?
- What are some of the specific sanctions applicable in events of non-adherence?
- How often have you had to apply such sanctions?

- Would you say these sanctions are deterrent enough to discourage non-adherence of the laws and regulations?

**D) Further References**

- Are there any other colleagues in your company who I can talk to on this issue?
- Could you give me a referral to other regulatory institutions so I can seek their views also on the issue?

Thank respondent and request to be granted audience for further clarification or further interview should the need arise.

## **Appendix four**

(Public Notice: Implementation of Revised Specifications for Diesel Fuel and Petrol -  
GS141: 2017 &GS 140: 2017)



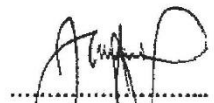
# PUBLIC NOTICE




## IMPLEMENTATION OF REVISED SPECIFICATIONS FOR DIESEL FUEL AND PETROL (GS 141: 2017 & GS 140: 2017)

1. The National Petroleum Authority (NPA) and the Ghana Standards Authority (GSA) wish to inform the general public that in consultations with the Ministry of Energy and the African Refiners Association (ARA) an interim waiver effective the date of this Notice and ending on 31<sup>st</sup> December 2020 has been granted to local refineries licensed by the Authority to produce and supply Diesel and Petrol containing sulphur levels not exceeding 1,500 mg/kg (ppm) to the general public.
2. Without prejudice to the interim waiver granted in sub paragraph 1 above, Diesel and Petrol imported into the country shall continue to comply with the sulphur requirements stipulated at maximum 50 mg/kg (ppm) which directive was contained in the Revised Standards for Diesel Fuel (GS 141: 2017) and Petrol (GS 140: 2017) and took effect 1<sup>st</sup> August 2017.
3. The implementation of the interim waiver is to ensure that local refineries remain operational, whilst they introduce measures to meet the Revised Standards for Diesel Fuel (GS 141:2017) and Petrol (GS 140:2017) by December 2020.
4. In view of the introduction of this interim waiver, Diesel and Petrol produced by local refineries shall be allowed for sale and purchase at retail outlets and may be comingled with imported products for sale to the general public.
5. Notwithstanding sub- paragraph 4 above, the permissible sulphur levels of Diesel and Petrol to be sold to the general public whether comingled or not shall at all times not exceed 1,500 mg/kg (ppm) within the interim waiver period.
6. The application of this interim waiver to local refineries shall not result in any price differentials in the sale and purchase of Diesel and regular Petrol at the retail outlets with respect to their permissible sulphur content.

7. The general public is hereby assured that notwithstanding the implementation of this interim waiver for local refineries, the NPA and GSA shall continue to ensure strict compliance with approved sulphur levels in the Petroleum downstream industry.
8. Where fuel from a retail outlet exceeds the sulphur content of 50 mg/kg (ppm) the Dealer and OMC shall produce documentation evincing the consignment was procured from a local refinery. Failure to produce the required documentation may result in the application of pecuniary penalties in an amount of GHS 20,500.00 on the OMC and/or Dealer.



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Alhassan S. Tampusi  
(C.E.O, NPA)



Prof. Alex Dodoo  
(Director-General, GSA)

*Dated: 12<sup>th</sup> March, 2018*